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UJKAN BAJRA

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DOCTORAL DISSERTATION

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AUTHORSHIP STATEMENT

The undersigned Ujkan Bajra, a student at the University of Ljubljana, Faculty of Economics, (hereafter: FELU), author of this doctoral dissertation with the title ***The Effect of Corporate Governance Quality and Alternative Regulatory Policies on Earnings Management: Evidence from European Companies Cross-Listed in the U.S.A***., prepared under supervision of prof. Dr. Simon Čadež.

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THE EFFECT OF CORPORATE GOVERNANCE QUALITY AND ALTERNATIVE REGULATORY POLICIES ON EARNINGS MANAGEMENT: EVIDENCE FROM EUROPEAN COMPANIES CROSS-LISTED IN THE U.S.A.

SUMMARY

Weaknesses in corporate governance systems were highlighted by several accounting scandals at the turn of the millennium (e.g. Enron, Worldcom, Parmalat, Lehman Brothers, Bernie Madoff, etc.). These scandals triggered significant changes in corporate governance and regulatory policies on both sides of the Atlantic. This dissertation has three purposes. The first purpose is to examine the role of several corporate governance mechanisms on the magnitude of earnings management (EM)[1]. The next purpose relates to the effect of an audit committee's effectiveness and its competences on the quality of financial reporting. The third purpose is to investigate the role of alternative regulatory policy on corporate governance quality and earnings manipulation. Specifically, this doctoral dissertation aims to assess the combined effect of internal auditing quality, board of directors' quality, audit committee's effectiveness and competences, and two regulatory policies on financial reporting quality and corporate governance quality. The period examined in this study is from 2000 to 2013, covering the period before and after the implementation of Sarbanes Oxley Act and the 8th Company Law Directive. The dissertation contains three chapters.

In the first chapter, the effect of two corporate governance mechanisms (i.e. internal audit function quality – IAFQ; and board of directors' quality – BoDQ) on EM is examined. The chapter focuses on European companies cross-listed in the U.S.A. and uses 127 European companies represented in U.S. markets via American depositary receipts (ADR program) in the period 2000–2013. Given its unique position within the organization, the internal audit function (IAF) is well placed to identify the direct effect on the magnitude of earnings quality. Consequently, a number of recent studies (see Gramling et al., 2004; Carcello et al., 2005; Cohen et al., 2010) have reported significant changes in the role of the IAF as a result of recent regulatory reforms (e.g. in the U.S.A, U.K., and Australia; the Sarbanes-Oxley Act in the U.S.A in 2002). Similarly, the board of directors as an integral part of the corporate mosaic is expected to have impacts on the level of earnings quality. Both IAFQ and BoDQ are multidimensional concepts comprising a range of components (e.g. proficiency, size, independence, etc), yet when considered holistically they should constrain the propensity of managers to engage in EM (Chen, Chen, Lobo, & Wang, 2011; Klein, 2002; Man, Hong, & Wong, 2013). It is hypothesized that higher internal auditing quality and board of directors' quality will reduce the EM activities of managers. While different corporate governance mechanisms may be independent, it is also likely that they interact with each other. The effect of the IAF on earnings management may depend on the strength of other governance mechanisms, such as BoDQ (Johl et al., 2013; Newman et al., 2005). The

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[1] In this doctoral dissertation discretionary accruals stand as a proxy for earnings management, accrual earnings quality, and earnings manipulation.

findings suggest that both mechanisms have a negative direct effect on the incidence of EM, while their interactive effect is positive. A longitudinal analysis of both mechanisms also reveals that IAFQ and BoDQ have increased significantly since the policy changes.

Chapter 2 examines the role of the audit committee (AC) function in terms of the 8th Company Law Directive (8th CLD) on the quality of financial reporting. By employing a novel approach the influence of the audit committee's existence *(AcExi)*, the audit committee's effectiveness *(AcEffe)* and the audit committee's competences *(AcComp)* on financial reporting quality (FRQ) is investigated. Using observations from 217 large EU publicly listed companies this study provides evidence that the two explanatory variables *AcEffe* and *AcComp* are significantly related with FRQ. Specifically, our findings suggest that unlike the audit committee's existence, the committee's effectiveness and competences are associated negatively with low quality financial reporting. Further, the results reveal that after the 8th CLD was legislated, the audit committee's responsibility was largely enhanced within the corporate governance framework and, consequently, so too was the audit committee's effectiveness by having a significant positive impact on the FRQ attitude.

Chapter 3 examines the effects of compliance with alternative corporate governance policies on governance quality and EM. This chapter employs data for 71 European companies cross-listed in the U.S. represented by American depository receipts (ADR) levels II and III. Due to the occurrence of the many accounting scandals at the turn of the millennium, regulatory policies have been changed substantially to improve reporting quality. The Sarbanes-Oxley Act (SOX, 2002) and the 8th Company Law Directive (8th CLD, 2006) aim to reinforce the corporate governance quality (CGQ) and protect investors' interests. This study estimates the effects of compliance with alternative regulatory policies on corporate governance quality and on earnings manipulation. The analysis shows that CGQ is significantly affected by the regulatory policies and this has led to a drop in earnings manipulation. Specifically, concerning the disclosure of internal control weakness and financial reporting there is a significant association with CGQ, while a negative association with EM is evidenced. Thus, this research suggests that the SOX provisions (SOXp) and the 8th CLD provisions (8th CLDp) are complementary rather than substitutes. Although the impact of the 8th CLD provisions has led to high CGQ, further investigation is suggested.

Key words: Corporate governance quality, internal audit function quality, board of directors' quality, earnings management, audit committee effectiveness, audit committee competences , financial reporting quality, regulatory policies, discretionary accruals

UČINEK KAKOVOSTNEGA UPRAVLJANJA PODJETIJ IN ALTERNATIVNIH REGULATIVNIH POLITIK NA URAVNAVANJE DOBIČKA: IZSLEDKI EVROPSKIH PODJETIJ, KI KOTIRAJO NA BORZAH V ZDA

POVZETEK

Številni škandali prirejanja bilanc na začetku novega tisočletja (npr. Enron, Worldcom, Parmalat, Lehman Brothers, Bernie Madoff itn.) so izpostavili pomanjkljivosti sistema upravljanja podjetij. Ti so spodbudili korenite spremembe v upravljanju podjetij in regulativnih politik na obeh straneh Atlantika. Disertacija ima tri namene. Prvi namen je preučiti vlogo mehanizmov upravljanja podjetij na obseg uravnavanja dobička (UD). Drugi namen je preučiti vpliv učinkovitosti revizijskih komisij in njihovih kompetenc na kakovost finančnega poročanja. Tretji namen je raziskati vlogo alternativnih regulativnih politik na kakovost upravljanja podjetij in prirejanje rezultatov poslovanja. Doktorska disertacija želi oceniti združeni učinek kakovosti funkcije notranje revizije, kakovosti upravnih odborov, učinkovitosti in kompetenc revizijskih komisij, ter dveh regulativnih politik na kakovost finančnega poročanja in kakovost upravljanja podjetij. Preučevano obdobje je od leta 2000 do 2013, pred in po implementaciji zakona Sarbanes Oxley in 8. Direktive prava družb. Disertacija vsebuje tri poglavja.

V prvem poglavju so preučeni učinki dveh mehanizmov upravljanja podjetij (kakovost funkcije notranje revizije kakovost upravnih odborov) na UD. Poglavje se osredotoča na evropska podjetja, ki kotirajo tudi na borzah v ZDA, in vključuje 127 evropskih podjetij, ki so bila v obdobju med leti 2000 in 2013 na trgih ZDA navzoča z ameriškimi potrdili o lastništvu (program ADR). Glede na edinstveni položaj znotraj organizacije je funkcija notranje revizije pomemben dejavnik kakovosti finančnega poročanja. Posledično številne nedavne raziskave (glej Gramling et al., 2004; Carcello et al., 2005; Cohen et al., 2010) poročajo o znatnih spremembah vloge funkcije notranje revizije, ki so posledica nedavnih regulativnih reform (npr. v ZDA, Združenem kraljestvu in Avstraliji; ameriški zakon Sarbanes-Oxley Act iz leta 2002). Podobno se od upravnih odborov, kot ključnega sestavnega dela upravljavskega mozaika, pričakuje, da vplivajo na stopnjo kakovosti rezultatov poslovanja. Tako kakovost funkcije notranje revizije in kakovost upravnega odbora sta multidimenzionalna koncepta, ki vključujeta vrsto komponent (npr. strokovnost, velikost, neodvisnost, ipd), a gledano celovito bi morala oba omejevati težnje managementa za UD. (Chen, Chen, Lobo, &Wang, 2011; Klein, 2002; Man, Hong & Wong, 2013). Postavljena je hipoteza, da bosta višja kakovost funkcije notranje revizije in kakovost upravnega odbora znižali aktivnosti vodstvenega kadra na področju UD. Čeprav so lahko različni mehanizmi upravljanja podjetij neodvisni, je prav tako verjetno, da vplivajo eden na drugega. Vpliv funkcije notranje revizije na uravnavanje dobička je lahko odvisen od moči drugih mehanizmov upravljanja, kot, na primer, kakovosti upravnega odbora(Johl et al., 2013; Newman et al., 2005). Ugotovitve kažejo, da imata oba mehanizma negativen neposreden učinek na UD, medtem ko je njun interakcijski učinek pozitiven. Longitudinalna analiza obeh mehanizmov je tudi pokazala, da sta se od

zakonodajnih sprememb naprej kakovost funkcije notranje revizije in kakovost upravnih odborov znatno izboljšali.

Drugo poglavje raziskuje vlogo delovanja revizijskih komisij v kontekstu 8. Direktive na področju prava družb (8. DPPD) o kakovosti finančnega poročanja. Z uporabo novega pristopa za merjenje različnih dimenzij delovanje revizijskih komisij raziskuje vpliv formalnega obstoja revizijske komisije, učinkovitosti revizijske komisije in kompetenc revizijske komisije na kakovost finančnega poročanja. Raziskava s pomočjo vzorca 217 velikih EU podjetij, ki kotirajo na borzi, kaže, da sam obstoj revizijske komisije nima vpliva na kakovost finančnega poročanja, medtem ko sta učinkovitost komisije in njene kompetence negativno povezani z nizko kakovostjo finančnega poročanja. Rezultati poleg tega razkrivajo, da se je po sprejemu 8. DPPD odgovornost revizijske komisije znotraj okvira upravljanja podjetij znatno povečala, posledično pa tudi njena učinkovitost, in sicer s pomembnim pozitivnim vplivom na kakovost finančnega poročanja.

Poglavje 3 preučuje vpliv skladnosti z alternativnimi regulatornimi politikami na kakovost korporativnega upravljanja in manipuliranje z dobičkom. Zaradi številnih škandalov s prirejanjem računovodskih izkazov na prelomu tisočletja so se regulatorne politike znatno spremenile z namenom izboljšanja kakovosti poročanja. Sarbanes Oxley zakon (SOX, 2002) in 8. Direktiva s področja prava družb (8. CLD, 2006) imata namen izboljšati kakovost korporativnega upravljanja (KKU) in zaščititi interese vlagateljev. Pri analizi so uporabljeni podatki 71 evropskih podjetij, ki kotirajo na borzah v ZDA z ameriškimi potrdili o lastništvu (ADR) II. ter III. stopnje. Analiza prikazuje, da regulativne politike pomembno vplivajo na kakovost korporativnega upravljanja, kar je povzročilo zmanjšanje prirejanja rezultatov poslovanja. Še posebej pomembna je povezava s kakovostjo korporativnega upravljanja pri razkrivanju notranjih pomanjkljivosti pri nadzoru in finančnem poročanju, kjer smo ugotovili tudi negativno povezavo z UD. Zato ta raziskava nakazuje, da se določila SOX in 8. DPPD dopolnjujejo in ne izključujejo.

Ključne besede: kakovost korporativnega upravljanja, kakovost funkcije notranje revizije, kakovost upravnega odbora, uravnavanje dobička, učinkovitost revizijske komisije, kompetence revizijske komisije, kakovost finančnega poročanja, regulativne politike, diskrecijske časovne razmejitve.

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INTRODUCTION

Purpose of this doctoral dissertation

Corporate plans are rarely realized without any deviation (Cadez & Guilding, 2008) due to numerous risk factors, including poor corporate governance, flawed corporate management, and factors external to the firm. Extant empirical evidence shows that in such circumstances corporations may resort to manipulating their reported earnings (Bedard & Johnstone, 2004). It is thus vital to establish tools to prevent such manipulation from occurring (Prawitt et al., 2009; Francis, 2004; Xie et al., 2003; Ghosh et al., 2010; Raghunandan & Rama, 2006; Braiotta & Zhou, 2008).

By using data for the period 2000–2013, this doctoral dissertation aims to provide some more robust evidence on the tested hypothesis related to the impacts of corporate governance mechanisms and alternative policies on EM or FRQ, as well on CGQ.

This study is concerned with the three-dimensional relationship, first between internal auditing and boards of directors and earnings management, second between audit committee effectiveness and competences and financial reporting quality (a view required for 8th CLD) and, third, between alternative regulatory policies (i.e., SOX and 8th CLD), corporate governance quality, and earnings manipulation.

Corporate governance has recently received significant public and regulatory attention by implementing assurance services and other advisory functions to avoid improper behavior such as fraudulent reporting, corruption, fraudulent acts and other matters related to asset misappropriation (Beasley et al., 2000; Coram et al., 2006; James, 2003; Moyes et al., 2006). Corporate governance comprises a range of actors such as the board of directors, the audit committee, external auditors, internal controls, regulators and others. Numerous studies have examined the effects of various corporate governance characteristics, such as audit quality and board quality variables, on EM. Previous inquiry suggests that audit quality, board quality and audit committee (including independence, size, financial expertise, meetings, etc.) and other sorts of corporate governance mechanisms are indeed related to CGQ and accrual earnings quality (Abbott et al., 2016; Abbott, Parker, & Peters, 2012; Engel, Hayes, & Wang, 2010; Klein, 2002; Lin & Hwang, 2010; Myers, Myers, & Skinner, 2007), although there are also other studies stating the contrary to this. Cohen et al. (2004) suggest that one of the most significant roles played by a firm's corporate governance system is to ensure the quality of accounting since this is often singled out as a tendency in the financial reporting process whereby the figures appear unreliable for certain commercial purposes (private gains). Due to this fact, accrual earnings involve the distorting of financial reporting by not presenting the correct and reliable data affecting the quality of earnings.

To that end, it is known that internal auditing's role in corporate governance is very important and must take precedence over other corporate internal activities (Gramling et al., 2004; Prawitt et al., 2009; Abbott et al., 2012; Anderson et al., 1993; Arena & Azzone, 2009). The same applies to the board of directors and the audit committee (Bradley & Chen, 2011; Peasnell, Pope, & Young, 2005; Stewart & Munro, 2007; Alves, 2013; Xie et al., 2003). Accordingly, all three – internal auditing, board of directors and audit commit-

tee – are an integral part of the corporate governance mosaic that enables higher quality accruals earnings.

In addition, the application of regulatory policies increasing the quality of earnings accrual has been intensified, thereby directly affecting the growth of corporate responsibilities. Therefore, this dissertation research examines the effect of two alternative regulatory policies (i.e., SOX and 8th CLD) on corporate governance quality and accounting manipulation. While both policies aim to improve the quality of corporate governance and accrual earnings, SOX can be characterized as imposing stricter requirements than its counterpart 8th CLD (Piotroski & Srinivasan, 2008). This suggests that corporate compliance with SOX is more effective in reducing EM than corporate compliance with 8th CLD; hence, we posit the hypothesis to prove whether this is in fact the case.

Research interest and objectives

This doctoral dissertation aims to provide some empirical insights into whether the mechanisms of corporate governance (i.e. board of directors' quality, audit committee, and internal audit function quality) has influenced the magnitude of accrual earnings and financial reporting quality among European firms. In addition, the study intends to control for policy changes, while the time span examined covers the period before and after major changes in regulatory policies (i.e. the implementation of SOX and 8th CLD), and the association with corporate governance quality and earnings manipulation. However, this doctoral dissertation seeks to stress practical issues that will be of interest to policy makers and other stakeholders for understanding how the level of corporate governance quality and accrual earnings quality has been affected by the strengthening of corporate mechanisms and the legislated two alternative regulatory policies. Therefore, like any study, this doctoral research relies only on three research questions in an effort to complement the lack of literature on corporate governance quality and accrual earnings in the EU context. Hence, the research questions considered in this dissertation work are wholly linked with corporate governance quality and regulatory policies on accrual earnings and corporate responsibilities. In particular, it is intended to provide answers to these research questions:

- To what extent has corporate governance quality, or internal audit function quality and board of directors' quality, impacted on earnings management?
- What is the impact of the audit committee in response to the 8th Company Law Directive on financial reporting quality?
- What is the effect of alternative regulatory policies (i.e. SOX and 8th CLD) on corporate governance quality and earnings manipulation?

The comparison of relative efficiency will be achieved by examining a unique sample of European firms, namely those cross-listed in the U.S. since they are required to comply with both by SOX and 8th CLD, in order to see how corporate governance and accrual earnings differ from companies listed in the U.S. markets to their counterparts listed in the EU markets.

Moreover, it is expected the outcomes will confirms the hypothesis which states that corporate responsibilities concerning accrual earnings and corporate governance quality are

inconsistent with alternative regulatory policies, despite there have been legislated a long time ago.

Research methodology and sample selection

Two main models are used to test the hypothesis. Accrual earnings quality is measured as a proxy for discretionary accruals. Contrary to this, we measured the level of CGQ using 14 dichotomous variables including broad characteristics such as for the board of directors, audit committee and internal auditing. Further, several test variables of interest and a number of control variables identified as important determinants of accrual earnings and CGQ are employed.

The sample selection includes EU firms, in particular those cross-listed in the U.S. The period analyzed by this inquiry is 2000–2013, a 14-year data span. Financial data used in the data analysis were obtained from the Bloomberg and Amadeus databases. Unlike financial data readily available in archival databases, data for the IAFQ, AC, BoDQ, SOX, and 8th CLD variables and their components were collected by hand. The data sources were firms' annual reports, especially proxy statements filed electronically (with the SEC in the EDGAR database and firms' sources). The hand collection was a very time-consuming activity yet worthwhile as it enabled the construction of a unique and high quality set of corporate governance data that is unprecedented in earlier research.

The correlation between variables entailed tests using Spearman's and Pearson's correlation matrixes. Of relevance to this study, most correlations between the explanatory variables and dependent variable are statistically significant. As high correlations suggest a potential threat of multicollinearity, collinearity diagnostics analysis was conducted. O'Brien (2007) and Belsley (1991) suggested that multicollinearity may be a problem when the variance inflation factor exceeds the value of 10. In effect, we dismissed multicollinearity as a serious threat to the estimated parameters' validity and proceeded to test the models.

Data analysis for this doctoral dissertation was conducted using the STATA software package (StataCorp LP, 4905 Lakeway Drive, College Station, Texas 77845-4512, U.S.A.). Further, two regression analyses for testing the models are used, namely, the OLS regression estimator and the fixed regression estimator. Therefore, in all research chapters a two-stage regression model analysis was employed. In stage one, all test and control variables were introduced, while in stage two (the re-specified models) the sensitivity analysis results were reported. In this stage, we included (excluded) additional control variables not presented in stage one.

Research expectations

The results of this dissertation work are expected to influence the scientific continuum in several ways. First, regulators will be able to comprehend whether the SOX and 8th CLD have achieved direct effects by helping to increase corporate governance quality and earning quality, and by providing a safe environment for shareholders. Second, unlike for U.S. firms, the investigation of firms based in Europe is much rarer, in particular, there is no complementary evidence showing the impact of the 8th CLD in boosting corporate gov-

ernance quality and accrual earnings quality. Therefore, this study will complement the few studies already existing in the field. Further, this research highlights which corporate governance mechanisms have proven to be more effective in relation to others and, accordingly, which have led to increased corporate governance quality and accrual earnings quality.

To that end, it is expected the results of the regression analysis will indicate a significant association between the explanatory variables and responsive variables. Moreover, this enables the results to be brought in line with the hypothesis in this doctoral research.

In addition, this dissertation notes that at some points corporate governance quality and regulatory policies should be re-specified. In particular, the study suggests the effects of 8th CLD on management's responsibilities concerning financial reporting quality should be reconsidered to ensure that shareholders' interests are even better protected. This doctoral research also suggests that it is worthwhile to investigate the effects of several corporate governance mechanisms simultaneously due to their potential interactive effects on earnings management.

The dissertation starts with an introduction followed by three main chapters presenting the research. The first chapter shows the impact of the internal audit and board of directors on accruals earnings, whilst the interaction terms between these two factors will be considered. In chapter two, the audit committee effectiveness and competences in response to the 8th CLD on financial reporting quality are examined. Chapter 3 looks at the effects of two alternative regulatory policies with regard to corporate responsibilities for increasing both corporate governance quality and accrual earnings quality.

Herein, Chapter 1 analyses the impact of corporate governance quality on earnings management, with a focus on evidence from European companies cross-listed in the U.S.. The research starts with an introduction and an overview of previous studies concerning the different corporate mechanisms used to determine the level of discretionary accruals. This is followed by the methodology and sample selection, model testing and results, sensitivity analysis, and ends with a discussion and conclusion. This study pays particular attention to the IAFQ and BoDQ as important constituents of corporate governance, thereby serving as a tool for improving the performance and gaining feedback on the business operations by covering a broad range of activities (Beasley, 1995). In general, there are three types of audit services. First-party audits are internal audits. Second- and third-party audits are external audits. The Institute of Internal Auditors (IIA) states that the "internal audit function is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization to achieve its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes". Contrary to the IAF, the board of directors is the highest governing body that takes care of establishing the rules and procedures on which the organization is governed. Thus, the BoD represents a group of individuals who are elected, or elected to act, as representatives of the stockholders to establish corporate-management-related policies and make decisions on major company issues. They are one of the key components of the corporate governance mosaic for protecting

shareholders' interests by monitoring management's activities, including the incidence of earnings quality (Fama & Jensen, 1983; Lafond & Roychowdhury, 2008).

Chapter 2 focuses on the impact of the audit committee on financial reporting quality: view based on 8th CLD. The audit committee is usually mandated to monitor the financial reporting process and limit management's incentives that may lead to unreliable financial reporting. As affirmed in previous studies, the audit committee serves as a link between the board of directors, internal auditors, and other relevant authorities, i.e. external auditors (Bédard & Gendron, 2010; Gendron & Bédard, 2006; Ghosh et al., 2010; Klein, 2002; Krishnan et al., 2008; Rainsbury et al., 2009). Recently, the role of the audit committee has been given importance by regulators requiring firms listed on exchanges to adopt a new policy in order to provide greater quality financial reporting. An important of this chapter presents an examination of audit committee effectiveness in response to the 8th CLD as viewed through the prism of activity undertaken. In certain previous studies, audit committee effectiveness was assessed by applying the 'classical approach' (i.e. size, meetings, etc.). However, this study employs a different approach from prior studies, and assumes that the efficiency of the audit committee depends on its commitment to the firm. More specifically, we investigated whether the audit committee was tasked with monitoring the: (1) financial reporting (41 (2a)); (2) the effectiveness of the internal control, internal audit, and risk management systems (41 (2b)); (3) the external auditor (41 (2c)); and (4) reviewing and monitoring the independence of the external auditors or audit firm (41 (2d)).

In addition, the most important aspect of this doctoral dissertation is examined and some interesting topics not previously researched extensively are covered. Hence, Chapter 3 focuses on compliance with the Sarbanes-Oxley Act and the 8th Company Law Directive; effects on corporate governance quality and earnings manipulation. Therefore, in response to outbreak of many accounting scandals the Sarbanes-Oxley Act of 2002 (SOX) was presented as device to restore trust in the financial markets, rebuild investors' confidence, enhance the reliability and accuracy of financial reporting, improve the corporate governance system, reshape the board's function, strengthen the role and independence of the audit committee, and improve the internal control practices and procedures. In the same direction as SOX, the 8th Company Law Directive (8th CLD, 2006) aims to reinforce the corporate governance quality and reliability of financial reporting. Unlike SOX, considerable evidence in support of the impact of the 8th CLD on CGQ and EM is revealed.

According to the FERMA European Risk Management Benchmarking Survey 2012, 44% of listed companies had no idea about the impact of the 8th CLD, and consequently the effects of the 8th CLD are still poorly assessed and understood by a large number of shareholders or business entities.

In effect, the analysis provides new insights regarding the combined effect of the board for directors, internal auditing, and audit committee on the magnitude of accrual earnings, and empirical evidence on the alterative policies, corporate governance quality, and earnings manipulation.

Structure and contents of study

The structure of the doctoral research entailed three main chapters that explicate certain problems encountered within the topic. The generally structure of each chapter is as follows: first there is an introduction section describing what the chapter, including the objectives and scope of the research. Moreover, this section presents previous analyses regarding the context or background of the topic, including the impact of corporate governance mechanisms and regulatory policies on determining corporate governance quality and accrual earnings quality.

Section 2 of each chapter provides a review of relevant literature on the area of interest. This section also describes the methodology used in previous studies and the models used to test accrual earnings and corporate governance quality. Specifically, it introduces the survey literature (i.e. SOX and 8th CLD and CGQ index), followed by empirical evidence identifying the main individual variables that have impacted on accrual earnings and corporate governance quality. This section also presents the wide variety of discretionary accrual models employed in previous research, followed by the development of the hypotheses.

Section 3 of Chapters 1 and 2 continues by presenting the research design, especially the model specification and variable measurement. Dechow et al. (2010) examined common variants of the most popular models, and suggested that the Modified Jones Model stands out as the most powerful by capturing a high level of accrual earnings. Although the Modified Jones Model is used, the testing framework is easily also extended to other models employed (i.e. ROA – adjusted model). Along these lines, two key features distinguish each model: (i) the measure of accruals; and (ii) the determinants of nondiscretionary accruals.

Contrasting with Chapters 1 and 2, in section 3 of Chapter 3 the methodology provided by Gompers et al. (2003) for the CGQ model is employed to test for the impact of alternative regulatory policy on the quality of corporate governance. Moreover, this section presents the testing models and measurement methodology of the corporate governance mechanisms (internal audit quality function, board of directors' quality, and audit committee effectiveness and competences) and two alternative regulatory policies (i.e. SOX and 8th CLD). In addition, this section also presents testing models and methodology of earnings manipulation provided by Kothary et al. (2005) (ROA-adjusted model)

Further, section 3 of each chapter describes the measurement of several control variables.

Section 4 presents the data and sample selection. Hence, this doctoral dissertation aims to analyze corporate governance and financial data (obtained in December 2014) of EU firms, and in particular those cross-listed in the U.S.A. More precisely, in section 4 of Chapter 1 data is used for 127 large EU companies cross-listed in U.S.A. and representing all ADR levels by covering the period 2000–2013. Next, section 4 of Chapter 2 presents financial data for 217 EU large companies listed on the main EU stock exchanges, covering the period 2004–2013, and before and after the 8th CLD was introduced (2004–2013). Section 4 of Chapter 3 is more specific and relies on firms reporting to the Security Exchange Com-

mission (SEC). Specifically, section 4 of Chapter 3 includes 72 EU firms cross-listed in U.S.A. represented via ADR levels II and III. Financial data used in the data analysis for all chapters were obtained from the Bloomberg and Amadeus databases. Unlike financial data readily available in archival databases, data for the IAFQ, AC, BoDQ, SOX and 8th CLD variables and their components were collected by hand. The data sources were firms' annual reports, in particular proxy statements filed electronically.

Section 5 of each chapter will discuss the empirical results, including descriptive statistics, model testing followed by section 6 reporting a sensitivity analysis, and concluding with section 7 discussions and section 8 conclusion and policy implications.

1. THE IMPACT OF CORPORATE GOVERNANCE QUALITY ON EARNINGS MANAGEMENT: EVIDENCE FROM EUROPEAN COMPANIES CROSS-LISTED IN THE U.S.A.[2]

1.1 Overview

The study reported herein examines the impact of two central corporate governance mechanisms (internal audit function quality and board of directors' quality) on the incidence of earnings management. Unlike most prior studies in the area, focused mainly on U.S. firms, this study looks at European firms that are cross-listed in the U.S.A and covers a long time span – before and after major changes were implemented in corporate governance policies (Sarbanes – Oxley Act in the U.S.A and the 8th Company Law Directive in the EU). Using novel and comprehensive measurement approaches for internal audit function quality and board of directors' quality, we find that both mechanisms have a negative direct effect on the incidence of earnings management, while their interactive effect is positive. A longitudinal analysis of both mechanisms also reveals that internal audit function quality and the quality of boards of directors have increased significantly since the policy changes.

1.2 Introduction

Corporate plans are seldom realized without deviation (Cadez & Guilding, 2008) due to numerous risk factors including poor corporate governance, flawed corporate management, and factors external to the firm. Existing empirical evidence shows that in circumstances where goals are not being met corporations often resort to earnings management (Bedard & Johnstone, 2004). Earnings management refers to managerial action to increase (or decrease) revenues, profits or earnings for different share categories through aggressive accounting tactics (Lin et al., 2011).

Although earnings management (EM) is typically regarded as a negative concept by virtue of the deteriorating effect on earnings quality, some studies have also identified positive aspects of earnings management (Beatty, Ke, & Petroni, 2002; Burgstahler & Dichev, 1997). While acknowledging this stream of literature, this study adopts the mainstream assumption that earnings management conceals the true financial position of businesses and obscures facts stakeholders are entitled to know (Beasley et al., 2000; Dechow & Skinner, 2000). In effect, it is beneficial to establish mechanisms to prevent such manipulation from occurring (Ashbaugh-Skaife et al., 2008; Chang, Dasgupta, & Hikiry, 2009; Lin et al., 2011).

The key device protecting stakeholders against unrepresentative or even fraudulent financial claims is the corporate governance system. This system comprises a range of actors and/or mechanisms, including the board of directors, the management board, the audit committee, the internal audit function, the regulators and others. Numerous studies have examined the effects of these mechanisms on earnings management and found that they are

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related to the incidence of earnings management (Lin & Hwang, 2010; Xie et al., 2003; Klein, 2002; Engel et al., 2010).

Weaknesses in corporate governance systems were highlighted by a number of accounting scandals at the turn of the millennium (e.g. Worldcom, Parmalat etc.). These scandals gave rise to significant changes in regulatory policies on both sides of the Atlantic. In the U.S., the Sarbanes-Oxley Act (SOX) subjected firms listed on stock exchanges in the United States to strict requirements concerning the audit function in their evaluation of internal controls and financial reporting (Grein & Tate, 2011; Patterson, Smith, & Patterson, 2007; Schipper, 2005; Schipper & Vincent, 2003). In the EU, the 8th Company Law Directive (8th CLD) also strengthened the role of the audit committee and the board of directors.

The study herein examines the effect of two corporate governance mechanisms (i.e. internal audit function quality – IAFQ; and board of directors' quality – BoDQ) on EM. The study is motivated by three main factors. First, of the key corporate governance mechanisms, identified in the preceding paragraph, the relationship between IAF and EM has received the least attention in empirical enquiry (Abbott et al., 2016). Second, most existing empirical evidence concerned with the impact of corporate governance policy on EM is based on U.S. firms whereas European companies have not been investigated extensively (Doidge et al., 2007). Third, most studies assess the quality of corporate governance mechanisms with relatively inchoate constructs that typically concentrate only on one or a small number of underlying quality dimensions.

The study focuses on European companies cross-listed in the U.S.A. These firms are particularly interesting because they are subject to both bodies of legislation, i.e. European and U.S. To control for policy changes, the time period examined is 2000–2013, a 14-year span of data that covers both the period before and after the implementation of SOX and the 8th CLD.

The paper is organized as follows. The following section briefly reviews the theoretical background and develops research hypotheses. The next section outlines the research design and method used to test the hypotheses. This is followed by a section presenting the empirical results. The paper concludes with discussion and conclusion sections.

1.3   Corporate governance quality and earnings management

EM refers to managerial activity that manipulates reported earnings by influencing the financial reporting process. Financial records are typically manipulated using two alternative accounting techniques. The first includes changing numbers of actual financial transactions. The second involves levelling out net income fluctuations from one period to the next, also known as "income smoothing" (Peasnell, Pope, & Young, 2000; Roychowdhury, 2006; Teoh & Wong, 1993).

The extent to which management influences earnings is most often assessed via discretionary accruals (Dechow, Sloan, & Sweeney, 1995). Unlike the nondiscretionary component, which reflects business conditions (such as growth and the length of the operating cycle) that naturally create and terminate accruals, the discretionary component identifies management choices.

The key protective mechanism for reducing the incidence of earnings manipulation is corporate governance (Beasley & Salterio, 2001; Brown, Pott, & Wömpener, 2014; Cohen, Krishnamoorthy, & Wright, 2002; Doyle, Ge, & McVay, 2007; Engel et al., 2010; Moyes et al., 2006; Raghunandan, Read, & Rama, 2001). Corporate governance is a holistic concept or, as defined by Cohen et al. (2002), a mosaic, comprising a range of actors and mechanisms. The study herein examines the impact of IAFQ and BoDQ on EM.

With the exception of Prawitt et al. (2009) and Davidson et al. (2005), there is a little research that addresses relationship between internal audit quality and earnings management. As interesting finding, they both claimed that the constraining effects of internal auditors were quite similar to external auditors, thus both corporate mechanisms constrains earnings management.

Board of directors has an important role in corporate governance mosaic, particularly in monitoring the management activities as an alternative in detering earnings management, however, to what extend and in which environment have been under the extensive debate (Fama & Jensen, 1983; Daily et al., 2003; LaFond & Roychowdhury, 2008). Apparently, the board of directors is a key element within corporate governance mosaic, which can influence in several aspects with respect to the earnings management.

1.3.1   Internal audit function quality and earnings management

To date, empirical studies that have examining the role of internal audit as function of corporate governance (and specifically on earnings management) remains scant and is largely limited. Therefore, the improvement of corporate governance mechanisms have always sparked debate between policymakers. Gramling et al. (2004) and Ege (2014) claimed that the internal audit function is presented as an activity that enhanced the corporate governance quality and overall firm's value.

The scope of tasks of the internal audit function includes facilitating the achievement of corporate objectives, help in designing internal controls, assisting management in risk management, assisting the audit committee, and providing information for the board of directors and external parties such as external auditors (Ege, 2015; Gramling et al., 2004; Abbott et al., 2012; Subramaniam et al., 2004).According to the International Standards for the Professional Practice of Internal Auditing (IIA standards 2012), establishment of the audit function aims to provide a reasonable assurance and consulting services to add value and improve the effectiveness of the risk management control and governance process (IIA standards 2012, James, 2003; Chen et al., 2011; Ege, 2015).

Traditionally, the internal audit function was more focused on internal controls and operational risks. Yet calls have recently been made for a more comprehensive role for internal audit that also involves a focus on deterring earnings management and inappropriate financial reporting (Abbott et al., 2016; Spira & Page, 2003; Prawitt et al., 2009; Subramaniam et al., 2004). This is consistent with contemporary views that internal and external audit actually complement each other in identifying and deterring earnings management (Eighme & Cashell, 2002). For example, Davidson et al. (2005) argues that both in-

ternal and external auditors should be actively involved in detecting earnings management, thereby providing two unrelated opinions to the board of directors or the audit committee.

The second important functional property of internal audit function, in addition to the scope of its tasks, is quality. Quality dimensions identified in earlier studies as important determinants of earnings management include *formal existence, proficiency, size, independence* and *involvement in financial statements audits* (Francis, 2004; Prawitt et al., 2009; Cohen & Sayag, 2010; Lin et al., 2011; Lenz et al., 2014; Ege, 2015; Abbott et al., 2012, 2016; Gramling et al., 2004; Bartov et al., 2000; Arena & Azzone, 2009; Wilson 2011; Zain et al., 2006).

Formal existence signifies the fact that a particular company has a formally established internal audit function (Soh & Martinov-Bennie, 2011). Proficiency refers to the professional expertise and competence of internal audit staff. Expertise and competence are often legitimated via professional certifications and qualifications, like Certified Internal Auditor and others. Expertise is typically assessed along several dimensions, such as the adequacy of qualification/skills in the relevant field (e.g. information technology auditor), accumulated experience, and professional certificates relative to the number of auditors per firm (Becker et al., 1998; Gendron et al., 2007; Prawitt et al., 2009; Lin et al,. 2011). Size denotes the resources devoted to the internal audit function. Key resources involve the staff and funds available for the internal audit function's operations (Anderson et al., 1993; Burton et al., 2012). Independence denotes the extent to which the internal audit function is unrestricted in its ability to carry out internal audit responsibilities in an unbiased manner (Davidson et al., 2005; García et al., 2012). The fifth quality dimension, involvement in financial statements audits, represents the extent to which the internal audit function is involved in auditing corporate financial statements (Davidson et al., 2005; Prawitt et al., 2009).

Collectively, these dimensions define the quality of the internal audit function. A combination where the internal audit function is formally established, staff proficiency is high, size and independence are large and where involvement in financial statements audits is significant indicates a high quality of internal audit function. On the contrary, a combination where the internal audit function is not formally established, staff proficiency, size, independence and involvement in financial statements audits are low denotes a low quality of internal audit function.

The expected relationship between internal audit function quality and earnings management is in line with the following rationale. More proficient internal audit staff is more capable of detecting and deterring the incidence of earnings management (Hutchinson & Zain, 2009). Further, a larger internal audit function has a greater capacity to detect and deter earnings management (Prawitt et al., 2009). An independent internal audit function, not under managerial influence, is less biased in evaluating managerial attempts to manipulate earnings (Davidson et al., 2005). Involvement in financial statements audits gives a stronger assurance that revenues, short- and long-term liabilities, stockholders' equity, and other categories are fairly reflected in financial statements (Eighme & Cashell, 2002). Collectively, the above discussion suggests that all components point in the same direction.

When internal audit function quality is high, earnings management is expected to be lower. Consistent with this discussion, we posit the following hypothesis:

Hypothesis 1: *Internal audit function quality is negatively associated with EM.*

1.3.2 Board of directors' quality and earnings management

The board of directors represents a group of individuals who are elected as, or elected to act as, representatives of the stockholders to establish corporate management related policies and make decisions on major company issues. They are one of the key components of the corporate governance mosaic for protecting shareholders' interests by monitoring management activities, including the incidence of earnings management (Fama & Jensen, 1983; Lafond & Roychowdhury, 2008).

Like the internal audit function, the board of directors can be characterized by quality properties (Christensen et al., 2010; Xie et al., 2003; Wilson, 2011). Quality dimensions of the board identified in prior studies as important contingencies of earnings management include *board size*, *independence, the frequency of meetings, financial expertise,* and *board rotation* (Beasley & Salterio, 2001; Guest, 2009; De Andres & Vallelado, 2008; Vafaei et al., 2015, etc.).

Board size denotes the number of members of the board. Board sizes typically range from 4 to 22, although Lipton and Lorsch (1992) and Jensen (1993) suggested that the optimal board size is between seven and nine directors. Board independence signifies the relative mix of non-executive and executive directors on the board (Davidson et al,. 2005; Xie et al., 2003; Bedard & Johnstone, 2004). Frequency of meetings indicates how often the board meets in order to monitor managerial actions (Vafeas, 1999). Financial expertise refers to board members' command of financial and accounting knowledge. It is noteworthy that the Sarbanes-Oxley Act and the 8th Company Law Directive raised demands in this regard (Yu, 2008; Dhaliwal et al., 2010). Board rotation concerns the length of time board members have served on the board (Ebrahim, 2007). Many rating agencies include tenure *(or inverse rotation)* as one of their criteria for evaluating board effectiveness.

These dimensions jointly delineate the quality of the BoDQ. A combination where the board is large, independent, the frequency of meetings and financial expertise are high and rotation is frequent signifies high BoDQ. In contrast, a combination where the board is small, the independence, frequency of meetings and financial expertise are low and tenure is long indicates low BoDQ.

The expected relationship between BoDQ and EM is in accord with the following reasoning. Some authors support the view that larger boards are more effective in their EM monitoring activities (Dalton & Dalton, 2005; Ebrahim, 2007). Yet others argue that overly large boards are not only costly but also lose their monitoring effectiveness (Lipton & Lorsch, 1992; Jensen, 1993). Another group advances the view that the optimal board size is contingent upon the size of the firm (Eisenberg, Sundgren, & Wells, 1998; Yermack, 1996). While acknowledging these different views, we derive our expectations from the first reasoning. We expect large boards to be more diverse in their expertise and hence more capable of detecting and deterring EM.

With respect to independence, ample empirical evidence supports the view that non-executive directors are more effective in monitoring the management team than executive directors (Lee et al., 1992; Weisbach, 1988; Bedard & Johnstone, 2004; Coles et al., 2008). Concerning the frequency of meetings, Vafeas (1999) argues that a board which meets more frequently is more likely to perform duties in accordance with stockholders' interests. As noted by Ebrahim (2007), when meetings are infrequent, topics such as EM might not be a priority concern.

Since detecting EM by definition requires financial and accounting expertise, it appears as a natural corollary that the board's financial expertise is negatively related to EM (Yu, 2008; Krishnan & Visvanathan, 2007; Ghosh et al., 2010; Karamanou & Vafeas, 2005; Krishnamoorthy et al., 2002). Empirical evidence also suggests that board effectiveness decreases with tenure length due to managers' increasing influence over board members (Hambrick & Fukutomi, 1991; Huang, 2013; Liu & Sun, 2010). Collectively, the above rationale suggests that the expected relationship between BoDQ and EM is alike for all quality components.

Consistent with the debate we thus posit the following hypothesis:

Hypothesis 2*: Board of director's quality is negatively associated with EM.*

1.3.3 The interactive effect of IAFQ and BoDQ on EM

While corporate governance mechanisms may exert separate influences, it is also likely that they mutually interact (Johl et al., 2013). This expectation is consistent with a view that the corporate governance system is a mosaic (Cohen et al. 2002) or a configuration of mechanisms, which can more or less be internally consistent (Cadez & Guilding, 2012). Internal consistency means that individual mechanisms behave in a complementary manner, creating synergies that deter earnings management beyond the direct effects of both mechanisms separately.

Johl et al. (2013) argue that high internal audit function quality is consistent with high board of directors' quality, hence we hypothesize that the interaction of internal audit function quality and board of directors' quality has a negative effect on earnings management above and beyond the direct effects of individual mechanisms.

Consistent with this rationale, we hypothesize that the interaction of BoDQ and IAFQ has a negative effect on EM.

Hypothesis 3: *The interaction of BoDQ and IAFQ is negatively associated with EM.*

1.4 Research design

1.4.1 Model specification

Following the methodology provided by Dechow et al. (1995), Givoly et al. (2010), Ghosh et al. (2010) and Chen et al. (2011), we employed the model specified below to test the hypotheses. In addition to the three main variables of interest, the model includes a number of control variables that have been identified as important determinants of EM in previous

research (Dechow, Kothari, & Watts, 1998; Francis & Smith, 2005; Maijoor & Vanstraelen, 2006; Schipper, 2005).

$$EDAC_{i,t}=b0+b1IAFQ_{i,t}+b2BoDQ_{i,t}+b3IAFQ_{i,t}*BoDQ_{i,t}+b4CFO_{i,t}+b5ROA_{i,t}+$$
$$+b6ROA_{i,t-1}+b7SIZE_{i,t}+b8DEBT_{i,t}+b9BIG4_{i,t}+b10PROFIT_{i,t}+b11IAS/IFRS_{i,t}+$$
$$+b12IND\_Dum_{i,t}+b13Y\_Dum_{i,t}+\varepsilon_{i,t} \qquad (1)$$

Where:
EDAC denotes earnings discretionary accruals (as a proxy for earnings management) for firm *i* in year *t*
IAFQ denotes internal audit function quality for firm *i* in year *t*
BoDQ denotes board of directors' quality for firm *i* in year *t*
CFO denotes cash Flow from Operations for firm *i* in year *t*
ROA denotes return on Assets for firm *i* in year *t*
SIZE denotes natural log of Total Assets for firm *i* in year *t*
DEBT denotes debt to Total Assets Ratio for firm *i* in year *t*
BIG4 denotes an indicator that a firm's financial statements have been audited by one of
      the Big 4 denotes auditing firms for firm *i* in year *t*
PROFIT denotes an indicator that firm i made profit/loss *i* in year *t*
IAS/IFRS denotes an indicator that a firm's financial statements are prepared using
      IAS/IFRS for firm *i* in year *t*
IND_Dum − Industry affiliation
Y_Dum − Year

As for the control variables, CFO indicates how effective management is in managing cash flows from operations. Prior research suggests that a higher CFO reduces the incidence of EDAC (Dechow et al., 1998; Roychowdhury, 2006).

The ROA indicator gauges the efficiency of using assets to generate earnings, hence a negative effect on EDAC is expected. We also include lagged ROA to correct for the problem of endogeneity.

As for size, Barton et al. (2002) and Myers et al. (2007) noted that large firms are more likely to manage their earnings to meet the expectations of analysts (Safari et al., 2016).

With respect to DEBT, more indebted firms have a stronger incitement to manage their earnings to present themselves as more attractive borrowers to lenders (Burgstahler & Dichev, 1997; Degeorge, Patel, & Zeckhauser, 1999). Although debt is used often to blamed for earnings manipulations, conditionally, if the company manages to finance its projects with funds from the owner's equity, then this directly implies that firms is in better position with respect to corporate governance quality.

The BIG4 variable denotes that a company has been audited by one of the big four audit firms. These have grand experience and expertise in auditing financial statements, especially compared to other, smaller auditing firms, hence a negative relationship with EDAC is expected (Carlin & Finch, 2015; Francis, Maydew, & Sparks, 1999; Maijoor &

Vanstraelen, 2006; Tsipouridou & Spathis, 2012; Van Tendeloo & Vanstraelen, 2008). We also control for the reported accrual income (profit vs. loss) in a particular year. Profitable firms are less likely to engage in EDAC than non-profitable firms. As for accounting practices, we expect that firms using IAS/IFRS demonstrate higher quality accounting reports and lower EM (Navarro-Garcia & Madrid-Guijarro, 2014; Schipper, 2005; Verriest, Gaeremynck, & Thornton, 2013).

1.4.2 Sample selection and data

The sample in this study comprises European-based publicly traded companies that are also cross-listed in U.S. equity markets. Our initial investigation in December 2014 revealed that in total there were 6,495 companies listed on U.S. equity markets (NASDAQ, NYSE, AMEX), 320 of which were based in Europe and represented on U.S. markets via American depositary receipts (ADR program; ADR is a security that represents shares of non-U.S. companies that are held by a U.S. depositary bank outside the United States).

From this population, we only investigated companies that report to the U.S. Security Exchange Commission (SEC). According to statistics provided by the SEC, 170 European companies were reporting to the SEC at the end of 2011 (for more detailed, see: www.sec.gov). From these 170 firms, we excluded European firms that are not compliant with the EU regulation (e.g. Swiss firms), banks and all firms without at least 6 years of consecutive data for the variables of interest. This procedure reduced the sample to 127 firms.

The period analysed is from 2000–2013, a 14-year span of data. Financial data used in the data analysis were obtained from the Bloomberg and Amadeus databases. Unlike financial data readily available in archival databases, data for the IAFQ and BoDQ variables and their components were collected by hand. The data source were firms' annual reports, in particular electronic filings of proxy statements with the SEC in the EDGAR database. The hand collection was a very time-consuming activity yet worthwhile as it enabled us to construct a unique and high quality set of corporate governance data unprecedented in earlier research.

1.4.3 Variable measurement

1.4.3.1 Earnings discretionary accruals (EDAC)

Consistent with prior literature, we used discretionary accruals (EDAC) as a proxy for EM. To derive EDAC, we used the following approach. We first estimated the total accruals and subtracted the non-discretionary accruals, thus yielding the discretionary part of total accruals.

Therefore, total accruals were estimated using two alternative estimation procedures used extensively in previous research.

The first procedure is the modified Jones model, advanced by Dechow et al. (1995).

$$TAcc_{i,t} = \alpha_0 + \alpha_1(1/Toas_{i,t-1}) + \alpha_2(\Delta Rev_{i,t} - \Delta Rec_{i,t}/Toas_{i,t-1}) + \alpha_3(PPE_{i,t}/Toas_{i,t-1}) + \varepsilon_{it} \qquad (2)$$

The second procedure followed the approach advocated by Kothari et al. (2005), an extension of the Jones model called ROA-adjusted discretionary accruals.

$$TAcc_{i,t} = \alpha0 + \alpha1(1/Toas_{i,t-1}) + \alpha2(\Delta Rev_{i,t} - \Delta Rec_{i,t}/Toas_{i,t-1}) + \alpha3(PPE_{i,t}/Toas_{i,t-1}) +$$

$$+\alpha4ROA_{i,t} + \varepsilon_{i,t} \tag{3}$$

Where:

TAcc – Total accruals (calculated as change in current assets – change in current liabilities – change in cash flow – minus depreciation and amortization for firm i in year t)

Toas denotes total assets for firm i in year t

ΔRev denotes changes in revenues for firm i between year t and t-1

PPE denotes gross property, plant and equipment for firm i in year t

ΔRec denotes changes in accounts receivable for firm i between year t and t-1

ROA denotes return on assets for firm i in year t

ε – denotes error term of the equation

Herein, on both estimation, the parameter estimates, $\alpha1$, $\alpha2$, $\alpha3$ and $\alpha4$ of equation (2 and 3) are industry and year specific rather than firm specific, and are obtained by estimating equation (2&3) using data from all firms matched on year (i.e., the event year) and two-digit SIC industry groupings.

In addition, in both procedures, the EDAC component is estimated as the difference between the total accruals and the non-discretionary accruals component or, in other words, as the residual obtained from the empirical estimation of the above models

$$EDAC_{i,t} = (TAcc_{i,t}/Toas_{i,t-1}) - (\alpha1 1/Toas_{i,t-1} + \alpha2(\Delta Rev_{i,t} - \Delta Rec_{i,t}/Toas_{i,t-1}) +$$

$$+\alpha3 PPE_{i,t}/Toas_{i,t-1} + \varepsilon_{i,t} \tag{4}$$

The value of EDAC is represented as the residual obtained from the estimation model (2 and 3[3]), and thus the residual is composed of the following: (1) the specification error – (u); and (2) earnings discretionary accruals – (EDAC), where $e_i = EDAC_i + u_i$. At this stage, the regressions of the residuals are constructed to have a zero mean _(AVG – Average). $AVG(e_i) = AVG(EDAC_i) + AVG(u_i) = 0$, which therefore imposes a constraint on discretionary accruals. Thus, the residual is the portion of accruals not explained by changes in current assets, liabilities, cash and depreciation, thus representing discretionary accruals (Dechow et al., 1995; Doyle et al., 2007; Jones, 1991; Kothari et al., 2005; McNichols, 2010).

Therefore, despite the large numbers of models that are used for calculating the discretionary accruals, DeFond (2010) claims that the existing literature supports the adoption of the Jones model as a more-or-less generally accepted proxy for earnings quality.

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[3] Similarly, the EDAC calculation is done following the same procedure as in eq. 2, except that in equation 3 was also added the ROA component.

1.4.3.2 Internal audit function quality (IAFQ)

Consistent with the multidimensional operationalization in prior research (Cohen et al., 2002; Lin et al., 2011; Prawitt et al., 2009; Skinner & Srinivasan, 2012), IAFQ for firm i in year t was measured along five dimensions: formal existence, proficiency, size, independence, and involvement in financial statements audits. Each component was dichotomized by assigning it a value of 1 if present criteria were met and a value of 0 otherwise (Hardy, 1993; Yip & Tsang, 2007). IAFQ represents a summated score of five subcomponents with a theoretical value ranging from 0 to 5. A value of 5 denotes high IAFQ whereas the value 0 indicates low IAFQ.

Formal existence of the IAF: a value of 1 indicates that a particular firm had a formally established IAF in year t whereas the value 0 indicates that the IAF has not been formally established.

Proficiency is measured using three subcomponents: (a) qualification/skills; (b) experience; and (c) professional certification. With respect to component (a), if more than 51 percent of the internal auditors had a university degree, we assigned the value of 1 and 0 otherwise. Concerning component (b), if the auditors had more than 3 years of auditing experience, we assigned a value of 1 and 0 otherwise. Regarding component (c), if at least one of the internal auditors was professionally certified (CIA or CPA) we assigned this component a value of 1 and 0 otherwise. In stage 2, we constructed a composite item from the three components. If the sum of values in stage 1 was 2 or higher, the ascribed value was 1. If the sum of values in stage 1 was 1 or lower, the ascribed value for proficiency is 0.

Size of the IAF component yields a value of 1 if a firm has allocated financial resources of at least EUR 5 million and human resources in terms of at least three internal auditors to the internal auditing function (Anderson et al., 1993; Lin et al., 2011), and 0 otherwise.

Independence scores a value of 1 if the internal audit reports directly to the audit committee, and otherwise 0.

Involvement in financial statements audits is given a value of 1 if the internal auditors performed at least one such audit in a given year, and 0 otherwise (Lin et al., 2011).

1.4.3.3 Board of directors' quality (BoDQ)

BoDQ of firm i in year t was also measured along five dimensions, including board size, independence, frequency of meetings, financial expertise and board rotation. Each component was dichotomized, hence BoDQ represents a summated score of five subcomponents with values comprising a theoretical range from 0 to 5. A value of 5 denotes high BoDQ whereas the value 0 indicates low BoDQ (Garavaglia et al.,1998; Holgersson et al., 2014).

For *board size*, a value of 1 was assigned to firms with more than six board members and 0 to firms with less than six members.

Independence was deduced from the relative structure of executive and non-executive board members. If the percentage of non-executive directors was greater than 51% we assigned it a value of 1, and otherwise 0.

Frequency of meetings was gauged from the number of meetings in a given year. If the number was higher than six, we assigned the firm a value of 1, and 0 otherwise.

Financial expertise was determined based on the board members with experience in the field of finance and accounting. If we found that 15% of board members possess these traits, we attributed the value of 1, and otherwise 0.

The *board rotation* variable for firm *i* in year *t* was assigned a value of 1 if in year *t* at least one new member joined the board, and 0 otherwise.

1.4.3.4 Control variables

CFO is a measure of the amount of cash generated by operational activities, calculated by adjusting net income for items such as depreciation, changes to accounts receivable and changes in inventory, scaled by total assets. ROA is calculated by dividing net income and total assets. SIZE is measured as the natural log of total assets. DEBT is measured as the ratio between total debt and total assets. BIG4 is a dummy variable, scoring a value of 1 if firms' statements have been audited by one of the BIG4 auditing firms, and otherwise 0. PROFIT is a dummy variable signifying that a company in a particular year reported a profit (value 1) or loss (value 0). IAS/IFRS is a dummy variable denoting that a firm's financial statements have been prepared according to the International Financial Reporting Standards (IAS/IFRS).

1.4.4 Data analysis

The data were analysed using the STATA software package (StataCorp LP, 4905 Lakeway Drive, College Station, Texas 77845-4512, U.S.A.). Data screening revealed missing values for some variables. No missing values were detected for variables that were hand collected from annual reports, i.e. IAFQ, BoDQ, BIG4 and IAS/IFRS . Yet, some data were missing for financial ratios variables retrieved from the Amadeus and Bloomberg databases, i.e. CFO, ROA, SIZE and DEBT. No imputation was conducted and hence observations with missing data were excluded from the analysis.

To estimate the impact of IAFQ and BoDQ on EDAC, several models were tested. First, we tested the model described in the model specification section using OLS regression analysis. Two variations of the model were tested. The first model captures EDAC using the modified Jones model whereas the second model captures EDAC using the ROA-adjusted modified Jones model. Both variations yielded very similar parameters and therefore in the subsequent sensitivity analyses we only used one EDAC estimator for each model estimated.

In the second stage, as a robustness check we expanded the integrated stage one model by including each of the five subcomponents of the IAFQ and BoDQ variables rather than composite items. EDAC was captured in stage two with the ROA-adjusted modified Jones

model. The findings from this segregated model were compared with the findings based on the integrated model.

Finally, based on results from the stage one regression analysis, in stage three we specified an alternative model including additional variables not considered in stage one. These variables were the interaction terms IAFQ*IAS/IFRS and BoDQ*IAS/IFRS . EDAC was captured in this stage with the modified Jones model.

1.5   Empirical results

1.5.1   Descriptive statistics

Table 1 presents descriptive statistics for the variables examined in this study. For the two main variables of interest, i.e. IAFQ and BoDQ, both summated scores and scores for each subcomponent are provided.

Table 1. Descriptive Statistics

Variable	Obs.	Mean	Std. dev.	Min	Max
EDAC (Modified J-model)	1503	-0.028	0.053	-0.391	1.138
EDAC (ROA Adj. J-model)	1503	-0.028	0.050	-0.094	1.183
IAFQ	1778	3.620	1.432	0	5
– **Existence of IAF (iaf1)**	1778	0.874	0.331	0	1
– **Proficiency of IAF (iaf2)**	1778	0.614	0.487	0	1
– **Size of IAF (iaf3)**	1778	0.710	0.454	0	1
– **Independence of IAF (iaf4)**	1778	0.789	0.408	0	1
– **Financial audits (iaf5)**	1778	0.633	0.482	0	1
BoDQ	1778	3.543	1.283	0	5
– **Size of BoD (bdq1)**	1778	0.872	0.334	0	1
– **Independence of BoD (bdq2)**	1778	0.697	0.460	0	1
– **Frequency of meetings (bdq3)**	1778	0.658	0.474	0	1
– **Financial expertise (bdq4)**	1778	0.884	0.320	0	1
– **Board rotation (bd5)**	1778	0.432	0.495	0	1
IAFQ*BDQ	1778	11.49	8.198	0	25
CFO	1631	0.094	0.255	-1.821	4.689
ROA	1634	0.024	0.180	-1.939	0.965
lagROA	1636	0.022	0.173	-1.939	0.965
SIZE	1634	15.676	2.408	6.597	21.04
DEBT	1634	0.654	0.308	-1.332	6.125
BIG4	1778	0.890	0.313	0	1
PROFIT	1748	0.832	0.374	0	1
IAS/IFRS	1778	0.459	0.498	0	1

As evident from Table 1, the IAFQ score for the overall period is 3.62 or 72.4% of the maximum hypothetical score (5). Of the five IAFQ components sampled, firms scored highest for the existence of the IAF component (87.4%) in the overall 14-year period. This can be interpreted as meaning that in 87.4% of firm year observations a formally estab-

lished IAF was observed. On the other hand, sampled firms scored lowest for the proficiency component (61.4%) in the overall 14-year period. This can be interpreted as indicating that in 61.4% of firm year observations the proficiency variable met the quality criteria established in this study. The BoDQ score for the overall period is 3.54 or 71% of the maximum hypothetical score (5). Of the five BoDQ components, the sampled firms scored highest for the financial expertise component (88.4%) and lowest for the board rotation component (43.2%) in the overall period. In addition to examining mean scores for the overall 14-year period, we examine the trend of development for the IAFQ and BoDQ variables and their subcomponents. For this purpose, we divided the overall period examined into four sub-periods (2000–2003; 2004–2007; 2008–2010; 2011–2013) and calculated the mean values for each sub-period. The results are presented in Figure 1 As evident from the figure, the IAFQ score increased significantly from period 1 (60%) to period 4 (82%). The increase in the BoDQ score was almost identical (from 59% in period 1 to 82% in period 4). Similar developments across time can also be observed for most subcomponents of both variables. A notable exception is the board rotation variable where the mean value is relatively stable throughout the overall period (around 43%). From a holistic perspective, these developments suggest that IAFQ and BoDQ improved significantly after SOX (2002) and the 8th CLD (2006) entered into force.

Figure 1. IAFQ and BoDQ trend (composite items and components)
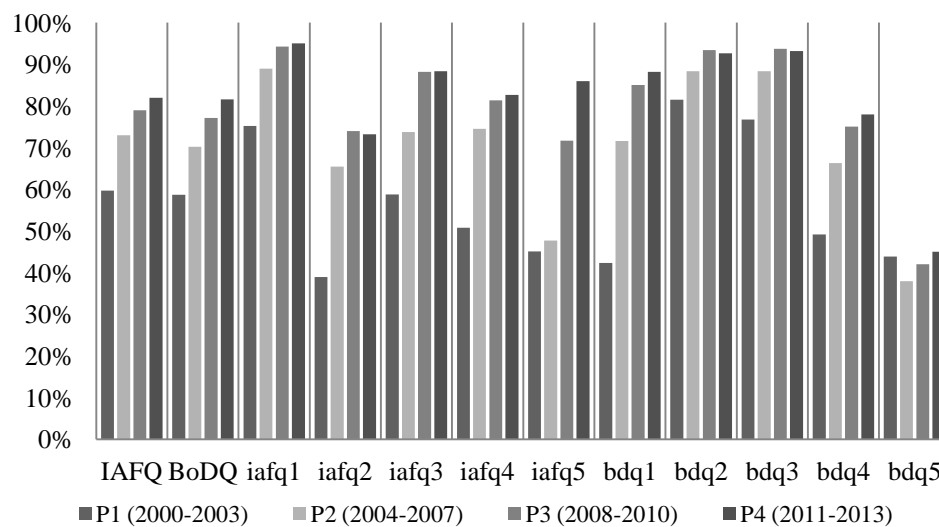
See Table 1 for legend of variable labels

1.5.2 Model testing

Prior to testing the model, Table 2 reports Spearman's correlations between the variables examined in this study. The correlation matrix shows there are several statistically significant correlations between the explanatory variables. Of relevance for this study, most correlations between the explanatory variables and the EDAC variable are (statistically significantly) negative. The only exceptions are the DEBT and IAS/IFRS control variables that are not correlated with the EDAC variable.

It is also important that most correlations are not very high. Notable exceptions are two correlations between the interaction term (IAFQ*BoDQ) and its constituent components (IAFQ; BoDQ), and three correlations including the ROA variable (ROA-CFO; ROA-lagROA; ROA-PROFIT). Since high correlations suggest a potential threat of multicollinearity, collinearity diagnostics analysis was conducted. The collinearity parameters, most noteworthy the variance inflation factors, reveal that moderate collinearity indeed exists. The highest recorded variance inflation factor was 1.3 for the interaction term. However, O'Brien (2007) and Belsley (1991) suggests that multicollinearity is potentially a problem when the variance inflation factor exceeds the value of 10. In effect, we dismissed multicollinearity as a serious threat to the validity of the estimated parameters and proceeded to test the model.

Table 2. Spearman's correlations between variables

	EDAC	IAFQ	BoDQ	IAFQ*BDQ	CFO	ROA	lagROA	SIZE	DEBT	BIG4	LOSS	IAS/IFRS
EDAC	1											
IAFQ	-0.1649*	1										
BoDQ	-0.1515*	0.4266*	1									
IAFQ*BDQ	-0.1879*	0.7599*	0.7043*	1								
CFO	-0.3643*	0.1377*	0.1335*	0.1555*	1							
ROA	-0.2812*	0.1771*	0.1585*	0.1887*	0.7378*	1						
lagROA	-0.2872*	0.1733*	0.1693*	0.1923*	0.5290*	0.6852*	1					
SIZE	-0.3492*	0.3866*	0.2402*	0.3075*	0.1703*	0.1234*	0.1440*	1				
DEBT	0.0008	-0.0750*	-0.0349	-0.0204	-0.1235*	-0.2008*	-0.1880*	0.0209	1			
BIG4	-0.1311*	0.0509*	0.0435*	0.0618*	0.1567*	0.1959*	0.1756*	0.1913*	0.0638*	1		
PROFIT	-0.3252*	0.2192*	0.1243*	0.1866*	0.4634*	0.6622*	0.4388*	0.3086*	-0.0439*	0.2152*	1	
IAS/IFRS	0.0017	0.2160*	0.1993*	0.2325*	-0.033	0.0725*	0.0606*	0.1820*	-0.0747*	0.0929*	0.0842*	1

A star (*) next to the Spearman's correlation coefficients show if the test is statistically significant (i.e., the p-value). The level of statistical significance of the correlation coefficients in this table is .05 or better.

The model specified in this study was tested using OLS regression analysis.

Yet, in stage one, two variations of the model were tested. The results are presented in Table 3. As evident, both variations yielded very similar regression parameters. As hypothesized, IAFQ is negatively related to EDAC.

Similarly, consistent with the hypothesis, BoDQ is also negatively related to EDAC. Yet, countering our expectations, the interactive effect of IAFQ and BoDQ on EDAC is positive rather than negative, as expected.

Most control variables also exhibit a statistically significant relationship with EDAC. The only exception in both variations of the model is the IAS/IFRS variable which is not associated with EDAC at a significant level. However, for two control variables the relationship is in the opposite direction to what was hypothesized. Running against our expectations, the PROFIT and BIG4 variables are positively rather than negatively associated with EDAC.

Table 3. Regression analysis parameters (integrated model with composite items)

Variable	Expected sign	Modified Jones Model		ROA-adjusted Jones Model	
		Coefficient	(Std. err.)	Coefficient	(Std. err.)
IAFQ	(-)	-0.00508***	(0.0017)	-0.00735***	(0.0017)
BDQ	(-)	-0.00616***	(0.0015)	-0.00664***	(0.0015)
IAFQ*BDQ	(-)	0.00117***	(0.0003)	0.00144***	(0.0003)
CFO	(-)	-0.0159***	(0.0052)	-0.0135***	(0.0051)
ROA	(-)	-0.0199**	(0.0098)	-0.0177*	(0.0095)
lagROA	(-)	-0.0691***	(0.0091)	-0.0587***	(0.0088)
SIZE	(+)	-0.00519***	(0.0007)	-0.00525***	(0.0006)
DEBT	(+)	-0.00675*	(0.0040)	-0.00806**	(0.0039)
PROFIT	(-)	0.00940**	(0.0042)	0.00763*	(0.0040)
IAS/IFRS	(-)	0.000164	(0.0040)	0.00163	(0.0039)
BIG4	(-)	0.00871***	(0.0025)	0.00501**	(0.0024)
Constant		0.0760***	(0.0103)	0.0859***	(0.0100)
Observations		1,502		1,502	
R-squared		0.24		0.182	

*** $p < 0.01$ level (two-tailed), ** $p < 0.05$ level (two-tailed), * $p < 0.1$ level (-tailed),

1.6 Sensitivity analysis

Table 4 presents the stage two regression analysis where the two main concepts of enquiry (IAFQ and BoDQ) are represented by all constituent components rather than composite items.

Table 4. Regression analysis parameters (segregated model with components)

VARIABLES	Expected sign	EDAC	
		Coefficient	(Std. err.)
Existence of IAF	(-)	-0.0214**	(0.0086)
Proficiency of IAF	(-)	-0.00861**	(0.0043)
Size of IAF	(-)	-0.00752*	(0.0044)
Independence of IAF	(-)	-0.0112***	(0.0034)
Financial audits	(-)	-0.0113***	(0.0029)
Size of BoD	(-)	-0.00415	(0.0085)
Independence of BoD	(-)	-0.0125***	(0.0034)
Frequency of meetings	(-)	-0.0045	(0.0035)
Financial expertise	(-)	-0.0021	(0.0052)
Board rotation	(-)	-0.00528**	(0.0026)
IAFQ*BDQ	(-)	0.00128***	(0.0004)
CFO	(-)	-0.0127**	(0.0052)
ROA	(-)	0.0128	(0.0097)
lagROA	(-)	-0.0700***	(0.0090)
DEBT	(+)	-0.00899**	(0.0041)
BIG4	(-)	0.000874	(0.0041)
PROFIT	(-)	-0.00493	(0.0039)
IAS/IFRS	(-)	0.00471*	(0.0026)
Constant		0.0335***	(0.0080)
Observations		1,502	
R-squared		0.15	

*** $p<0.01$ level (two-tailed), ** $p<0.05$ level (two-tailed), * $p<0.1$ level (two-tailed)

As seen in Table 4, all five IAFQ components (formal existence, proficiency, size, independence and involvement in financial audits) are negatively associated with EDAC at statistically significant levels. This occurrence is not mirrored with respect to the BoDQ components. Of the five BoDQ components, only independence and rotation are negatively associated with EDAC at statistically significant levels. The remaining three coefficients for the dimensions size, frequency of meetings and financial expertise are negative (as hypothesized), but not statistically significant.

Another point of difference when comparing the results from Tables 3 and 4 refers to the control variables. While in the integrated model with composite items, the IAS/IFRS variable was the only variable not associated with EDAC, in the segregated model the IAS/IFRS variable is associated, but in the opposite direction of what was expected. Another important observation is that three control variables (ROA, BIG4, PROFIT) associated with EDAC in the composite model are not associated with EDAC in the segregated model.

Based on results from the stage one regression, we also re-specified the original integrated model by including two additional variables that potentially exhibit an influence on EDAC. These two variables are the interaction terms IAFQ*IAS/IFRS and BoDQ*IAS/IFRS .

This re-specification was based on the finding which was not expected, that the IAS/IFRS variable is not related to EDAC, suggesting that perhaps the impact of IAS/IFRS on EDAC is not direct but contingent upon the IAFQ and BoDQ variables.

Results of the re-specified model are presented in Table 5. As evident from the table, indeed the interaction of IAFQ and IAS/IFRS exhibits a statistically significant negative relationship with EDAC. Also of note is that, with the inclusion of the interaction term, the direct effect of IAFQ on EDAC is no longer statistically significant. Contrary to that, the interaction of BoDQ and IAS/IFRS does not exhibit a statistically significant negative relationship with EDAC. Instead, the direct effect of BoDQ on EDAC also remains significant in the re-specified model.

Table 5. Regression analysis parameters (re-specified integrated model)

Variable	Expected sign	EDAC	
		Coefficient	(Std. err.)
IAFQ	(-)	-0.00155	(0.0020)
BoDQ	(-)	-0.00536***	(0.0019)
IAFQ*BDQ	(-)	0.00139***	(0.0003)
CFO	(-)	-0.0141***	(0.0052)
ROA	(-)	-0.0214**	(0.0097)
lagROA	(-)	-0.0687***	(0.0090)
SIZE	(-)	-0.00529***	(0.0007)
DEBT	(+)	-0.00593	(0.0040)
BIG4	(-)	0.0122***	(0.0042)
PROFIT	(-)	0.00125	(0.0040)
IAS/IFRS	(-)	0.0599***	(0.0097)
IAS/IFRS *IAFQ	(-)	-0.00919***	(0.0022)
IAS/IFRS *BoDQ	(-)	-0.00415	(0.0025)
Constant		0.0557***	(0.0108)
Observations		1,502	
R-squared		0.257	

*** $p < 0.01$ level (two-tailed), ** $p < 0.05$ level (two-tailed), * $p < 0.1$ level (two-tailed)

1.7 Discussion

The results of the integrated model support the direct effects hypothesis that internal audit function quality is negatively related with the incidence of earnings management. Comparability with prior studies is compromised as not many of them have deployed an integrated approach (composite measure) for internal audit function quality. However, the few that did provided mixed evidence. While Johl et al. (2013) and Prawitt et al. (2009) documented a positive relationship, Hutchinson and Zain (2009) reported a negative one.

Next, the integrated model provides support for the hypothesis that board of directors' quality is negatively related with earnings management. Again, we have very little to build on when trying to relate this finding to prior studies. One of the few to examine board quality holistically (as a composite item) was by Johl et al. (2013), which also documented a negative relationship.

Yet, counter to our expectations, the interaction effect hypothesis was not supported in the integrated model. More precisely, we find that the interactive effect of internal audit function quality and board of directors' quality had a positive rather than a negative effect on earnings management. The magnitude of this effect is, however, relatively small compared to the magnitudes of the direct effects. This means that the interactive effect does not outweigh, but only slightly diminishes the favourable impact of the direct effects.

Collectively, the evidence in this study signifies that internal audit function quality and board of directors' quality are important mechanisms for deterring earnings management. Surprisingly however, their interactive effect appears to enhance earnings management, but the effect size is small compared to the direct effects. A potential explanation for this counter-intuitive finding is that the internal audit function and board of directors act as substitutes rather than complements in the corporate governance mosaic (Johl et al. 2013).

With respect to the control variables, in the integrated model the ISA/IFRS use variable was the only variable not associated with earnings management (Kabir et al., 2010), although a negative relationship was hypothesized, as also documented in prior studies (Soderstrom & Sun, 2007; Barth et al., 2008; Capkun et al., 2011; Schipper, 2005). Perplexed by this finding, we re-specified the integrated model by including the interaction terms between internal audit function quality and ISA/IFRS use and board of directors' quality and IFRS use. The re-specified integrated model showed that the effect of IFRS use on earnings management is moderated by the quality of the internal audit function. This conclusion is strengthened by the finding that the direct effect of internal audit function quality on discretionary accruals became insignificant in the re-specified model. In effect, IFRS adoption does not deter earnings management per se, but does so in combination with the internal audit function. Contrary to that, the interaction term between board of directors' quality and ISA/IFRS use was not associated with earnings management in the re-specified integrated model.

In addition to testing the integrated model, as a robustness check we also tested a segregated model where both main constructs of interest in this study were represented by five sub-components rather than composite items as in the integrated model.

The segregated model reveals that the relationship between internal audit function quality and earnings management is also robust at the component level; all five components (formal existence, proficiency, size, independence, involvements in financial audits) exhibit the same statistically negative relationship with earnings management.

As for formal existence of the internal audit function, similar findings were reported by Cohen et al. (2002), Garcia et al. (2012) and Soh and Martinov-Bennie (2011). Despite apparently valuable effects on financial reporting quality and, even more strikingly, the explicit requirements of the NYSE (Corporate Governance Rule, section 3, 303A.07(c), approved by the SEC on 4 November 2003), we find that some companies in our sample have still not formally established an internal audit function. Further, we support earlier evidence that the size of the internal audit function exerts a negative impact on earnings management (Zain et al. 2006), suggesting that internal audit departments should be

properly staffed and funded. Another desirable trait of the internal audit function is independence, as also found by Abbott et al. (2016) and Garcia et al. (2012).

As for the remaining two components (proficiency and involvement in financial audits), we do not have much to build on when trying to relate our findings as these two components have not been extensively examined empirically. Yet our results support the view that expert knowledge and qualifications are valuable and that internal auditors should be encouraged to engage in audits of financial statements (Carcello et al., 2005; Cohen et al., 2004; Lin et al., 2011).

On the other hand, the board of directors' quality components exhibit less consistency in terms of their relationship with earnings management. Although all five estimated relationships are negative, only in two cases are they statistically significant (board independence and board rotation). The negative effect of board independence was also detected in prior studies (Klein, 2002; Lin & Hwang, 2011) along with calls for the greater recruitment of independent board members. On the contrary, the effect of board rotation was not extensively investigated empirically. In fact, we could not find a single study examining this relationship. It appears however from our results that rotation on a regular basis is valuable from the perspective of earnings management.

The remaining three components (board size, financial expertise and frequency of meetings) were not associated with earnings management at statistically significant levels. As for size, prior evidence is in fact equivocal. Although several studies indicated a negative relationship (Xie et al., 2003; Ebrahim, 2007; Dalton & Dalton, 2005), many also argue that the optimal board size is contingent upon firm size (Coles, 2008; Yermack, 1996). With respect to financial expertise, previous evidence of the negative relationship is almost uniform (Mak & Kusnadi, 2005; Yu 2008; Xie et al., 2003). A similar consensus holds for the negative relationship between frequency of meetings and earnings management (De Andres & Vallelado, 2008; Gulzar & Zongjun, 2011; Ebrahim, 2007, Vafeas, 1999). In light of the accumulated prior evidence it would thus be premature to dismiss board size, expertise and meetings' frequency as deterrents of earnings management.

Due to the 14-year time span of the investigation, another important facet of this study is the longitudinal investigation of the two corporate governance mechanisms and their sub-components.As evident from Figure 1, internal audit function quality and board of directors' quality demonstrate a clear growing trend in the period examined. While in the period 2000–2003 about 60% of firms met the quality criteria established in this study for both mechanisms, in the period 2011–2013 this proportion rose to about 80% of firms.

A similar general trend, only more substantial in some cases, is observable for individual components. For example, while only 40% of firms met our quality criteria for IAF proficiency in the period 2000–2003, in the period 2011–2013 this proportion rose to over 70% of firms. The only component not demonstrating a clear growing trend is board rotation. The value of this variable is relatively stable throughout the entire 2000–2013 period.

From a holistic perspective, this development provides support for the view that the implementation of Sarbanes-Oxley Act and the 8th Company Law Directive has had a positive effect on the quality of corporate governance.

1.8 Conclusion

This study examined the impact of two corporate governance mechanisms (internal audit function quality and board of directors' quality) on the occurrence of earnings management. Although these relationships have been investigated in prior research, the study contributes to the literature in several ways.

From a theoretical perspective, both corporate governance mechanisms examined in this study were operationalised comprehensively as five-dimensional constructs. Such a holistic approach is consistent with conceiving of corporate governance as a mosaic (Cohen et al, 2002). Another distinctive feature of this study is its examination of the relationships at two levels of investigation (composite and components). It is noteworthy that some components examined in this study have not been extensively investigated in prior empirical research (e.g. internal audit function involvement in financial statements' audits, and board rotation). A third relative novelty is the investigation of the interactive effect of both mechanisms.

From a methodological standpoint, novelty is evident in the measurement of internal audit function quality and board of directors' quality. Unlike much of the earlier literature that often relied on simplistic measures (one-dimensional and binary), we use a composite measure comprising five quality components. In addition, we also deploy a novel measurement approach for certain components. For example, while most prior studies measure internal audit proficiency with certification, we deploy a three-item measure for this component.

The study's findings are also unique due to the idiosyncratic context examined. Unlike many other studies focused on US firms, this study examines EU firms cross-listed in the USA. In addition, it appraises a long 14-year time span that covers both the period before and after major changes in regulatory policies were introduced on both sides of the Atlantic.

Three key findings emerge from the study. First, consistent with the expectations, we find that internal audit function quality and board of directors' quality, two key mechanisms in the corporate governance mosaic, are important mechanisms for deterring earnings management and, by implication, unrepresentative or even fraudulent financial claims. Second, counter to our expectations, the interactive effect of the two mechanisms does not enhance, but diminishes (yet without outweighing) the favourable direct effects of both individual mechanisms. Third, the quality of both the internal audit function and the board of directors is increasing over time, in particular following implementation of the Sarbanes-Oxley Act in the USA and the 8th Company Law Directive in the EU.

These findings bear two important implications. On the macro level, our study lends support for the view that changes in regulatory policies particularly designed to strengthen the quality of corporate governance have been effective. At the firm level, this study has de-

tected mechanisms and their subcomponents that are effective in deterring earnings management.

Like any study, this study is subject to limitations. In addition to general limitations of archive-based research, a particular limitation of this study concerns measurement of the variables. As noted in the study, discretionary accruals are only a proxy for earnings management, and no perfect measure of earnings management exists. A similar limitation pertains to the measurement of internal audit function quality and board of directors' quality. Our study deployed a very comprehensive approach by including five dimensions for each construct. While this increases the potential to capture corporate governance quality more inclusively, it also increases the likelihood of measurement error. These limitations, also pertinent to other studies, should however not preclude further research concerning corporate governance quality and earnings management. In particular, this study suggests it is worthwhile to investigate the effects of several corporate governance mechanisms simultaneously due to their potential interactive effects.

2. THE IMPACT OF AUDIT COMMITTEES ON FINANCIAL RE-PORTING QUALITY: A VIEW BASED ON THE EU 8TH COM-PANY LAW DIRECTIVE

2.1 Overview

In response to the 8th EU Company Law Directive (Directive 2006/43/EC) (CLD), we examined the impact of the function of the audit committee on the quality of financial reporting. Using a novel approach, we tested the influence of the audit committee's existence, effectiveness and competences related to financial reporting quality (FRQ) in publicly listed companies in the EU. We found that audit committee effectiveness and competences were negatively associated with weak financial reporting quality. Furthermore, we observed that, after the 8th CLD went into effect, audit committee responsibility was largely enhanced within the framework of corporate governance. Consequently, we found that the quality of the audit committee increased, with a direct and explicit effect on FRQ.

2.2 Introduction

Weaknesses in corporate governance system were highlighted by a financial crisis at the turn of the millennium (Barth & Landsman, 2010; Farber, 2005; Kutan, 2010; Orlowski, 2012). The aim of financial reporting is to present reliable information on an enterprise's financial position and performance that is useful for a wide range of users when making economic decisions (IASB Framework 2008). In reality however this financial information is often distorted in financial reports by inflating accrual earnings (Blanco et al., 2014; Cho et al., 2015), which directly affects users' decision-making.

One of the key corporate governance mechanisms to prevent inaccurate reporting and protect shareholders' interests is audit committee function. Policymakers who have prudently addressed corporate governance concerns have recently attached great importance to this function (Cohen et al., 2014). In the European Union (EU), the establishment of an audit committee function became mandatory with the passage of the 8th Company Law Directive (8th CLD). This directive enhanced the responsibility of the audit committee with respect to many governance issues, both financial and non-financial (Abernathy et al., 2013; Beasley etal., 2009; Bédard & Gendron, 2010; Dezoort et al., 2002).

Despite widespread conjectures that audit committee function improves financial reporting quality, these are not unequivocally supported with empirical evidence. For example, Alves (2013) and Stewart and Munro (2007) found that the presence of an audit committee is not associated with the quality of financial reporting. As noted by Choi et al. (2014) and Gendron and Bédard (2006) this may be attributable to the fact that audit committees are highly diverse in terms of size, independence, expertise, and other relevant quality features, hence mere existence of the audit committee is not yet a sufficient condition to enhance financial reporting quality.

The effectiveness of the audit committee in monitoring the financial reporting process is typically influenced by audit committee independence (Gendron & Bédard, 2006; Klein, 2002) and the financial expertise of the audit committee members (Braiotta, 2004; Dhaliwal et al., 2010; Ghosh et al., 2010; Krishnan et al., 2008; Menon & Deahl Williams,

1994). Collectively, these two components determine audit committee competence. Another important dimension of audit committee effectiveness is the extent of compliance with regulatory policy (i.e., the 8th CLD) that we conceptualize here as monitoring effectiveness. While the impact of competence has been examined in prior research (Xie et al., 2003: Miko & Kamardin, 2015; Dhaliwal et al., 2010), the effect of compliance has received less attention.

The study herein has two main objectives. The first objective is to examine the impact of three audit committee characteristics on financial reporting quality in European firms. These characteristics are audit committee's existence, monitoring effectiveness and competences. The second objective is to examine whether financial reporting quality has improved after 8th CLD has entered into force. Relative novelty of the study arises from this particular context that has been neglected in prior empirical research, especially when compared to the U.S. context. Not many studies have dealt with the effects of 8th CLD hence the study may provide original insights concerning the effectiveness of the Directive in enhancing the quality of corporate governance in the EU.

The findings are based on sample of 217 large EU publicly listed companies. The study provides empirical evidence that all three predictor variables – audit committee existence, monitoring effectiveness and competences are positively related with financial reporting quality. Further, evidence is provided that financial reporting quality has improved after the Directive has entered into force.

The study contributes to the literature in several ways. First, as one of the first studies which address the relationship between audit committees and financial reporting quality in the EU regulatory context, it provides empirical evidence on the effectiveness of 8th CLD in enhancing corporate governance quality. Second, by examining several audit committee characteristics it provides guidance for policymakers concerning their relative importance and effects on financial reporting quality. Third, this study fills a gap in the literature, in particular, it complements the evidence in the literature that has addressed the issue of the audit committee under the 8th CLD across European firms.

This paper is organized as follows. In Section 2.2, we discuss the audit committee function and its role in controlling the occurrences of financial reporting quality. Particular attention is paid to development of the hypotheses. Section 2.4 contains the research design and methodology, including a discussion of the sample selection and data source. We present our results in Section 2.5, while Section 2.6 presents a sensitivity analysis. Section 2.7 includes a discussion of the findings, and Section 2.8 concludes with implications for policy and further research.

2.3 Literature review and hypothesis development

2.3.1 Financial reporting quality

Corporations typically choose to keep accounting records, but it is the techniques they use to report their financial results that indicate financial reporting quality[4]. The tendency to present unreliable numbers for certain commercial purposes (i.e., private gains) undermines financial reporting quality, and therefore such activities involve distorting financial reports by not presenting correct and reliable figures, which affects the quality of earnings.

In some earlier studies financial reporting quality is presented as a wider notion that includes financial information, accounting disclosures, and non-financial information (Burgstahler & Eames, 2006; Krishnan & Parsons, 2008). Therefore, a common expression that would complement the notion of financial reporting quality can be defined as an accounting process, which complies with legal frameworks (i.e., IAS/IFRS or any legal frameworks) or meets the needs of users.

Accordingly, different groups of users (i.e. creditors, investors, etc.) will have specific requirements; alleged quality will diverge among the constituents. Thus, users within a user group may also distinguish the usefulness of similar information differently given its context (user-specificity). As stated by the International Accounting Standards Board (IASB, 2008), two qualitative characteristics such as relevance and faithful representation were used to help assess whether accounting information is useful (Mora & Walker, 2015). As a result, directly measuring the quality of financial reporting seems to be very challenging (Beretta & Bozzolan, 2004; Botosan, 2004) and many researchers estimate financial reporting quality indirectly by focusing on specific attributes assumed to influence the quality of financial reporting, such as earnings management, financial restatements, smoothing, etc. (Barth et al., 2008; Cohen et al., 2004).

Indeed, several models for measuring financial reporting quality (proxy for discretionary accruals) have been used in prior research. The Jones model (J – model), specifically Modified Jones Model is capable of generating realistically powerful tests for reasonably acceptable levels of discretionary accruals (Bartov et al., 2000; Lo, 2008), also including an extension of the Jones model called ROA-adjusted discretionary accruals (Kothari et al., 2005). However, as provided Givoly et al. (2010) there is no single measure of accounting numbers captures all of the dimensions of earnings quality. In any case, firms' accounting choices made while preparing their financial reporting statements are thus accompanied by a certain element of risk corresponding with discretionary accruals (Dechow et al., 1995; Jones, 1991; Kothari et al., 2005), that represents the quality of financial reporting.

2.3.2 The effect of audit committee characteristics on FRQ

Audit committees are commonly mandated to monitor the financial reporting process and limit management incentives that lead to unreliable financial reporting. As affirmed in previous studies, the audit committee serves as a linking tool between the board of directors,

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[4] Note: In this study, discretionary accruals, financial reporting quality and earnings management are conceptually analogous (i.e., financial reporting ensures that companies have the ability to either smooth or manage their earnings as a tool to avoid reporting losses).

internal auditors and other relevant authorities, i.e., external auditors (Bédard & Gendron, 2010; Gendron & Bédard, 2006; Ghosh et al., 2010; Klein, 2002; Krishnan et al., 2008; Rainsbury et al., 2009).

Defond and Jiambalvo (1991) and Waymire (1985), followed by Badolato et al. (2014), Beasley et al. (2009), Carcello and Neal (2003), Hayes (2014), and Klein, (2002), among others, are among the pioneers who have found that the presence of the audit committee makes it possible to avoid accounting errors.

However, although previous studies examined the importance of the audit committee function (Badolato et al., 2014; Bruynseels & Cardinaels, 2014; Man et al., 2013; Stewart & Munro, 2007), a key problem found in prior literature is how to operationalize and measure the presence of an audit committee function. Yet, the presence of an audit committee in a firm hypothetically indicates that corporate governance is better placed.

Some studies suggest that the quality of financial reporting is not at all influenced by the presence of an audit committee. For example, Alves (2013), and Stewart and Munro (2007) find no significant association between the existence of an audit committee and financial reporting quality. Consequently, it is assumed that firms can establish their own audit committees; however, such committees might not be effective and professionally competent in performing the tasks with which they are charged. On the other hand, irrespective of an audit committee's presence, the impact of the committee's competences (i.e., independence and financial expertise) and its effectiveness further enhances quality of corporate governance. According to Köhler (2005), the role of forming an audit committee is not simply a matter of enhancing the effectiveness of monitoring but also a way to increase corporate efficiency.

Next, while some publications describe three broad areas of committees' oversight effectiveness: (1) the financial reporting process; (2) internal controls and risk management; and (3) external auditor activity (see Burke, Guy, & Tatum, 2008, pg. 9-163), some other studies argued that the determinants of audit committee effectiveness include the committee's composition, authority, resources, and diligence (Dezoort et al., 2002).

Yet, the prior evidence support both the committee's competences and its independence as attribute to measure the effectiveness of an audit committee (Beasley et al., 2009), but it is apparently insufficient to do so until deeper research on its effectual features (committee engagement) is conducted. Thus, the issue of audit committee effectiveness is increasingly viewed through the prism of the activity that is being undertaken, and not only on the so called "classical approach" (i.e., size, frequency of meetings, etc.) (e.g., Pincus et al., 1989; Raghunandan & Rama, 2007).

In this study, however, we employ a different approach from those used in the past and suppose that an audit committee's effectiveness is led by its monitoring activities within the firm. As result, we predict whether the audit committee was tasked to monitor: (1) the financial reporting process (Article 41(2a) of the 8th CLD); (2) the effectiveness of the internal control, internal audit, and risk management systems (Article 41 (2b)); (3) the external auditor (Article 41 (2c)); and (4) reviewing and monitoring the independence of the

external auditors or audit firm (Article 41 (2d)). Thus, we estimate committee effectiveness (AcEffe) by considering whether the requirements of Article 41 (2) of 8th CLD were subject to monitoring by the committee for firm i in year t. Consequently, we predict that effectiveness depends on the extent to which the committee is involved in similar tasks and hypothesize the following:

Hypothesis 4: *Audit committee monitoring effectiveness is positively associated with financial reporting quality.*

Further, as shown by Xie et al. (2003), Miko and Kamardin (2015), and Dhaliwal et al. (2010), corporate audit committee value typically depends on the committee's independence and financial expertise. For example, among others Kusnadi et al. (2015), Deli and Gillan (2000), and Abernathy et al. (2013) find that quality of financial reporting increases when an audit committee possesses both independence and financial accounting expertise. In this study however, two of the committee's features of independence and financial expertise control for the committee's professional competences (Article 41(1)) and consequently drive the objective of our second inquiry.

Generally, in EU member states the audit committee follows the legal requirements of the 8th CLD, namely the committee's size consists in three members, only one of whom must be independent (non-executive) and only one of whom must possess financial expertise (KPMG Audit Committee Guide, 2015). Despite this, at the EU-28 level, the committee's size can vary because states have different laws in place at the country level, leading to variations in the committee's independence and financial expertise. For example, in the UK the audit committee (UK Corporate Governance Code 2010, point C.3.1) should have at least three directors (or two directors in the case of smaller companies) who are independent. Next, there are the provisions of the German Corporate Governance Code (2010) stipulating that the audit committee should possess knowledge on accounting and the internal control process. This code has no strict requirements for the committee regarding its professional competences, size, etc., and only requires that the committee chairman be independent. In addition, in the listing rules of U.S. stock exchanges (NYSE, NASDAQ, and AMEX) the audit committee enables the integrity of financial reporting to be enhanced; therefore, three independent directors (one of whom should hold financial expertise) constitute the audit committee (e.g., Cohen et al., 2014).

Yet, so far the empirical evidence has partly shown that independence and financial expertise have significant results. For instance, Klein (2002) and Badolato et al. (2014) find a moderate association between both audit committee independence, financial expertise and financial reporting quality. Similarly, Kusnadi et al. (2015), Hayes (2014), among others, claim that the audit committee's independence somewhat enhances financial reporting quality and that a committee with mixed financial expertise tends to be positively associated with financial reporting quality (Cohen et al., 2014; Dhaliwal et al., 2010; Gendron & Bédard, 2006). By contrast, Rainsbury et al. (2009) found no significant association between the audit committee and financial reporting quality.

Accordingly, we control for the independence and professional competences based on the requirements of the Article 41 (1) of 8th CLD, and therefore the second hypothesis is mo-

tivated by the assumption that the committee's functionality depends also on the two quality features of independence and financial expertise (AcComp). Thus, we assume that the more independence and financial expertise possessed by the audit committee, the higher the financial reporting quality the firm shall experience (Carcello et al., 2006; Hayes, 2014; Krishnan & Lee, 2009). Therefore, we hypothesize the following:

Hypothesis 5: *Audit committee competences are positively associated with financial reporting quality.*

Further, following the adoption of a legal framework (i.e., SOX in the U.S.A. and the 8th CLD in the EU) the application of accounting standards and passing of different corporate governance codes (at the country level) (i.e., IAS/IFRS , Corporate Governance Code, etc.) have imposed a novel approach concerning corporate governance quality. For example, as supported by Bartov and Cohen (2009), SOX appears to have successfully reduced earnings management using accruals-based methods, alternatively it has increased the quality of financial reporting. Moreover, Cohen et al., (2014) conclude that the actual level of earnings management did not change between the pre- and post- SOX period but that the type of earnings management switched from accruals-based earnings management to real earnings management. Consistently, as regards the IAS/IFRS Barth et al. (2008) found that the quality of financial reporting had increased significantly after application of the IAS/IFRS . Contrary to this, Chen et al. (2010), Christensen, et al. (2015), as well as Capkun et al. (2011) observed that changes in accounting quality could not be attributed mainly to IAS/IFRS . In addition, Macías & Muiño (2011) observed that firms both prior to and after IAS/IFRS adoption experienced weak financial reporting quality. They claimed that countries that have local standards are oriented toward the satisfaction of regulatory needs, rather than investors' needs.

So, unlike SOX and IAS/IFRS , which are treated extensively (see for example Aksu & Espahbodi, 2016; Brown et al., 2014; Foster et al., 2007; Zhou et al., 2016), only rarely is evidence is provided regarding the association between the Directive and financial reporting quality.

Subsequently, it is worth emphasizing that the audit committee function was voluntary up until the start of the 2000s (Beasley & Salterio, 2001; Groff & Valentinčič, 2011). However, its role was enhanced when U.S. exchanges required the establishment and maintenance of an audit committee, with the Sarbanes-Oxley Act (SOX) strengthening its position within firms (Ghosh et al., 2010). Conversely, in 2006 the EU adopted new Directive which demanded that firms listed on EU exchanges establish audit committees as well. To the best of our knowledge, the audit committee has almost never been treated in line with the 8th CLD in terms of the audit committee's duties and responsibilities. In contrast, we specifically control for the influence before and after the 8th CLD because we are also interested in whether financial reporting quality is associated with the period before and after the 8th CLD. As we noted, the least current evidence supports somehow a direct effect of the Directive on financial reporting quality (Braiotta & Zhou, 2008; Bantleon et al., 2011); however, we also hypothesize that the 8th CLD may have reduced accruals earnings similarly to its counterpart SOX in the U.S.

Despite the extent to which it is associated with financial reporting quality, as suggested by Bantleon et al. (2011) it is impossible to disclose the direct effect of the 8th CLD on financial reporting quality because its implementation varies considerably from one state jurisdiction to another, and there is no full consensus on how some governance mechanisms are treated on the EU level (i.e., size of audit committee, internal auditing function). Accordingly, as mentioned we individually address certain legal provisions of the Directive, but subsequently the Directive's direct effect can only be measured if the time period is divided before and after the Directive's entry into force. Hence, the third objective of this research paper is to test the impact of the 8th CLD on the magnitude of financial reporting quality. Accordingly, we hypothesize the following:

Hypothesis 6*: Financial reporting quality in the period following the 8th CLD is higher than it is in the period before the 8th CLD.*

2.4 Research design and methodology

2.4.1 Model specification

To examine the effects of both audit committee competences and effectiveness on financial reporting quality, we employed an ordinary least squares (OLS) regression estimator (DeFond & Subramanyam, 1998; Francis, LaFond, Olsson, & Schipper, 2005)

The hypotheses (4-6) are tested using the comprehensive model below. Thus, the main test variables are the presence of the audit committees' effectiveness and its provisional competences, which are included in the model, while the committee's formal existence is treated separately from its effectiveness and competences. In addition, we include the effect of the periods before and after the 8th CLD (lawEffect) as the test variable. Further, several control variables are included in the model because the literature supports the possibility that they might have an effect on the level of financial reporting quality.

Therefore, the model for testing our hypotheses takes the following form:

$$FRQ_{i,t}=b0+b1AcExi_{i,t}+b2AcEffe_{i,t}+b3AcComp_{i,t}+b4lawEffect_{i,t}+b5leverage_{i,t}+b6ROA_{i,t}+$$
$$+b7lagROA_{i,t}+b8Size_{i,t}+b9IAS/IFRS_{i,t}+b10CFO_{i,t}+b11ROE_{i,t}+$$
$$+b12Colldp_{i,t}+b13Credp_{i,t}+\varepsilon_{i,t} \qquad (5)$$

Where:

FRQ_{it} denotes financial reporting quality for firm *i* in year *t*;
$AcExi_{it}$ denotes the audit committee's existence for firm *i* in year *t*;
$AcComp_{it}$ denotes the audit committee's competences for firm *i* in year *t*;
$AcEffe_{it}$ denotes the audit committee's monitoring effectiveness for firm *i* in year *t*;
$LawEffect_{it}$ denotes a dummy variable for the periods before and after the 8th CLD for firm *i* in year *t*;
$Leverage_{it}$ denotes the ratio of total debt to total assets;
ROA_{it} denotes return on assets;
$lagROA_{it}$ denotes lagged return on assets;

Size $_{it}$ denotes the firm's size;

IAS/IFRS $_{it}$ represents a dummy variable denoting that the firm's financial statements were prepared based on IAS/IFRS ;

Cfoit denotes the cash flow from operations for firm *i* in year *t;*

ROE$_{it}$ denotes the return on equity for firm i in year t;

Colldp$_{it}$ denotes the collection period (in days) for firm *i* in year *t;*

Credp$_{it}$ denotes the credit period (in days) for firm *i* in year *t; and*

ε_{it} is the error term.

This study employed discretionary accruals as proxy for the financial reporting quality (FRQ), whereas AcExi denotes the formal existence of an audit committee in firm *i* for year *t*. Next, AcEffe and AcComp stand for test variables and rely on the audit committee's use of individual quality features that are related with financial reporting quality (Gendron & Bédard, 2006; Ghosh et al., 2010; Rupley, Almer, & Philbrick, 2011). Of relevance to this study, for both test variables a positive relationship with financial reporting quality (negative with discretionary accruals) is expected.

We introduced the lawEffect variable into the model to control for the effects before and after the 8th CLD entered into force. Thus, a negative relationship with discretionary accruals should be expected, especially after the entry into force of the 8th Directive.

Next, as stated by Burgstahler and Dichev (1997) and Degeorge et al. (1999), firms that experience a higher degree of Leverage have a higher incentive to manage their earnings because they present their lenders with suitable results with regard to the firm's debt refinancing; therefore, we expect a positive association between Leverage and discretionary accruals.

Furthermore, we intended to capture the information about how efficient management was at using assets to generate earnings; therefore, we use the Return on Assets (ROA) variable, expecting a negative association with discretionary accruals.

As noted by Barton et al. (2002), large firms manage their earnings to meet analysts' expectations. Similarly, Myers et al. (2007) suggest that large firms do not show their real earnings. Therefore, we assume that large firms are positively associated with earnings management.

Additionally, we employed the IAS/IFRS variable, which stands for accounting practices, for the International Financial Reporting Standards (Street & Gray, 2002; Zeghal et al., 2012). We expect that after the IAS/IFRS becomes mandatory in the EU, the level of accounting quality increases, reflecting a negative relationship with the magnitude of earnings management.

In contrast, CFO is the cash flow form operation and controls for income volatility. The magnitude of the increase/decrease in the level of CFO raises the likelihood that the incidence of discretionary accruals will be increased (Dechow et al., 1998; Dechow, 1994; Francis & Smith, 2005). Furthermore, as shown by Ayers et al. (2006), there are at least three possible explanations for the increased association between CFO and earnings. Although, firms manage their cash flows from operations to avoid reporting losses

(Roychowdhury, 2006), however, it is possible that cash flows from operations better represent firm performance (Ayers et al., 2006). Therefore, in this study a positive relationship with discretionary earnings should be expected (negative with FRQ).

We also include Return on Equity (ROE) to control how much profit a company generates with the money shareholders have invested. As noted by Liu and Lu (2007) firms have strong incentives to manage earnings in order to meet certain return-on-equity (ROE) thresholds. Thus, in this study a positive relationship with discretionary accruals should be expected (negative with FRQ).

In addition, two control variables are introduced into the model to control for the length of the receivables (Colldp) and the length of the accounts payable (Credp) (IAS39). The collection periods (Colldp&Credp) by which firms manage this particular accounting category can be categorized as management choice. As a heuristic, numbers higher than 40 to 50 days indicate collection problems and significant pressure on cash flows, whereas numbers lower than 40 to 50 days indicate overly strict credit policies that might prevent higher sales revenue (Zhang & Moffitt, 2006). Thus, the days a company takes to collect payment on goods sold and days a company takes to pay its suppliers are used as proxy *for velocity of cash flows*. In addition, firms sometimes generate earnings by trading in the securities market (short-term investments); however, if the firm adds these funds into its normal cash flow, it gives the impression that it regularly generates more receivables through its standard operations than it actually does. As well, the working capital accounts are most directly responsible for the reporting accounts receivable, payable, and cash flow. Indeed, receivables increase cash flow, while accounts payable decrease cash flow. As observed by Ayers et al. (2006) it is possible that firms manage cash flows around the profit and earnings increase benchmarks. On the contrary, evidence reported by Roychowdhury (2006) suggests that firms manage cash flows from operations to avoid reporting losses. As result, *velocity of cash flows* is an indicator that strongly affect real earnings quality and firms' liquidity.

Next, a company could artificially inflate its cash flow by accelerating the recognition of funds coming in and delay the recognition of funds leaving until the next period, also known as "income smoothing" (Peasnell, Pope, & Young, 2000; Roychowdhury, 2006; Teoh & Wong, 1993). Therefore, we hypothesize that the high velocity of cash flows (collection period) was associated negatively with the quality of financial reporting (positively with discretionary accruals).

Further, the lagged variables were included in the model to correct for endogeneity problems.

2.4.2   Sample selection and data

This study considers firms that are listed in the main EU regulated markets. More specifically, this study analyzes financial reporting quality with respect to publicly traded companies across the EU, covering the period 2004-2013, by creating a 10-year span of data. Consequently, the data make it possible to estimate the effects of the audit committee function that are associated with FRQ over the years from another perspective, as supported by previous research. Commonly, the regulated markets (stock exchanges) across the EU pro-

vide data that enable us both to gather the names of the foreign issuers listed in all ex-changes and to determine when they were first listed.

Based on a preliminary inquiry, and more specifically based on the European Securities Markets Agency (ESMA), there are a reported 103 regulated markets across the European Union.

Initially, we select 3,300 firms listed in these regulated markets (January 2015), namely the main EU stock exchanges (mostly in LSE, EURONEXT, OMX, FWB, BIT, BSE, BME). Yet, of the EU-28 member states our sample does not include firms from countries that became affiliated after 2006[5] and firms of countries not listed on any of EU regulated markets. Further, we exclude firms that do not comply with Directive – EU regulations (e.g., Swiss firms), banks and all firms without at least 5 years of consecutive data for the variables of interest. Consequently, this procedure reduces the initial sample to 217 large companies that trade equity in the main stock exchanges across the EU-28.

The lack of databases that provide information about audit committees places us in a chal-lenging position in which every single component must be manually collected. Therefore, the data related to audit committees are more comprehensive because they contain substan-tive components that previously have not been addressed.

The financial data used to estimate FRQ are obtained mainly from Bloomberg Amadeus, etc. The sources of data for audit committees are manually gathered from thousands of annual and account reports, director's reports and similar materials. Doing so has led to a great outlay of time because there is no concrete database in the field for this issue. How-ever, the financial reports of companies, especially those that are listed in regulated mar-kets, contain all of the necessary data that make it possible to understand whether and to what extent the corporate audit committee impacts the quality of business activities (indus-try).

2.4.3 Measurement of variables

2.4.3.1 Measurement of financial reporting quality

Consistent with the prior literature, in this study, discretionary accruals (DA) is treated as a proxy for financial reporting quality (FRQ). Therefore, we use several alternative proxies to measure the discretionary accruals (Ayers et al., 2006; Bernard & Skinner, 1996; Dechow et al., 1995; Dhaliwal et al., 2010; Lo, 2008). We first estimate the total accruals and subtract the non-discretionary accruals, thus yielding the discretionary part of total accruals.

As observed in previous studies, we calculate the accrual component of earnings as fol-lows:

$$TAcc_{i,t} = (\Delta ca_{i,t} - \Delta cc_{it}) - (\Delta cl_{i,t} - \Delta ipad_{i,t}) - da_{i,t} \tag{6}$$

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[5] Romania and Bulgaria join the EU in 2007, respectively Croatia join the EU in 2013

Where: total accruals ($TAcc_{it}$) is measured as the change in current assets (Δca) minus the change in current liabilities (Δcl), minus the change in cash flow (Δcc), plus the change in interest-bearing liabilities ($\Delta ipaid$), and minus depreciation and amortization for firm i in year t.

Specifically, in this study, discretionary accruals are estimated using 2 alternative estimation procedures that have been used extensively in prior research (Bartov et al., 2000; Dechow & Dichev, 2002; Dechow et al., 1995; Doyle et al., 2007; Ghosh et al., 2010).

Thus, the first procedure is the modified Jones model proposed by Dechow et al. (1995).

$$TAcc_{it}=\alpha 0+ \alpha 11/Toas_{i,t-1}+ \alpha 2(\Delta Rev_{it}-\Delta Rec_{it}/Toas_{i,t-1})+ \alpha 3PPE_{it}/Toas_{i,t-1}+\varepsilon_{it} \tag{7}$$

Next, an extension of model (1) is employed by introducing the lag ROA-adjusted discretionary accruals, as suggested by Kothari et al. (2005). These procedures are an extension of the Jones model known as performance matched discretionary accrual.

$$TAcc_{i,t}=\alpha 0+\alpha 11/Toas_{i,t-1}+\alpha 2(\Delta Rev_{i,t}-\Delta Rec_{i,t}/Toas_{i,t-1})+$$

$$+\alpha 3PPE_{i,t}/Toas_{i,t-1}+\alpha 4ROA_{i,t-1}+\varepsilon_{it} \tag{8}$$

where:
$TAcc$ denotes the total accruals calculated as the change in current assets − the change in current liabilities − the change in cash flow − depreciation and amortization for firm i in year t;
$Toas$ denotes total assets for firm i in year t;
ΔREV denotes the changes in revenues for firm i between years t and $t-1$;
PPE denotes gross property, plant, and equipment for firm i in year t;
ΔREC denotes the changes in accounts receivable for firm i between years t and $t-1$;
ROA denotes the return on assets for firm i in year t, $t-1$; and
ε_{it} is the error term of the equation.

As stated above, the discretionary accrual (DA) component is estimated as the difference between the total accruals and the non-discretionary accruals component.

$$DA_{it}= (TAcc_{it}/Toas_{i,t-1})-(\alpha 11/Toas_{i,t-1}+\alpha 2(\Delta Rev_{it}-\Delta Rec_{it}/Toas_{i,t-1})+$$

$$+\alpha 3PPE_{i,t}/Toas_{i,t-1}+\varepsilon_{i.} \tag{9}$$

The value of DA (FRQ) is represented as the residual obtained from the estimation model (6 and 7), and therefore, the residual is composed of the following: (1) the specification error − (u); and (2) financial reporting quality − (FRQ), where $e_i = FRQ_i + u_i$. OLS regressions of the residuals are constructed to have a zero mean. $AVG(e_i) = AVG(FRQ_i) +AVG(u_i) = 0$, which therefore imposes a constraint on financial reporting quality − discretionary accruals. Thus, the residual is the portion of accruals not explained by changes in current assets, liabilities, cash and depreciation, thus representing the discretionary accruals. As shown in Table 6, regardless of the procedure used, the means and standard deviations are almost the same.

2.4.3.2 Measurement of audit committee characteristics

Audit committee existence

We control for the time when the audit committee was created, which is measured as a dummy variable with a value of 1 if the firm has established an audit committee function operating at least 3 years before the 8th CLD was issued and 0 otherwise[6].

Audit committee monitoring effectiveness

We considered Article 41 (2) of the 8th CLD (as proxy) with regard to measuring the effectiveness of the audit committee (AcEffe). Thus, AcEffe is measured as a dichotomous variable that takes the value of 1 if at least 75% of the 8th CLD's specific provisions (Article 41(2) of 8th CLD) were complied with by the audit committee (firm i in year t) and 0 otherwise (if the audit committee holds at least 3 out of 4 requirements of Article 41 (2) of Directive = 1, otherwise 0).

Specifically, our hypotheses concern the involvement of audit committees in monitoring the financial reporting process as required by the Directive (Article 41 (2a)); therefore, we expect that the committee has been engaged in monitoring financial processes (internal procedures regarding the financial management, financial internal control, payroll policies, policy regarding accounts payable, accounts receivable, etc.). Thus, we coded the variable as 1; otherwise, we asserted a value of 0.

Strengthening of the audit committee lies in monitoring the effectiveness of internal control, internal auditing, and risk management over financial reporting within a business entity (Bédard & Gendron, 2010; Rupley et al., 2011). Thus, the involvement of the audit committee, as foreseen in Article 41 (2b), positively contributes to the accuracy of the financial reporting, which we coded as 1 if the result is as expected and 0 otherwise.

The monitoring work of external auditors and their independence (Article 41 (2c&d)) was presented relatively late; however, such involvement postulates the reliability of financial reporting over external auditors. Thus, if hints were found that the audit committee monitored the external auditors (Article 41 (2c) whenever it was necessary (i.e., consolidated accounts), then monitoring the independence (Article 41(2d) and/or conflict of interest of the external auditors leads to the categorical value of 1 as expected, and 0 otherwise.

Audit committee competences

The independence and financial expertise among committee members (as proxy) are controlled by committee professional competences as is foreseen in Article 41(1) of Directive (AcComp) (Abernathy et al., 2013; Badolato et al., 2014; Deli & Gillan, 2000). Together, they are measured as a dichotomous variable that takes the value of 1 if the individual values are as expected; otherwise, we coded as 0 (if the audit committee holds both financial

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[6] The presence of an audit committee in some cases might not be matched with other activities that were undertaken by the audit committee because we have begun to recognize, as a value of 1, only when the company created this function at least three years before the directive came into force (i.e., if the AC was established in 2002, we have begun to recognize it only in 2005, which means ACi,t+3). Simultaneously, the monitoring of the financial reporting process is recognized from the time at which the AC undertakes such a task (i.e., from the 2004, 2005,… 2013 period).

expertise and independence =1; if not =0; if only one of the criteria of expertise or independence is met, we still coded 0).

2.4.3.3 The 8th Company Law Directive

The effects originating in the 8th CLD precisely and formally mandate duties and other responsibilities that audit committee were not charged with before; therefore, we control for the influence before and after the directive took force. Accordingly, the 8th CLD is measured as a dummy variable only taking the value of 0 for the period before and 1 for the period after the 8th CLD.

2.4.3.4 Control variables

The first control variable *Leverage* represents a firm's leverage and is measured as the ratio of total debts to total assets. *ROA* and *lagROA* captures information about management's efficiency in using the firm's assets to generate earnings; it is measured by dividing a firm's annual earnings (net income) by its total assets, while *lagROA* represents a period between two related events (ROA) and control for endogeneity problems. *Size* controls for firm size; its measurement is based on the natural log of total assets. Next, we employ the *IAS/IFRS* variable, which is a dummy variable measurement; if the firm prepared its financial statements based on the International Financial Reporting Standards (IAS/IFRS), this variable takes the value of *1* and *0* otherwise. *CFO* is a measure of the amount of cash generated by a company's normal business operations; it is calculated by adjusting the net income for items such as depreciation, changes to accounts receivable and changes in inventory scaled by total assets. *ROE* captures information about a firm's efficiency in using shareholders' funds to generate earnings, and is measured by dividing net income by shareholder's equity. Further, *Colldp* is measured as the average number of days a company takes to collect payment on goods sold *(Colldp=accounts receivable/(total credit sales/number of days)*, whereas *Credp* is measured as the average number of days a company takes to pay its suppliers *(Credp=accounts payable/(cost of sales/number of days)*.

2.4.4 Data analysis

Data analysis was conducted using the STATA software package (StataCorp LP, 4905 Lakeway Drive, College Station, Texas 77845-4512, U.S.A.). Data screening revealed missing values for some variables. No missing values were detected for variables that were hand-collected from annual reports, i.e., AcExi, AcEffe, and AcComp. However, some data were missing for financial ratio variables retrieved from the Amadeus and Bloomberg databases, i.e., leverage, ROA, Size, CFO, Colldp and Credp, no imputation was made. As result, observations with missing data were excluded from the analysis (automatically by STATA if any).

Further, to estimate the impact of the test variables such AcEffe, AcComp, and lawEffect on FRQ, although several models were tested, in a subsequent analysis we only used two of them. We tested the model described in the model specification section using an OLS regression analysis. Thus, two model variations were tested in our study. The first model captures FRQ using the modified J − Model, whereas the second model captures FRQ us-

ing the ROA − adjusted modified J − Model. Both variations yielded somewhat similar parameters; however, in subsequent analyses we only used (and reported) the FRQ estimated via the M − Jones model because it captures a higher FRQ than the JROA − adjusted model, although in both cases the test variables remain significant.

In stage two, as robustness check we tested alternative models (respecified comprehended models), including additional variables not considered in stage one; specifically, the interaction terms between *lawEffect (8th CLD)* on one hand, and *AcEffe* and *AcComp* on the other, were conducted. Further, the interaction between the explanatory variables and *IAS/IFRS* was also introduced into the re-specifying models.

2.5 Empirical results

2.5.1 Descriptive statistics

Although we tested several proposed models (Ayers et al., 2006; Bartov et al., 2000; Ecker et al., 2013; Jones, 1991), the modified Jones model (Dechow et al., 1995) and the performance matched model (Kothari et al., 2005) appear to capture more discretionary accruals. Here, the interpretation of the results was made based on the M-Jones model because the results provided by the M-Jones model match those offered by the JROA-adjusted model in terms of the significances and coefficients' sign/direction.

Table 6. Descriptive statistics for main sample

Variable	Obs	Mean	Std. Dev.	Min	Max
M-Jones Model	1784	-0.036	0.047	-0.313	1.093
JROA adjusted	1733	-0.037	0.044	-0.130	1.126
AcExi	2170	0.862	0.345	0	1
AcComp	2170	0.755	0.430	0	1
AcEffe	2170	0.856	0.351	0	1
− **Article 41(2a)**	2170	0.961	0.193	0	1
− **Article 41(2b)**	2170	0.933	0.251	0	1
− **Article 41(2c)**	2170	0.843	0.364	0	1
− **Article 41(2d)**	2170	0.823	0.382	0	1
SIZE	1979	15.16	2.360	6.597	19.597
CFO	1979	0.066	0.124	-1.639	0.834
ROA	1979	0.032	0.146	-1.925	0.660
lagROA	1793	0.031	0.144	-1.925	0.660
CollDp	2169	49.444	51.013	0.000	890
CreDp	2169	39.543	47.291	0.000	886
LEVERAGE	1979	3.228	49.836	-342.397	2123
ROE	1979	0.216	4.609	-49.791	181.1
lawEffect	2170	0.700	0.458	0	1
IAS/IFRS	2169	0.620	0.485	0	1

Therefore, Table 6 presents the descriptive statistics for the model used, the audit the audit committee function, and other control variables used in this study. Hence, based on the average sample firm, Table 6 shows that when using the M – Jones model EU firms have a mean FRQ value of –0.036, with a minimum value of –0.313 and a maximum value of 1.094, while using the JROA – adjusted model EU firms have a mean FRQ of –0.037 with a minimum value of –0.130 and a maximum value of 1.126. A low coefficient value (minus sign) represents high FRQ, whereas a higher value represents weak (lower) FRQ.

As for AcExi, descriptively in 2004, only 69% of the average sample firms had established the audit committees' function, whereas in the post-8th CLD period this proportion had increased to 86.2% of the average sample firms.

Statistically, we noted that in the post-8th CLD period AcEffe had increased considerably but conversely, this finding does not mean the audit committee was not effectiveness even before the Directive entered into force. Specifically, we use four formal indicators to control (as proxy) for audit committee effectiveness. At first sight, Table 6 shows that in about 96% of the average sample firms the audit committee was involved in monitoring the financial reporting process (Article 41(2a)). Next, the audit committee was required to become involved in monitoring the effectiveness of internal control, internal auditing, and risk management (Article 41(2b)); unlike at the beginning, when the involvement was miniscule, in the post-8th CLD period audit committees' involvement has significantly increased in approximately 93% of the average sample firms. Another indicator of audit committee effectiveness relies on monitoring the statutory audit and the annual consolidated accounts (Article 41(2c)), which occurs in 84% of the average sample firms. This finding indicates increased effort in monitoring the external auditors and financial statements in general; thus, it means that financial statements audited by external auditors reflect precision and compliance with the legal requirements (i.e., IAS/IFRS or any law). Further, the role of the audit committee also lies in monitoring the independence of the statutory audit (Article 41(2d)); this value rose from 36% of the sample firms monitoring the independence of the statutory audit to 82% in the post-8th CLD period.

In sum, Table 6 also shows that the mean AcEffe value is 0.856, which can be interpreted as indicating that in 85.6% of the firm-year observations the AcEffe variable met the criteria established in this study, and was thus in compliance with the 8th CLD (Article 41 (2)). Stated differently, in the sample the firms' average AcEffe increases after the Directive entered into force.

Next, independence and financial expertise are two audit committee features that make it possible to control (as proxy) for AcComp. As shown in Table 6, in the sample on average about 75.5% of audit committees are professionally competent (and independent) in fulfilling their legal responsibility. Further, this can be interpreted to the mean that both independence and financial expertise have contributed positively to the increasing level of professional audit committee competences.

Of equal importance, Table 6 also reports in detail the mean value; standard deviation; maximum and minimum value for the third test variable (lawEffect) and all other control variables including leverage, ROA, CFO, IAS/IFRS , ROE, etc. Since the two control vari-

ables of *CollDp* and *CreDp* were not widely used in previous studies, we observe that the mean *CollDp* value is 49.44 days, whereas the mean *CreDp* value is 39.54 days. In other words, these findings show that it takes 49.44 days for the average firm in the sample to collect payment for goods sold, whereas it takes 39.54 days for the average sample firm to pay suppliers.

In addition to examining mean scores for the overall 10-year period, we examine the development trend for audit committee characteristics and discretionary accruals. For this purpose, we divided the overall period examined into two sub-periods and calculated the mean values for period before and after 8th CLD entered into force. The results are presented in Figure 2. As showed, the incidence of discretionary accruals is almost consistent between pre– and post 8thCLD period.

Figure 2: Audit committee characteristics trend (composite items and components)
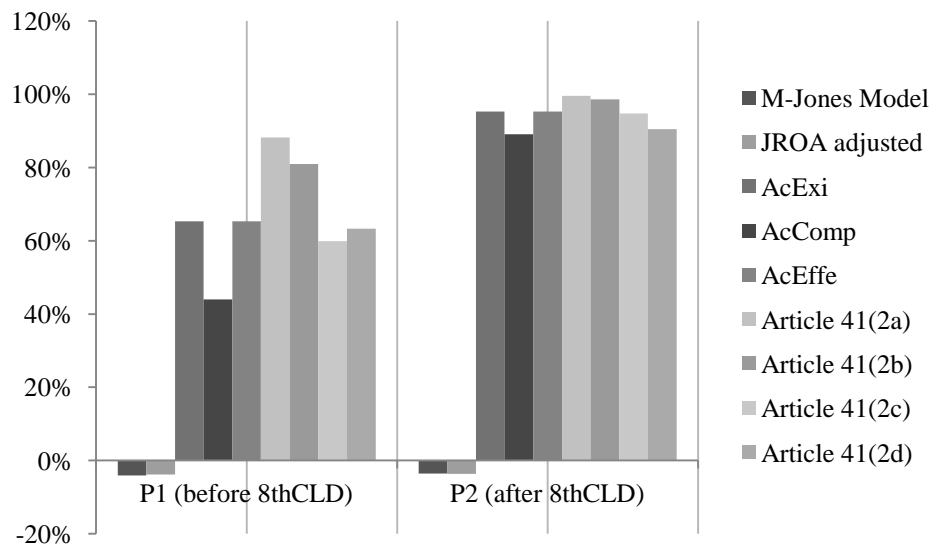
Furthermore, as evident from the Figure 2, after the 8th CLD the presence of audit committee increased significantly, from period 1 (65% before 8th CLD) to period 2 (95% after 8th CLD period). In addition to AcExi, Figure 2 shows also that AcComp and AcEffe increased significantly across two periods, from period 1 (AcComp 44% and AcEffe 65%) to period 2 (AcComp 89% and AcEffe 95%). Similar developments across time can also be observed for subcomponents of AcEffe variable. Yet, a notable propensity is the Article 41(2a) (monitoring of financial reporting) variable where the mean value is relatively high across time, which after 8th CLD period went around 100%.

From a comprehensive perspective, these developments suggest that audit committee characteristics improved significantly after the 8th CLD (2006) entered into force.

2.5.2 Testing model

As shown in Table 7, Pearson's correlation matrix shows a correlation among the examined variables, with no correlation greater than r=0.77. The correlation matrix shows there are several significant correlations between the explanatory variables. Of relevance for this

study, most correlations between the explanatory variables and the FRQ variable are (significantly) negative.

Unlike the two test variables, the only exception is AcExi, which is not negatively correlated with FRQ. Further, Table 7 indicate that only the Colldp and ROE control variables are not significantly correlated with the FRQ variable, while Credp and lawEffect are negatively correlated with FRQ (positively correlated with DA), albeit in the opposite direction from what we expected.

However, at some points Table 7 shows that the correlations of the variables are high. Notable exceptions are the two correlations between AcEffe and AcComp; but no correlations, including the other test variables, are reported. Because high correlations suggest a potential threat of multicollinearity, a collinearity diagnostic analysis was conducted.

The collinearity parameters, most importantly the variance inflation factors, reveal that moderate collinearity does indeed exist. The highest recorded variance inflation factor was 2.6 for AcComp. However, as suggested by O'Brien (2007) multicollinearity is potentially a problem when the variance inflation factor exceeds the value of 10. In effect, we dismissed multicollinearity as a serious threat to the validity of the estimated parameters and proceeded to test the model.

Table 7. Person's correlation between variables

	FRQ	AcExi	AcComp	AcEffe	SIZE	CFO	ROA	lagROA	CollDp	CreDP	LEV	ROE	lawEffect	IAS/IFRS
FRQ	1													
AcExi	0.025	1												
AcComp	-0.092*	0.701*	1											
AcEffe	-0.104*	0.718*	0.720*	1										
SIZE	-0.338*	0.113*	0.178*	0.177*	1									
CFO	-0.311*	-0.009	0.035	0.018	0.309*	1								
ROA	-0.295*	-0.030	0.016	-0.004	0.311*	0.777*	1							
lagROA	-0.167*	-0.035	0.046*	0.015	0.269*	0.454*	0.529*	1						
CollDp	0.037	-0.06*	-0.051*	-0.026	-0.042*	-0.033	-0.013	0.015	1					
CreDp	0.056*	-0.021	-0.026	0.013	-0.089*	-0.188*	-0.213*	-0.226*	0.4054*	1				
LEVERAGE	-0.012	0.009	-0.042*	0.005	0.002	-0.005	0.011	-0.006	0.007	-0.007	1			
ROE	-0.004	0.010	-0.030	0.012	0.008	0.094*	0.012	0.026	-0.005	-0.029	0.798*	1		
lawEffect	0.043*	0.400*	0.480*	0.446*	0.044*	-0.036	-0.050*	-0.054*	0.022	0.022	0.009	0.011	1	
IAS/IFRS	-0.012	0.127*	0.189*	0.184*	0.247*	0.091*	0.053*	0.0780*	0.065*	0.136*	0.007	0.031	0.217*	1

Note: |r| means the absolute value [ranges from r= -1, 0 or +1]

The output contains two important pieces of information: (1) the Pearson correlation coefficients, (2) the level of statistical significance

(1) The Pearson correlation coefficients, r, shows the strength and direction of the association between earnings management and explanatory variables.
(2) A star (*) next to the Person's correlation coefficients show if the test is statistically significant (i.e., the p-value). The level of statistical significance of the correlation coefficients in this table is .01 or better.

The model specified in this study was tested using an OLS regression analysis. In stage one, two variations of the model were tested with the two variations yielding very similar regression parameters. Thus, although the results of both models support the hypotheses, in subsequent analyses we only report our results using the M – Jones model7.

Hence, as hypothesized, AcEffe is significantly positively related to FRQ (p<0.01). Similarly, consistent with hypothesis 2 AcComp is also significantly positively related to FRQ (p<0.01). Contrary to our expectations in hypothesis 3, although at a significant level, we found that 8thCLD (laweffect) is negatively instead of positively related to FRQ (p<0.01).

Next, most of the control variables also exhibit a significant relationship with FRQ. The only exceptions in the two variations of the model are the lagROA, CollDp, CreDp, and ROE variables, which are not associated with FRQ. Contrary to our expectations, but still at a significant level, Table 8 reports the IAS/IFRS variable is negatively instead of positively associated with FRQ. As a heuristic, in relation to CollDp and CreDp, we observed that numbers higher than 40 to 50 days indicate collection problems and significant pressure on cash flows, whereas numbers lower than 40 to 50 days indicate overly strict credit policies that might prevent higher sales revenue. Next, Table 8 also reports that Colldp is non-significantly related to FRQ. Similarly, the results do not reveal any significant association between Credp and FRQ. This finding can be interpreted to mean that firms that failed to manage their CollDp and CreDp tend to be less accurate in their FRQ.

Table 8. Regression analysis parameters

VARIABLES	Expected sign	FRQ (M-Jones)	
		Coefficient	Std. Err.
AcExi	(-)	0.0307***	(0.00498)
AcComp	(-)	-0.0151***	(0.00408)
AcEffe	(-)	-0.0242***	(0.00495)
SIZE	(+)	-0.00531***	(0.00049)
CFO	(-)	-0.0708***	(0.01390)
ROA	(-)	-0.0280**	(0.01210)
lagROA	(-)	0.00416	(0.00905)
CollDp	(+)	0.00003	(0.00002)
CreDp	(+)	-0.00004	(0.00002)
LEVERAGE	(+)	-.00002*	(0.00003)
ROE	(+)	0.00054	(0.00036)
lawEffect	(-)	0.00876***	(0.00287)
IAS/IFRS	(-)	0.0118***	(0.00245)
Constant		0.0400***	(0.00762)
Observations		1,713	
R-squared		0.210	

*** p<0.01 level (two – tailed), ** p<0.05 level (two – tailed), * p<0.1 level (two – tailed),

---

7 The *minus sign* related to the *AcEffe* and *AcComp* coefficients shows that it negatively affects the magnitude of discretionary accruals. Therefore, since in this study discretionary accruals is treated as proxy for finical reporting quality then a *minus sign* can be translated as a positive relationship with FRQ, which is in fact also supported by the literature.

2.6   Sensitivity analysis

Table 9 presents the stage-two regression analysis in which the three main concepts of inquiry (AcEffe, AcComp, and lawEffect) are represented.

Regarding our test and control variables, the sensitivity analysis conveys the point of difference when comparing the results from Table 8. For instance, an important observation is that the test variable of AcComp, which was associated with FRQ in the stage-one model, is not associated with FRQ in the stage-two model (respecified comprehended model); in addition, IAS/IFRS , which was significantly associated with FRQ, is not associated with FRQ in the respecified model (stage two). Moreover, based on the results of the stage-one regression we also respecified the original integrated model by including four additional variables that may potentially exhibit an influence on FRQ. These variables stand for the interaction terms between *AcComp*IAS/IFRS , AcEffe*IAS/IFRS , AcComp*lawEffect,* and *AcEffe*l*awEffect. Moreover, the respecification was based on the counter-expected findings that the IAS/IFRS and lawEffect variables related to FRQ, suggesting that perhaps the impact of AcComp and AcEffe on FRQ is somewhat contingent instead of direct on the lawEffect and IAS/IFRS variables.

Therefore, the results of the respecified model (stage-two model) are presented in Table 9. As shown in the table, the interaction of AcComp and IAS/IFRS indeed exhibits a significant negative relationship with FRQ. It is also noteworthy that, with the inclusion of the interaction term, the direct effect of *AcComp* on FRQ is no longer significant. In contrast, the interaction of AcEffe and IAS/IFRS exhibits a significant positive relationship with FRQ. In other words, the direct effect of AcEffe on FRQ also remains significant in the respecified model.

In addition to the interaction terms between IAS/IFRS and the investigation variables, similarly an analysis between lawEffect and two other explanatory variables AcEffe and AcComp was conducted. The results presented in Table 9 show that only the AcEffe*lawEffect interaction is significantly negatively associated with FRQ. Moderately, the direct effect of AcEffe on FRQ also remains significant in the respecified model, suggesting that AcEffe is contingent on the lawEffect (i.e., the 8th CLD). In contrast, the interaction of AcComp and lawEffect does not exhibit a significant relationship with FRQ. Further, the direct effect of AcComp on FRQ is no longer significant in the respecified model.

Of equal importance, compared to previous years we note that in 2007, 2010, 2011, and 2012 companies experienced higher FRQ. In addition, the results indicate the services industry is more prone to this FRQ level. This finding settles our outcome, namely, that the scale of FRQ is not uniform across years and industries.

Table 9. Regression analysis (re-specified integrated model)

VARIABLES	Expected sign	FRQ M-Jones	
		Coefficient	Std. Err.
AcExi	(-)	0.0235***	(0.00515)
AcComp	(-)	0.00044	(0.00797)
AcEffe	(-)	-0.0156**	(0.00718)

SIZE	(+)	-0.00529***	(0.00048)
CFO	(-)	-0.0677***	(0.01390)
ROA	(-)	-0.0293**	(0.01200)
lagROA	(-)	0.00454	(0.00898)
CollDP	(+)	0.00003	(0.00002)
CreDp	(+)	-0.00003	(0.00002)
LEVERAGE	(+)	-0.00006*	(0.00003)
ROE	(-)	0.00051	(0.00036)
lawEffect	(-)	0.0388***	(0.00685)
IAS/IFRS	(-)	0.00328	(0.00815)
IAS/IFRS *AcEffe	(-)	0.00537*	(0.00286)
IAS/IFRS *AcComp	(-)	-0.0147**	(0.00709)
AcComp*lawEffect*	(-)	-0.00623	(0.00766)
AcEffe*lawEffect*	(-)	-0.0325***	(0.00970)
Constant		0.0318***	(0.00806)
Observations		1,713	
R-squared		0.222	

*** p<0.01 level (two – tailed), ** p<0.05 level (two – tailed), * p<0.1 level (two – tailed),

2.7 Discussion

As hypothesized, the testing models fully support our hypotheses by showing that AcEffe and AcComp are positively related with the financial reporting quality. These findings complement prior studies that have yielded somewhat mixed evidence of this relationship. Braiotta and Zhou (2008) and Bantleon et al. (2011) found that firms associated with audit committee alignment engage less in earnings management. Contrary to this, we extended our insights on three fronts: first in terms of the formal presence of the audit committee, then the committee's effectiveness and, third, its independence and competences.

Empirically, the existence of the audit committee function has received massive attention (e.g., Badolato et al., 2014; Beasley et al., 2009; Engel, Hayes, & Wang, 2010), however there is little evidence based on explicit observations as required by the Directive .

At first sight, we noticed that in the post-8th CLD period firms tend to have established the audit committee function as required (reaching 95% from 2007 to 2013). Yet, irrespective of whether the firm has established an audit committee, if that committee is not professionally competent, independence and not involved in monitoring certain business activities, then firms are less likely to experience high financial reporting quality. For example Alves (2013) and Stewart and Munro (2007) found no association between AcExi and FRQ. Unlike this evidence, our regression findings with respect to AcExi suggest for significant association with FRQ and somewhat compliment (i.e., coeff. direction) those provided by Klein (2002) and Davidson et al. (2005).

Additionally, we found that AcEffe (Article 41(2)) is most likely driven by the committee's involvement in monitoring the financial reporting process and internal control system. However, when considering the prior evidence audit committee effectiveness was treated based on the "classical approach" in which size, independence, financial expertise, frequency of meet-

ings, etc. were used as features of committee's effectiveness (Abernathy et al., 2013; Gendron & Bédard, 2006; Ghosh et al., 2010). Further, as also observed by other authors (Choi et al., 2014; Dezoort et al., 2002; Köhler, 2005; Rupley et al., 2011), committees that meet this "classical approach", or whether the audit committee holds authority, appropriate resources and diligence, then they are all characteristics that drive effectiveness of audit committee.

As hypothesized, Table 8 shows that support is provided for the proposition that AcEffe is positively related to FRQ. Specifically, the results suggest that the level of financial reporting quality is significantly increased as a result of the committee's involvement in monitoring the financial reporting process and internal control system, while the two other activities played a positive role, but on a smaller magnitude. Hence, to the best of our knowledge, this is one of the few studies to specifically address the issues related to AcEffe by claiming that after the 8th CLD entered into effect audit committees' duties and responsibilities have been enhanced by increasing financial reporting quality.

Complementarily, in the exercise of its function the audit committee also reveals audit committee independence and its expertise (Article 41(1) of the 8th CLD). Consistent with our second hypothesis, Table 8 explains that AcComp is positively related with FRQ. With respect to financial expertise our outcomes are somewhat consistent with those provided in previous inquiry (Abbott et al., 2003; Xie et al., 2003), however, audit committee independence is not supported as an influential variable on financial reporting quality. Hence, we complement the findings of Dezoort et al. (2002), McDaniel et al. (2002) and Peecher et al. (2002) claiming that financial expertise causes all activities related to internal control, risk management, and internal and external auditors to be well known by the audit committee; otherwise, FRQ accuracy is only desirable (Badolato et al., 2014; Klein, 2002; Xie et al., 2003). Yet, in consequence we find that the AcComp – financial expertise are one of the primary factors influencing quality of financial reporting. On the contrary, we observe that when a small number of non-executive members participates in formation of an audit committee this causes a negative instead of a positive association with quality of financial reporting.

Accordingly, extending our analyses we noticed that according to the 8th CLD the committee should only have one independent member; indeed, this does not seem appropriate. If based on the Directive the size of the committee is three members (most firms only have three members), then the implication is that 66% of them will possibly remain dependent (executive members), and consequently this could explain why an unexpected result tends to occur in terms of committee's independence and financial reporting quality. Consistent with our findings, Kusnadi et al. (2015) also documented that the audit committee's independence has no impact on the magnitude of financial reporting quality. Consistent with this, Klein (2002) found that a significant relationship with financial reporting quality only prevailed when the audit committee has less than a majority of independent directors.

In addition, this study highlights that in the post-8th CLD period (2006 onwards) the corporate governance quality has contributed significantly to the firm's operations (Hooper et al., 2009); with the audit committee assuming new responsibilities (Bédard & Gendron, 2010; Robinso & Owens-Jackson, 2010). Although this seems most likely to be the first study to address the above issues in EU settings, in the U.S. context SOX remains with almost the

same requirements as its counterpart the 8th CLD. Unlike in the U.S. we observed that in the EU the incidence of financial reporting quality is not simply related to the Directive entering into force; as such, it is not related to any other regulatory policy (i.e., IAS/IFRS). As stressed by Chen et al., (2010) in a study conducted at the firm level for the EU-15, changes in accounting quality could not be mainly attributed to IAS/IFRS, even though the level of financial reporting quality increased after adoption of the accounting standards (Barth et al., 2008). Similarly, Christensen et al., (2015) observed that use of IAS/IFRS does not necessarily improve accounting quality. Yet, as disclosed by Bantleon et al., (2011) it is difficult to ascertain whether the Directive has directly affected financial reporting quality since its implementation varies considerably from one state jurisdiction to another, and thus there is no full consensus on how some governance mechanisms should be treated (i.e., size of audit committee, internal auditing function). Moreover, it certainly cannot be claimed that the Directive by itself has influenced the improvement of financial reporting when considering the large number of other factors also related to quality of financial reporting (Barth et al., 2008; Daske et al., 2013).

Therefore, our findings reveal that after the 8th CLD period the level of corporate quality increased but, unlike the effect related to committee's effectiveness (and less on the committee's independence and professional competencies), the changes in financial reporting quality are less likely only be attributed to this Directive (lawEffect).

In addition to testing the model, we further strengthened this approach as by including the interaction terms between lawEffect, IAS/IFRS and two explanatory variables. Our robust findings, suggests that the impact of AcComp usage on FRQ is most likely contingent on the IAS/IFRS. Thus, use of IAS/IFRS does not necessarily deter weaknesses in financial reporting system; but does so in combination with the audit committee's independence and professional competences (Jeanjean & Stolowy, 2008). These results make sense because AcComp can be associated with the IAS/IFRS requirements (i.e., financial literacy).

Yet, it is exactly the 8th CLD that tasks the committee with duties and responsibilities and by impacting quality of financial reporting. Table 9 reports that only AcEffe*lawEffect is significantly associated with financial reporting quality. As stated, after the Directive entered into effect the role of the committee was considerably enhanced, suggesting that AcEffe is contingent on lawEffect. In other words, the audit committee's involvement in monitoring business activities is likely inclined by lawEffect, as a result it has positively influenced the magnitude of financial reporting quality. In contrast, the interaction of AcComp and lawEffect does not exhibit a significant relationship with financial reporting quality. This result could be driven by the fact that the Directive seems to be not so demanding regarding the independence and professional competences, specifically with respect to independence.

Finally, we tested for the distribution of FRQ across industries; given that the services industry has the largest number of observations in the pooled sample, these results may be driven by the services industry, followed by manufacturing.

2.8 Conclusion

This study explores how the audit committee influences the quality of financial reporting of EU-28 listed companies. We intended to examine the audit committee's impact on financial reporting quality, however, to the best of our knowledge this study constitutes one of the rare works covering the committee's role within the spirit of the 8th CLD.

The audit committee responsibilities are defined in Article 41 of the 8th CLD, and this research aimed to give answers concerning three important issues affected by the Directive and supposed to be associated with financial reporting quality. The first inquiry gives empirical evidence regarding the association between AcEffe (41(2)) and FRQ. Second, it gives an answer about whether AcComp (Article 41(1)) is related positively with FRQ. Finally, we provided the third answer with respect to FRQ accuracy by considering the period before and after the 8th CLD (lawEffect).

Additionally, we control whether the formal presence of the audit committee function is significantly associated with FRQ, however, regression results does not support an association between AcExi and FRQ. Moreover, we disclose that more than 86% of the average sample firms have established audit committees but, with non-executives directors.

Furthermore, we found that AcEffe varies due to the audit committee's involvement in particular activities within the corporate governance mosaic. One example of this is the use of accounting techniques without monitoring by other corporate bodies, i.e., the audit committee, which may lead to inappropriate financial reporting. Therefore, this study provides evidence on the incidence of the monitoring provisions by the audit committee and, accordingly, which are more effective with respect to FRQ. As result, we found that as the involvement of the committee in monitoring corporate activities as required by the Directive (Article 41 (2) a, b, c, d)), the quality of financial reporting is also higher. Specifically, we claim that the strengthening of internal controls (Article 41(2b)) causes financial reporting to always remain reliable; however, specification of the frontline issues by covering formal financial reporting procedures (Article 41(2a)) (i.e., payroll policy, accounts payable, and receivable procedures) should be a firm's ongoing priority since it ensures that financial reporting quality is high.

In addition to the audit committee's existence and effectiveness, we find that the committee's competences (financial expertise and independence) are positively related to financial reporting quality, however, when estimating separately the only exception is independence, which is not significantly associated with financial reporting quality. In sum, with respect to AcComp our results complement the previous findings made by Dhaliwal et al. (2010) for U.S. firms and signal the benefit and importance of having an audit committee member with financial expertise and independence in overseeing the financial reporting process. Moreover, we are cognizant of the fact that AcEffe and are linked with AcExi and we do not establish any significant relationship between AcExi and financial reporting quality.

Next, this study shows almost for the first time that the committee's effectiveness is positively associated with the Directive and, according to our observations for the period since the 8th CLD; the accuracy of financial reporting has increased.

In nutshell, this paper's most relevant and notable contribution is that we find empirical evidence in support of calls for a diversity of expertise among audit committee and further involvement to ensure effectiveness in monitoring internal control systems, internal audit, and risk assessment. Along these lines, our paper contributes to the financial reporting literature by characterizing audit committee effectiveness and professional competences as constraints on weak FRQ. Thus, this paper complements the existing literature; by suggesting because it is the 8th CLD that has affected positively on the accuracy of financial reporting.

As with any study, this study has several limitations. As shown, the study does not cover firms which are not listed on regulated markets and those does not follow the EU directive; thus, a further study at the EU firm level would fill the gap left by this study. Next, this study has particular limitations related to measurement of the variables. As noted in this study, independence and financial expertise are used as a proxy for audit committee competences; however, other indicators could also be used. A similar limitation pertains to measuring audit committee effectiveness. Our study took a very comprehensive approach by including four dimensions, as the Directive requires. Although this method increases the potential to more comprehensively capture audit committee effectiveness, it also increases the likelihood of measurement error. Yet, overall these limitations should not preclude further research concerning audit committee quality − features and financial reporting quality. In particular, this study suggests it is worthwhile to simultaneously investigate in more detail the audit committee features because of their potential interactive effects on financial reporting quality.

Therefore, this study calls for further research because at some points the Directive should be respecified more clearly with respect to management's responsibilities concerning financial reporting quality and to seek administrative responses (fines − penalties) when firms deliberately fail to implement the legal provisions. In addition, this study suggests that at certain time intervals the audit committee should issue regular reports with respect to monitoring corporate activities (separately from any other corporate report) to increase transparency and also address all potential weaknesses that are emerging within corporate governance.

3. COMPLIANCE WITH ALTERNATIVE CORPORATE GOVERNANCE POLICIES: EFFECTS ON GOVERNANCE QUALITY AND EARNINGS MANIPULATION

3.1 Overview

This study presents empirical evidence how compliance with alternative corporate governance policies (i.e., the Sarbanes-Oxley Act of 2002 and the 8th Company Law Directive of 2006) affects corporate governance quality and earnings manipulation. This study focuses on EU publicly traded companies that are cross-listed in the U.S. as they are subject to both regulations. The period examined is from 2000 to 2013. Supporting prior evidence, we find that greater compliance with Sarbanes-Oxley Act is positively related to corporate governance quality and negatively related to the incidence of earnings manipulation. As a distinct contribution of this study, we find that compliance with the 8th Company Law Directive yields similar outcomes – enhanced governance quality and lower earnings manipulations. Although provisions in both regulations are relatively distinct, we observe relatively high, but not perfect correlation between compliance scores.

3.2 Introduction

Corporate governance system seems to be better positioned in recent years because of the outbreak of numerous accounting scandals that appeared at the turn of the millennium (e.g., Enron, Worldcom, Parmalat, etc.). Indeed, corporate governance works as an entire system, since it includes legal framework and other mechanisms (i.e., board of directors, the audit committee, the internal auditing function, internal controls) that collectively would enhance the corporate value (Thomsen, 2005). In effect, it is beneficial to establish mechanisms to increase corporate governance quality and prevent any manipulation from occurring (Ashbaugh-Skaife et al., 2005; McDaniel et al., 2002; Peecher et al., 2002; Stewart & Munro, 2007).

In practice, corporate plans often lag behind in their realization (i.e., the achievement of objectives) because of weaknesses in corporate governance, leading to a tendency toward poor governance system. However, as observed by Louizi and Kammoun (2015) two influential factors are related to corporate governance systems. First, the factors that are related to the "shareholders rights and board of directors", and second, the factors related to "remuneration policy and convergence of interests for shareholders and managers".

The Sarbanes-Oxley Act of 2002 (SOX) was presented as a device to restore trust in financial markets and to refurbish investor confidence by enhancing the reliability and accuracy of financial reporting and the corporate governance scheme, including internal control practices and procedures. Like SOX, the 8th Company Law Directive (8th CLD, 2006) aims to reinforce corporate governance quality (CGQ) and the reliability of financial reporting with respect to investors' interests. Therefore, the entry into force of SOX and the 8th CLD has affected firms, increasing their governance responsibility; consequently, the quality of corporate governance has received a different type of direction than before and the level of earnings accruals has declined.

Corporate plans often lag behind in their realization (i.e., the achievement of objectives) because of weaknesses in corporate governance, leading to a tendency toward poor accounting quality. Companies attempt to smooth their earnings in periods in which their performance is either much higher or much lower less than in prior periods relative to company performance. This variety in magnitude involves managerial action to increase (or decrease) revenues, profits or earnings per share categories through aggressive accounting tactics, leading to the incidence of earnings management (Burgstahler & Dichev, 1997).

In a nutshell, the quality of governance seen through the firm –level data is based on specific provisions that follow the company, respectively based on legal requirements imposed by policymakers. For example, Bruno and Claessens (2010) found because country with the stringent regulation suggest for well governed companies, although, this could provide also a contra effect on corporate governance quality (see, for example Lazarides, 2011).

Herein, the study aims to examine the effects of alternative regulatory policy related to the corporate responsibilities, which coincide with the corporate value and protecting the shareholder interests. Thus, at first glance this study estimates the impact of compliance with two alternative regulatory policies on corporate governance quality and on earnings manipulation. In particular, we are interested whether the effects or compliance are similar for both regulations or does compliance with SOX have a more profound effect on earnings manipulation than compliance CLD.

This study is motivated by several influencing factors. First, it responds for the first time to calls to investigate the nature and consequences of alternative regulatory policies in relation to corporate governance quality. Thus, it examines whether the direct effect of regulatory policies propel the enhancement of the quality of corporate governance. Second, relative to the ample evidence of the impact of the SOX Act, far fewer studies are concerned with the impact of the 8th CLD on both extents, corporate governance quality and earnings manipulation. Third, most of the empirical evidence of the regulatory polices effects on CGQ on EM is based on U.S. firms, whereas European companies have not been extensively investigated.

In addition, a study contribution to the stream of literatures is threefold. First, unlike most prior studies that have investigated the regulatory policy and earnings management relationship, this study explicitly indicates whether the quality of corporate governance has increased after the regulatory policies go into effect. Second, in the past, this issue did not receive massive attention from researchers, and therefore, the lack of studies prevails. Thus, this study is particularly pertinent because regulatory policies continuously call upon firms to eliminate the weaknesses on their corporate governance system with regard to financial reporting and internal controls. This being the case, this paper makes an additional contribution by providing a foundation for policymakers to draw attention not only to the regulatory provisions that are being used to increase quality of corporate governance but also to those that are most commonly used to enhance corporate governance quality. Third, the plausibility of this study fills a gap in the current literature, in particular, it complements the evidence in the literature that has addressed the issue of regulatory policies across European firms. In overall, this paper contributes to the contingency approaches by observing to what degree the regulatory affected corporate governance systems and protected stakeholders' right.

In addition, this study is focused on European companies cross-listed in the U.S. that are represented by the American Depository Receipt and, which are particularly interesting because they are subject to different regulatory policies. To control for policy changes, the period examined is 2000-2013, a 14-year span of data that covers the period both before and after the implementation of the SOX and the 8th CLD.

The rest of the paper is organized as follows. Section 3.3 describes a brief review of the theoretical background, research expectations and hypotheses. Section 3.4 provides details about the methodology used for the research design and model specification. Attention to earnings manipulation is paid in this section. Section 3.5 provides details about the measurement of both the test variables and the control variables. Sections 3.6 and 3.7 present our empirical results and sensitivity analysis. The paper concludes with a discussion of the main findings and some implications.

3.3 Theoretical background

No version of the literature supports the extent to which alternative regulatory policies might have a qualitative effect on firms' corporate governance and therefore cannot support the notion that such policies can affect the prevention of earnings manipulation. As provided by Bruno and Claessens (2010) the effect of regulation is twofold, however, observed evidence showed because companies with good governance practices operates in stringent legal environments. Next, although this signal for strong corporate governance system, opposing they claimed that threshold level of country development above which stringent regulation hurts the performance of well governed companies or has a neutral effect for poorly governed companies.

The adoption of legal framework and the installation of the effective mechanisms, processes and relations by which corporations are controlled and directed show the quality of corporate governance.

The regulatory vehicle that is the European counterpart to the SOX is the 8th CLD, which aims to increase the importance of corporate governance quality and directly contributes to the effectiveness of its, constitutes mechanism. Although these regulations have their own advantages, they have been criticized by the business community because of the cost of compliance, particularly with respect to SOX. More precisely, sections 302 and 404 of SOX have sparked numerous reactions in the business community in the United States (U.S.) (Fischer & Gral, 2014; Krishnan et al., 2008; Li, 2014), with every publicly listed company represented by the ADRs required to abide by SOX. In addition, foreign firms remain subject to compliance with this regulatory policy, and an extra burden is also imposed on them (Hossain et al., 2011; Kinney and Shepardson, 2011). Thus, it should be acknowledged that, prior to the Sarbanes-Oxley Act (2002), the requirements for foreign firms cross-listed in the U.S. were less strict than those for domestic firms.

As opposed to SOX, the 8th CLD calls for fewer requirements but also aims to strengthen and protect investors by making corporate governance more consistent. Prior studies suggest that corporate governance quality most likely depends on the application of the principles and guidance standards applied by the firm; however, is influenced by several corporate mechanisms (Bebchuk et al., 2009; Gompers et al., 2003). Unlike to corporate governance quality,

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to earnings manipulation widely debated (Doyle et al., 2007; Enomoto et al., 2015; Myers et al., 2007); compared to accrual-based earnings, managers might prefer to manage earnings through real earnings manipulation (i.e., sales manipulation, reductions in discretionary expenditures, and overproduction). Therefore, a study by Enomoto et al. (2015) suggests that real earnings management is more controlled in countries with stronger investor protection and is less likely to negatively influence a firm's future accounting quality and earnings manipulation.

Table 10. Comparison of SOX and CLD provisions

Regulated issue	SOX provisions (see section measurement of SOX provisions for more explanation)	CLD provisions (see section measurement of CLD provisions for more explanation)
Corporate responsibility for financial reports (disclosure controls (302)).	SOX 302 states that the CEO and CFO are directly responsible for the accuracy, documentation and submission of all financial reports as well as the internal control structure to the SEC.	Does not asks that CEO and CFO is responsible for the financial reporting process and internal control.
Management assessment of internal control (internal controls (404))	SOX404 requires public companies' annual reports to include the company's own assessment of internal control over financial reporting, and an auditor's attestation.	Does not asks CEO to assess the internal control and do not requires an auditor's attestation for internal control.
Audit fees policy, auditing standards and audit reporting		CLD 25, 26, 37 and 42 requires that public companies shall ensure that adequate rules are in place with respect to audit fees for statutory audits, reporting standards and financial reporting, appointment of external audits and independence.
Consolidated financial statements and results of the statutory audit (accuracy of financial reporting process)		CLD 27 and 28 states that public companies shall ensure that consolidated financial statements were audited by statutory audit and presents the results of the statutory audit in an audit report.
Monitoring of internal control and risk assessment		CLD 41 provision indicates audit committee's commitment as proxy for establishing of internal control system and risk management by management team (see Audit Committee Guidance for European Companies 2011).

At some point, SOX seems more stricter because issues related to management responsibilities for the internal control system and financial reporting are well addressed. Thus, these

rules imposed by SOX are straightforward by withdrawing legal sanctions if are disregarded by the management team. Contrary to this, 8thCLD does not reveals who is responsible for financial reporting and internal controls system; the board, the audit committee or management team. In a such situation, 8thCLD is consider with less demand and consequently could affect less on the corporate governance quality than his counterpart.

3.3.1 Corporate governance quality

Collectively, the corporate governance can be described as a problem involving company's management and shareholders, and other parties with whom management team related in business (Bhagat & Bolton, 2008). Now, the way the corporation is required to establish mechanisms in promoting its governance position and to avoid any incentive manipulation, it is a matter for debate (Carcello et al., 2006; Ghosh et al., 2010; Prawitt et al., 2009). On other words, the main issue in corporate governance system is to understand what the outcome of contingency approach is likely to be, and how corporate governance deviates in practice from such contingency approach on both direction, corporate governance and earnings manipulation (La Porta et al., 2008; Lazarides, 2011; Myers et al., 2007; Xie et al., 2003).

Corporate governance quality is heavily reliant on the individual values of several corporate mechanisms used to optimize the firm's objectives. Thus, the quality of governance seen through the firm-level data is based on individual characteristics that follow the company (i.e., board of directors, audit committee, internal auditing) is based on the legal regulations.

Although, majority of papers focus largely on internal and external corporate governance mechanism, however, observed evidence on corporate governance from the regulatory perspective receive relatively little attention (Lazarides, 2011; Lazarides & Drimpetas, 2010).

Next, in any case the prior studies suggest that the quality of corporate governance could be contingent on a range of factors both macro and micro levels. For example Chen, Li, and Shapiro (2011) claimed that corporate governance quality is driven by the level of national economic development, while Wieland (2005), Carney et al. (2011), and Renders et al., (2010) claimed that national institutions drive corporate governance quality. Furthermore, literature suggest also accurate financial reporting (Davidson et al., 2005; Ismail et al., 2008; Krishnamoorthy et al., 2002) and ownership structure as provided by (Desender et al., 2013), are also factors that could impact positively on the magnitude of corporate governance quality, respectively negatively on earnings manipulation.

Further, the methodology provided by Brown et al. (2011) Bebchuk et al. (2009) and Gompers et al. (2003), constructed based on several provisions (individual indicators) that, taken together, provide the corporate governance quality index. Commonly, the operational dimensions linked with the board of directors, the audit committee and the internal auditing function are supposed to represent the cornerstone of corporate governance functionality, particularly in monitoring management activities and protecting shareholder rights (Bebchuk et al., 2009). Some of the features of the board and audit committee, such as independence (non-executive director), appropriate size, appropriate frequency of meetings, financial experience, tenure, and rotation are indicators that drive the quality of corporate governance. In addition to the internal audit function, the possessing proficiency, reporting line, independence, sufficient resources, experience and involvement on performing audits of a financial

nature, are additional feature that can positively lead to an increase in the quality of corporate governance. Apparently, taken together, these dimensions cover the most the controversial issues within the organization, including both financial and non-financial issues (Bartov et al., 2000; Doyle et al., 2007; Ianniello, 2015; Prawitt et al., 2009; Xie et al., 2003).

Finally, most of these corporate mechanisms aim to increase the quality of governance, and consequently those have the direct support from the provisions arising by the alternative regulators.

3.3.2 Earnings manipulation

Earnings manipulation cannot be considered an extension of any deliberate fraud; instead, it can be regarded as an interpretation of aggressive accounting rules. A typical case of earnings manipulation begins with a record of financial items. It is manifested in the misreporting of revenues, expenditures or assets, etc. in the current fiscal period, as may be the case when the recording of more expenditures in the current fiscal period may make it possible to record fewer expenditures in a future fiscal period. Thus, earnings manipulation is the acceleration or postponement of expenses or revenue through operating or accounting practices with the objective of producing consistent growth in earnings (Peasnell et al., 2000; Wilson, 2013). These earnings may not reflect the underlying economic cycle of firms for the period.

The extent to which management influences earnings is most often assessed via discretionary accruals (Dechow et al., 1995). Unlike the nondiscretionary component, which reflects business conditions (such as growth and the length of the operating cycle) that naturally create and terminate accruals, the discretionary component identifies management choices (Bernard & Skinner, 1996; Cohen & Zarowin, 2010; Francis et al., 2005).

The inadequacy of management choices led policymakers to establish strict procedures by issuing the certain rules that affect the deterrence of earnings manipulation in different ways. The promulgation of an alternative regulatory policy, especially SOX in the U.S. and, to a lesser extent, the 8th CLD in Europe, has made it possible for many firms to go "bankrupt" because of the unfavourable climate created in the financial markets (Campa & Camacho-Miñano, 2014; Chang & Sun, 2009). Therefore, as stated in previous research on the adoption of regulatory policies, conversely made earnings manipulation declines (Aubert & Grudnitski, 2014; Braiotta & Zhou, 2008; Fischer & Gral, 2014; Iliev, 2010).

3.3.3 Regulatory policies relationship hypotheses

3.3.3.1 Compliance with Sarbanes-Oxley Act relationship hypotheses

A study by Engel et al. (2010) claims that "the likelihood of stringent regulation aimed at improving financial reporting transparency and corporate governance" was noted when the SEC announced its plan to propose several rules regarding the financial reporting disclosure scheme, particularly when Congress passed SOX.

Currently, strict rules are imposed on every publicly listed company that cross-lists in the U.S. (i.e., every company that must register with and report to the SEC). For instance, the Sarbanes-Oxley Act (Corporate Governance Rule, section 3, 303A.07(c), approved by the SEC on November 4, 2003) subjects firms that are listed on U.S. stock exchanges (i.e.,

NYSE) to strict requirements on the evaluation of internal controls and financial reporting. Furthermore, it calls for independence and financial expertise among board and audit committee members, and their size should be appropriate. Thus, SOX has emerged as compulsory for more than 30% of the world's cash equities (source: http://www.world-stock-exchanges.net, where the NYSE represents 30%, followed by the NASDAQ), with the 8th CLD following closely behind. However, in contrast to the EU, U.S. markets are proven to be characterized by the presence of skilled analysts and institutional investors specializing in the evaluation of high-tech companies, liquidity, lowest trading costs, large market capitalization and a huge product market, which are a key advantage of the U.S. exchanges over most European exchanges (Doidge et al., 2007; Pagano et al., 2001). Therefore, the need to cover these firm's activities/operation as never before becomes very crucial.

In the EU, adherence to SOX is not required; however, SOX has an impact on all companies that operate overseas and that are listed in the U.S. market, regardless of their origin (Cardilli, 2003; Li, 2014; Litvak, 2007). However, there are contradictory opinions regarding the application of SOX and the commitment on the part of European companies (EUCs) to fulfill its requirements. As shown by Stanberry (2010), only 43% of EUCs believe that the law's benefits outweigh its costs.

Unlike the relationship between regulatory policy and earnings manipulation, the relationship between regulatory policy and corporate governance quality has received little attention in empirical research. Nevertheless, the passage of regulatory policies has potentially mandated an increase in CGQ while reducing earnings manipulation across cross-listed companies.

We begin to examine some of the SOX provisions (SOXp) on which corporate governance quality and earnings manipulation seem to be contingent. Of these provisions, sections 302 and 404 are two provisions on corporate responsibilities that directly affect CGQ and EM. More precisely, SOX 302 requires management to disclose significant internal control deficiencies (i.e., financial reporting), whereas SOX 404 not only requires management to provide an assessment of the internal controls but also requires auditors to provide an opinion on management's assessment. Herein, we hypothesize whether the quality of financial reporting and the establishment and maintenance of internal controls are associated with an improvement in corporate governance quality and the avoidance of earnings manipulation (Doyle et al., 2007; Ettredge, Li, & Sun, 2006; Goh & Li, 2013; Peecher, 2002).

Hypothesis 7: *Compliance with SOX provisions is positively related to CGQ.*

Furthermore, although we are interested in documenting (Fischer et al., 2014; Foster et al., 2007; Iliev, 2010; Kinney & Shepardson, 2011; Krishnan et al., 2008) whether the SOX is associated with CGQ in general, we are also interested in calculating abnormal earnings to examine the association between the regulatory policies and earnings manipulation. Therefore, we hypothesize that SOXp also significantly impacts the extent of earnings manipulation. For example, Lin et al. (2008) document that after the implementation of SOXp, the number of companies that went bankrupt because of fraud declined. Similarly, Cohen et al. (2008) conclude that the actual level of earnings management did not change between the pre- and post-SOXp period but that the type of earnings management switched from accrual-

based earnings management to real-based earnings management. However, we expect that the magnitude of earnings manipulation will decrease because of the imposition of SOXp and therefore, we hypothesize that as corporate responsibility increases, the level of earnings manipulation will decrease. Thus, we hypothesize as follows:

Hypothesis 8: *Compliance with SOX provisions is negatively related to EM.*

Although the rules imposed by these policies vary in their magnitude, it is evident that the rules imposed by SOXp are stricter, whereas the rules imposed by the 8th CLD provisions are milder (SOX U.S.A., 2002; 8th CLD The European Parliament, 2006).

3.3.3.2 Compliance with 8th Company Law Directive relationship hypotheses[8]

Europe's equivalent regulation to the SOX is the 8th CLD (the so-called E-SOX), which also affects all publicly listed entities in several ways. Unlike the SOXp, which is treated intensively, the effect of the 8th CLDp, i.e., whether corporate responsibilities were met in accordance with the law, remains inadequately treated. For instance, according to the FERMA (European Risk Management Benchmarking Survey 2012), only 44% of listed companies are unaware the implementation of the 8th CLDp, and only 26% consider it as inapplicable to their organization. Thus, these findings simply support our claim that the impacts of the 8th CLD remain poorly assessed and understood by a large number of undertakers or business entities. Although very few empirical studies have documented the effects of the 8th CLD on CGQ and EM, an empirical investigation of this issue will enrich the literature and complement the lack of literature in this area.

Although it may be considered complementary, the 8th CLD seems to be a less strict policy with regard to addressing corporate responsibilities. Thus, we assume that the 8th CLD almost complements its counterpart because in principle, it aims to create a more stringent discipline related to corporate governance and the accuracy of financial reporting. Accordingly, the 8th CLD provisions (8th CLDp) indirectly calls for all companies listed in regulated markets both to maintain an effective system of internal control and to improve their financial reporting process (as a proxy for provision 41). In addition, we have collected additional information related to several provisions that are linked to good governance practices and that have both a positive impact on CGQ and a negative impact on earnings manipulation (i.e., the audit fees policy – 25, auditing standards – 26, statutory audits of consolidated accounts – 27, auditing reporting – 28, the appointment of the statutory audit – 37, independence and objectivity – 42). On balance, we construct the 8th CLDp index based on 10 dichotomous variables (i.e., 10 provisions of the 8th CLD), representing the level of implementation of the Directive with regard to certain provisions. Although this research examines the effects of the provisions of the 8th CLDp on CGQ before and after the passage of the Directive, further study should be conducted. However, we hypothesize that the 8th CLDp significantly shifts the quality of corporate governance at the level of EU companies.

Hypothesis 9: *Compliance with the 8th CLD provisions is positively related to the CGQ.*

Similar to the SOXp, we are committed to estimating whether the 8th CLDp is negatively associated with the magnitude of earnings manipulation. Therefore, we hypothesize as follows:

Hypothesis 10: *Compliance with the 8th CLD provisions is negatively related to the incidence of EM.*

3.3.3.3 The interaction effect of compliance with the SOX and 8th CLD provisions relationship hypotheses

Although alternative regulatory policies directly impact CGQ and EM, it is also likely that they mutually interact, thus securing benefits beyond the direct effects of each regulatory policy separately. Further, numerous studies show the individual effects of policy on corporate governance and earnings manipulation, but few studies have evaluated the interaction effect between these two variables (Braiotta & Zhou, 2008; Kalelkar & Nwaeze, 2011; Krishnan et al., 2008; Raghunandan & Rama, 2006). While to some extent literature supports because the SOXp and the 8th CLDp have improved the integrity of corporate governance; however, it does not provide any results regarding the interaction effect between the SOXp and the 8th CLDp.

Nevertheless, we expect that the SOXp and 8th CLDp interact in a way that influences CGQ and deters EM. Consistent with this rationale, we hypothesize that an interaction of the SOXp and 8th CLDp has a positive effect on CGQ; thus, we hypothesize as follows:

Hypothesis 11: *The interaction of compliance with SOX provisions and compliance with 8th CLD provisions is positively associated with CGQ.*

Furthermore, we expect that the SOXp and the 8th CLDp interact negatively with regard to the magnitude of earnings manipulation (EM). Therefore, we hypothesize as follows:

Hypothesis 12: *The interaction of compliance with SOX provisions and compliance with 8th CLD provisions is negatively associated with EM.*

From this perspective, we have raised the question of whether the interaction variable between these two variables is positively associated with CGQ and negatively with EM, indicating the possibility of a substitution relationship between SOXp and 8th CLDp.

3.4 Model specification

3.4.1 Model 1

Through the first model, we intend to estimate the impact of the regulatory policies on the magnitude of corporate governance quality that is embodied by the board of directors, the audit committee and the internal auditing function.

Thus, the seven, nine and eleven hypotheses are tested using the following comprehensive model:

$$CGQ_{i,t}=b0+b1SOXp_{i,t}+b28thCLDp_{i,t}+b3SOXp_{i,t}*8thCLDp_{i,t}+b4CFO_{i,t}+$$
$$+ b5ROA_{i,t}+b6ROA_{i,t-1} +b7SIZE_{i,t}+b8DEBT_{i,t}+b9BIG4_{i,t}+b10PROFIT_{i,t}+$$
$$+b11IAS/IFRS_{i,t}+\varepsilon_{it} \qquad (10)$$

Where CGQ denotes the corporate governance quality index, measured based on 14 dichotomous variables collected for firm *i* in year *t*;

SOXp denotes the compliance with the Sarbanes – Oxley Act provisions for firm *i* in year *t*;
8thCLDp denotes the compliance with the 8th Company Law Directive provisions for firm *i* in year *t*;
CFO denotes the cash flow from operations for firm *i* in year *t*;
ROA denotes the return on assets for firm *i* in year *t*;
SIZE denotes the natural log of total assets;
DEBT denotes the ratio of debt to total assets;
BIG4 is an indicator that the firm's financial statements have been audited by one of the Big 4 auditing firms;
PROFIT is an indicator that firm *i* has made a profit/loss in year *t*; and
IAS/IFRS is an indicator that the firm's financial statements are prepared using IAS/IFRS .

Regarding the control variables, *CFO* indicates how effective management is in managing cash flows from operations. Prior research suggests that the manner in which *CFO* is managed has an enormous influence on the level of CGQ (Dittmar & Mahrt-Smith, 2007; Pinkowitz & Williamson, 2005).

The ROA indicator gauges the efficiency of using assets to generate earnings and thus the manner in which they are managed. Therefore, a positive association with CGQ is expected. We also include the *lagged ROA* to correct for problems of endogeneity.

Concerning *Size*, Klapper and Love (2004) note that large firms are more likely to have a positive influence on corporate governance quality.

With respect to *DEBT*, more indebted firms have less incentive to effectively manage their CGQ (Bradley & Chen, 2011). Getting funds from out (borrowing), it is an indicator that the firm has no sufficient financial liquidity to cover its activities. Therefore, if the firm manages to finance its projects, in particular its long-term projects with funds from the equity owners, then this directly implies that firm is in better position and has healthy cash flows. Thus, we expect that this variable is more likely to have negative influence on corporate governance quality.

The *BIG4* variable denotes that a company has been audited by one of the BIG4 auditing firms. These firms have substantial experience and expertise in auditing financial statements, especially compared to other smaller auditing firms; thus, a positive relationship with CGQ is expected (Francis et al., 1999; Krishnan, 2003; Van Tendeloo & Vanstraelen, 2008).

We also control for the reported accrual income (profit vs. loss) in a particular year. Profitable firms are more likely to have an impact on CGQ than non-profitable firms, and a positive relationship with CGQ is expected. Regarding accounting practices, Verriest et al. (2013)

show that firms that disclose more information are associated with stronger governance. Thus, we expect firms using *IAS/IFRS* to tend to present a higher CGQ.

3.4.2 Model 2

The model specified below is proposed to test the hypotheses related to EM (Francis et al., 2005; Schrand & Wong, 2003). In addition to the three main variables of interest, the model includes numerous control variables that have been identified as important determinants of EM in prior research (Carlin & Finch, 2010; Carter, 2013; Chen & Huang, 2013; Hossain et al., 2011; Keung & Shih, 2014; Teshima & Shuto, 2008). Accordingly, hypotheses 8, 10 and 12 are tested using the following integrated model:

$$EM_{i,t} = b0 + b1SOXp_{i,t} + b28thCLDp_{i,t} + b3SOXp_{i,t}*8thCLDp_{i,t} + b4CFO_{i,t} + b5ROA_{i,t-1} +$$
$$+ b6SIZE_{i,t} + b7DEBT_{i,t} + b8BIG4_{i,t} + b9PROFIT_{i,t} + b10IAS/IFRS_{i,t} + \varepsilon_{I,t} \qquad (11)$$

where:
EM denotes earnings manipulation (as a proxy for discretionary accruals) for firm i in year t;
SOXp denotes the compliance with the Sarbanes − Oxley Act provisions for firm i in year t;
8thCLDp denotes the compliance with the 8th Company Law Directive provisions for firm i in year t;
CFO denotes the cash flow from operations for firm i in year t;
ROA denotes the return on assets for firm i in year t;
SIZE denotes the natural log of total assets;
DEBT denotes the ratio of debt to total assets;
BIG4 is an indicator that the firm's financial statements have been audited by one of the Big 4 auditing firms;
PROFIT is an indicator that firm i has made a profit/loss in year t; and
IAS/IFRS is an indicator that the firm's financial statements are prepared using IAS/IFRS .

Regarding SIZE, Barton and Simko (2002) and Myers et al. (2007) note that large firms are more likely to manage their earnings to meet analysts' expectations. Furthermore, CFO indicates management's effectiveness in managing cash flows from operations (Yoon, Miller, & Jiraporn, 2006). Prior research suggests that a higher CFO reduces the incidence of EM (Dechow, Kothari, & Watts, 1998; Roychowdhury, 2006). The ROA indicator gauges the efficiency of using assets to generate earnings; thus, a negative effect on EM is expected. We also include the lagged ROA to correct for problems of endogeneity. With respect to DEBT, more indebted firms have a higher incitement to manage their earnings to present themselves to lenders as more attractive borrowers (Burgstahler & Dichev, 1997; Degeorge et al., 1999). The BIG4 variable denotes that a company has been audited by one of the BIG4 auditing firms. These firms have substantial experience and expertise in auditing financial statements, especially compared to other smaller auditing firms; thus, a negative relationship with EM is expected (Francis et al., 1999; Tsipouridou & Spathis, 2012). We also control for the reported accrual income (profit vs. loss) in a particular year. Profitable firms are less likely to engage in EM than non-profitable firms. Regarding accounting practices, we expect that firms using IAS/IFRS demonstrate a higher quality of accounting reports and lower EM (Armstrong et al., 2010; Ho, Liao, & Taylor, 2015; Verriest et al., 2013).

3.4.3 Sample selection procedure

We sample all EU companies cross-listed in the U.S., which is represented by ADRs levels II and III. Our initial investigation (EU companies registered and reporting with the U.S. Securities and Exchange Commission as of December 31, 2014) reveals that the total number of EU companies cross-listed in U.S. equity markets was 118, as represented by American Depositary Receipts (the ADR program; the ADR is a security that represents the shares of non-U.S. companies that are held by a U.S. depositary bank outside of the U.S.A.). From this population, we investigated only the EU firms that must register with and report to the SEC and the 8th CLD. These are the firms that are primarily sponsored by levels II and III of the ADR program. Furthermore, these firms obtain a higher-visibility trading volume compared to those that are represented by level I ADRs (i.e., the OTC market), which are not required to report to the SEC. From these 118 firms, we excluded European firms that are sponsored by level I ADRs and that do not comply with EU regulations (e.g., Swiss firms), banks and all firms without at least 6 years of consecutive data for the variables of interest. This procedure reduced the sample to 72 firms.

The period analyzed extends from 2000 to 2013, a 14-year span of data. The financial data used in the data analysis are obtained from the Bloomberg and Amadeus databases. Unlike financial data, which are readily available in archival databases, the data for the SOX and 8th CLD variables and their provisions were collected by hand. The data source was the firms' annual reports, particularly the electronic filings of proxy statements to the SEC in the EDGAR database. Hand collection was a very time-consuming activity; however, it was worthwhile because it enabled us to construct a unique, high-quality set of corporate governance data unprecedented in prior research.

3.4.4 Variable measurement

3.4.4.1 Corporate governance quality

Numerous studies support the idea that the level of corporate governance quality depends upon how the organization has managed to create effective mechanisms such as the board of directors, the internal audit function and the audit committee as the three main pillars of corporate governance quality (Cheung, Stouraitis, & Tan, 2011). Therefore, following the methodology of Bebchuk et al. (2009) and Gompers et al. (2003), we have constructed the corporate governance index based on 14 individual indicators that, taken together, produce the CGQ composite. More specifically, the CGQ index is derived from the qualitative characteristics of the three main corporate mechanisms, as explained below.

Internal auditing function

The IAFQ for firm i in year t was measured along five dimensions: the formal existence of the IAF, proficiency, size, independence, and involvement in financial statement auditing. Each component was dichotomized, and the variable is assigned the value of 1 if the present criteria are met and otherwise 0.

Formal existence of the IAF: a value of 1 indicates that a particular firm had a formally established IAF in year t whereas the value 0 indicates that the IAF has not been formally established. *Proficiency* is measured using three subcomponents: (a) qualification/skills; (b) ex-

perience; and (c) professional certification. With respect to component (a), if more than 51 percent of the internal auditors had a university degree, we assigned the value of 1 and 0 otherwise. Concerning component (b), if the auditors had more than 3 years of auditing experience, we assigned a value of 1 and 0 otherwise. Regarding component (c), if at least one of the internal auditors was professionally certified (CIA or CPA) we assigned this component a value of 1 and 0 otherwise. In stage 2, we constructed a composite item from the three components. If the sum of values in stage 1 was 2 or higher, the ascribed value was 1. If the sum of values in stage 1 was 1 or lower, the ascribed value for proficiency is 0. *Size* of the IAF component yields a value of 1 if a firm has allocated financial resources of at least EUR 5 million and human resources in terms of at least three internal auditors to the internal auditing function (Anderson et al., 1993; Lin et al., 2011), and 0 otherwise. *Independence* scores a value of 1 if the internal audit reports directly to the audit committee, and otherwise 0. *Involvement in financial statements audits* is given a value of 1 if the internal auditors performed at least one such audit in a given year, and 0 otherwise (Lin et al., 2011).

Board of directors

The BoDQ of firm *i* in year *t* has also been measured along five dimensions, including the board size, independence, the frequency of meetings, financial expertise and board rotation. Each component was dichotomized; thus, the BoDQ represents a summated score of five subcomponents, with values comprising a theoretical range from 0 to 5.

For *board size*, a value of 1 was assigned to firms with more than six board members and 0 to firms with less than six members. *Independence* was deduced from the relative structure of executive and non-executive board members. If the percentage of non-executive directors was greater than 51% we assigned it a value of 1, and otherwise 0. *Frequency of meetings* was gauged from the number of meetings in a given year. If the number was higher than six, we assigned the firm a value of 1, and 0 otherwise. *Financial expertise* was determined based on the board members with experience in the field of finance and accounting. If we found that 15% of board members possess these traits, we attributed the value of 1, and otherwise 0. The *board rotation* variable for firm i in year t was assigned a value of 1 if in year t at least one new member joined the board and 0 otherwise.

Audit committee measurement

The audit committee of firm *i* in year *t* has also been measured along 4 dimensions, including its formal existence, size (<3), financial expertise (*yes=1 or no=0*) and independence (at least 1). Each component was dichotomized; thus, the audit committee represents a summated score of four components, with values comprising a theoretical range from 0 to 4.

For *audit committee existence*, a value of 1 was assigned to firms which have established formally audit committee function at the time in which we observe the event. Next, for *committee's size*, a value 1 was assigned to firms with more than three committee members and 0 to firms with less than three members. With respect to *financial expertise, it* was determined based on the committee members with experience in the field of finance and accounting. *We* assigned a value 1 to committee that possess at least one financial expertise in its composition *and* 0 otherwise. *As for independence,* a value 1 yielded audit committee with at least one

non-executive member (independent) from the relative structure of executive and non-executive board members and 0 otherwise.

3.4.4.2 Earnings manipulation

In previous studies, earnings manipulation has been calculated based on several proposed models such as the Healy (1985) and DeAngelo model (1986), the Jones model (1991), and the cross-sectional Jones model (DeFond & Jiambalvo, 1994). Accordingly, Dechow et al. (1995) test five accrual-based models, and their findings show that all of the models are able to detect earnings management and that the modified Jones model is the strongest. Therefore, in this study, we used discretionary accruals (DA) to proxy for earnings manipulation (Kothari et al., 2005; McNichols, 2010). However, DA is assessed using an extension of the Jones model known as ROA-adjusted discretionary accruals, as suggested by Kothari et al. (2005). Specifically, based on this model, the TAcc is measured based on the following model:

$$TAcc_{i,t}=\alpha 0 + \alpha 1(1/Toas_{i,t-1}) + \alpha 2(\Delta Rev_{i,t}-\Delta Rec_{i,t}) + \alpha 3PPE_{i,t} + \alpha 4ROA_{i,t-1} + \varepsilon_{it} \qquad (12)$$

Where *TAcc* denotes the total accruals (calculated as the change in current assets − the change in current liabilities − the change in cash flow − depreciation and amortization for firm *i* in year *t*;
Toas denotes total assets for firm *i* in year *t*;
ΔREV denotes the changes in revenues for firm *i* between the years *t* and *t-1*;
PPE denotes gross property, plant, and equipment for firm *i* in year *t;*
ΔREC denotes the changes in accounts receivable for firm *i* between the years *t* and *t-1*;
ROA denotes the return on assets for firm *i* in year *t*;
ROAi,t-1 denotes the return on assets for firm *i* in years t and *t-1*; and
ε is the error term of the equation.

In model (3), all of the variables are divided by the initial level of total assets to adjust for heteroskedasticity, and the discretionary accrual component is estimated as the difference between the total accruals and the non-discretionary component using the coefficients from the above regression.

$$DAC_{i,t}=(TA_{i,t}/A_{i,t-1})-\beta 1(1/A_{i,t-1})+\beta 2(\Delta Rev_{i,t}-\Delta Rec_{i,t})+ \beta 3PPE_{i,t} + \beta 4ROA_{i,t-1} +\varepsilon_{i,t} \qquad (13)$$

where *DAC* represents discretionary accruals as proxy for earnings manipulation. The residual is the portion of accruals not explained by the changes in current assets, liabilities, cash and depreciation, thus representing the discretionary accruals (Dechow et al., 1995; Kothari et al., 2005; Doyle et al., 2007; McNichols, 2010).

3.4.4.3 Measurement of the SOX provisions

The SOX measurement is made based on ascertaining whether the firms managed to apply the legal provisions provided by policymakers and is primarily related to corporate responsibilities, that is, the operationalization of financial reporting and internal controls. Thus, we examine whether the management team of firm *i* in time *t* has complied with articles 302 and

404 of the SOX (Leech, 2003) (see appendix E). Furthermore, each of the SOX provisions is dichotomized; with values comprising a theoretical range from 0 to 9. Concretely, SOX 302 is measured along six dimensions[9], and whenever we encountered traces that corresponded with legal requirements we give value 1 and 0 otherwise. Similarly, SOX 404 is measured along three legal provisions including (1) the responsibility of management for establishing and maintaining an adequate internal control structure and procedures for financial reporting; (2) an assessment of the effectiveness of the internal control structure and procedures of the issuer for financial reporting; and (3) the attestation of effectiveness of internal control management. An attestation made under this subsection shall be made in accordance with standards for attestation engagements issued or adopted by the Board. Thus, whenever we encountered traces that corresponded with SOX404 requirements we give value 1 and 0 otherwise.

3.4.4.4 Measurement of the 8th CLD provisions

Following the above technique, we also model the 8th CLDp variable. We carefully consider each of the 8th CLD provisions assumed to have an impact on the improvement of both corporate governance quality and earnings manipulation. We use the 8th CLD provisions (see the 8th CLD: audit fees policy – 25, auditing standards – 26, statutory audits of consolidated accounts – 27, auditing reporting – 28, appointment of the statutory audit – 37, the audit committee – 41 as proxy for financial reporting and internal control, independence (rotation)– 42), to proxy for corporate governance responsibility and financial reporting (*see appendix E)*. Thus, all of these dimensions are measured as a dichotomous variable, taking the value of 1 if firms, as expected, managed to comply with particular provisions and otherwise 0. Thus, the 8th CLDp represents a summated score of 10 provisions, with values comprising a theoretical range from 0 to 10.

We observed *audit fees policy* by giving the value 1 if the firm has prepared/ issued such a policy and 0 otherwise. Further, a value of 1 was assigned to firms which have respected *auditing standards* as required by the Directive by giving the value 1 to firms that were not in line with this legal provision and 0 otherwise. For both *statutory audits of consolidated accounts and auditing reporting* we asserted a value 1 if the firm's financial statement has been audited by the external auditors and 0 otherwise. Furthermore, the value of 1 is given also if the external audit issued a written report and discloses results from such engagement and value 0 if the firm was not in compliance with these legal requirements. Next, a value 1 assigned to the firm if the statutory audit was appointed by the general meeting of stockholders and 0 otherwise.

To proxy for the corporate responsibility for financial reporting and management assessment of internal controls we used the audit committee tasks (see Guidance on the 8th EU Company Law Directive 2010 & 2011 and 2014). Thus, the article 41 for firm *i* in year *t* was measured along four monitoring dimensions: *financial reporting process, monitoring of internal control system, internal auditing function &risk management*. Each component was dichotomized,

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[9] SOX302 was measured along 6 sub provision. For more details see appendix E.

and the variable is assigned the value of 1 if the present criteria are in compliance with and otherwise 0.

Further, we observed the *independence* by asserting the value 1, when carrying out a statutory audit; the statutory auditor is independent of the audited entity and is not involved in the decision-taking of the audited entity and 0 otherwise.

3.4.4.5 Control Variables

CFO is a measure of the amount of cash generated by operational activities, calculated by adjusting the net income for items such as depreciation, changes to accounts receivable and changes in inventory, scaled by total assets. *ROA* is calculated by dividing the net income and total assets, whereas *ROE* is calculated by dividing the net income and shareholders' equity. *SIZE* is measured as the natural log of total assets. *DEBT* is measured as the ratio of total debts to total assets. *BIG4* is a dummy variable that takes the value of 1 if a firm's statements have been audited by one of the *BIG4* auditing firms and otherwise 0. *PROFIT* is a dummy variable signifying that in a particular year, a company has reported a profit (value of 1) or loss (value of 0). *IAS/IFRS* is a dummy variable denoting that the financial statements of a firm have been prepared according to the International Financial Reporting Standards (IAS/IFRS).

3.4.5 Data analysis

Data analysis was conducted using the STATA software package (StataCorp LP, 4905 Lakeway Drive, College Station, Texas 77845-4512, U.S.A.). As shown in Table 11, no missing values were reported with regard to the variables that were hand-collected from the annual reports, i.e., *SOXp* and *8th CLDp*. However, some data were missing for the financial ratio variables retrieved from the Amadeus and Bloomberg databases, i.e., CFO, ROA, SIZE and IAS/IFRS , DEBT, BIG4, etc. Only IAS/IFRS and BIG4 were imputed[10], and observations with missing data, if any, were excluded from the analysis.

To estimate the impact of the SOXp and the 8th CLDp on CGQ, we tested Model 1 using fixed effects (FE), random effects (RE) and an OLS regression analysis; therefore, in subsequent we test Model 1 using FE only. Furthermore, we use the Hausman test to choose between fixed effects and random effects; however, the testing suggests that H_0 should be rejected, p>chi2=0.000 (thus, FE is suitable). The same result with regard to testing Model 1 is provided by the Breusch Pagan Lagrangian multiplier test for random effects, where p>chi2=0.000; therefore, the results are reported only for FE.

In the first stage, we also tested Model 2 by estimating the impact of the *SOXp* and the *8th CLDp* on EM. The model was tested using an OLS regression analysis. As a supplement, in the second stage, we tested Models 1 and 2 by including additional variables not considered

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[10] AMADUES provides data as text with respect to IAS/IFRS and BIG4 in our case. We observed for each year starting from 2000, 2001, ……, etc, whether firms started to follow IAS/IFRS even before they become mandatory. However, in subsequent period (to some extent) we noticed that firms have not reported with AMADUES. Subsequently, we checked financial statements to see if firms have follow IAS/IFRS. Therefore, if we found traces for yes, then we imputed 1 on the spreadsheet (STATA file), regardless the AMADEUS has not reported. Similar procedure for BIG4 was followed.

in the first stage, specifically the interaction terms between the *SOXp* and *8th CLDp* and *CGQ* variables.

3.5 Empirical results

3.5.1 Descriptive statistics

Table 11 presents the descriptive statistics for the variables examined in this study. For the two main variables of interest, i.e., 8th CLDp and SOXp, both the summated scores and the scores for each provision are provided.

Table 11. Descriptive statistics (chapter 3)

Statistics	N	Mean	p50	sd	min	max
CGQ	1008	10	11	4	0	14
ROA-adjusted	865	-0.03	-0.03	0.010	-0.09	0.06
8thCLDp	1008	7.91	9	2.02	1	10
– **CLD~25**	1008	0.40	1	0.38	0	1
– **CLD~26**	1008	0.98	1	0.14	0	1
– **CLD~27**	1008	0.83	0	0.49	0	1
– **CLD~28**	1008	0.97	1	0.16	0	1
– **CLD~37**	1008	0.98	1	0.13	0	1
– **CLD~41a**	1008	0.78	1	0.41	0	1
– **CLD~41b**	1008	0.58	1	0.49	0	1
– **CLD~41c**	1008	0.71	1	0.46	0	1
– **CLD~41d**	1008	0.69	1	0.46	0	1
– **CLD~42**	1008	0.99	1	0.12	0	1
SOXp	1008	5.87	6	2.86	0	9
– **SOX404~a1**	1008	0.75	1	0.43	0	1
– **SOX404~a2**	1008	0.59	1	0.49	0	1
– **SOX404~a3**	1008	0.31	0	0.46	0	1
– **SOX302~1**	1008	0.79	1	0.4	0	1
– **SOX302~2**	1008	0.86	1	0.35	0	1
– **SOX302~3**	1008	0.87	1	0.34	0	1
– **SOX302~4**	1008	0.74	1	0.44	0	1
– **SOX302~5**	1008	0.53	1	0.5	0	1
– **SOX302~6**	1008	0.43	0	0.5	0	1
SOXp*8thCLDp	1008	50.04	54	29.11	0	90
SIZE	937	15.64	16.19	2.43	8.97	21.05
ROA	937	0.04	0.05	0.19	-1.94	0.96
lagROA	939	0.03	0.05	0.18	-1.94	0.96
CFO	937	0.12	0.11	0.31	-1.82	4.69
DEBT	937	0.68	0.67	0.35	-1.33	6.13
PROFIT	985	0.83	1	0.37	0	1
IAS/IFRS	1008	0.41	0	0.49	0	1

Legend for variable labels: see appendix E

As shown in Table 11, the CGQ parameters (means and standard deviations) have a mean value of 10.32 and a maximum value of 14. The 8th CLDp score (implementation) for the overall period is 7.91 or 79.1% of the maximum hypothetical score (10). Of the ten 8th CLD provisions, the sampled firms score highest for CLD~42 – independence (99%) in the overall 14 – year period. This finding can be interpreted to mean that, in 99% of the firm-year observations, the independence of statutory audit has been observed. On the other hand, the sampled firms score lowest in CLD~25 –audit fees policy, with a value of 0.40 in the overall 14 – year period. This finding can be interpreted to mean that, in 40% of firm – year observations, the CLD~25 variable met the criteria established in this study.

The SOXp score for the overall period is 5.87 or 65.22% of the maximum hypothetical score (9). Of the nine SOX provisions, the sampled firms score highest for the SOX 302~3 provision (87%) and lowest for the SOX 404~3 provision (31%) in the overall period.

As shown in Table 11, the average sample firms have a mean ROA – adjusted value of –.03, with a minimum value of –0.09 and a maximum value of 0.06. The low coefficient value (– sign) represents a low earning management, whereas a higher value represents a higher earnings management. From a holistic perspective, it appears that corporate governance quality improved significantly after the SOX (2002) and the 8th CLD (2006) entered into force, whereas earnings management showed significant declines.

In addition to examining mean scores for the overall 14-year period, we examine the trend of implementation for the SOX and 8th CLD variables and their subcomponents. We assumed that some of the requirements of the regulatory policies were already installed as part of good practice within the corporate governance mosaic (i.e. establishment of the audit committee, the rules of financial reporting, etc.), while they turn out to be formalize with the entry into force of the SOX and 8th CLD.

For this purpose, we divided the overall period examined into three sub-periods (before, between, and after) and calculated the mean values for each sub-period. The results are presented in Figure 3 and 4. Similar developments across time can also be observed for most sub-components of both variables

As evident from the Figure 3, the SOXp score increased significantly across periods, from period 2 (73%) to period 3 (84%), even though to some extent seems to have little difficulty in practice. Therefore, although a reasonable implementation trend was reported, however, the efforts remain visible, predominantly with respect to management assessment of internal controls over financial reporting (Article SOX404_(2a)). In addition, Figure 3 reports also the lowest magnitude across periods regarding to Article SOX302_5 (the signing officers are responsible for internal controls and have evaluated these internal controls within the previous ninety days and have reported on their findings) and Article SOX302_6 (a list of all deficiencies in the internal controls and information on any fraud that involves employees who are involved with internal activities), although from 53% in period 2, their implementation pass on 69% in period 3.

Figure 3: Compliance with SOX trend (composite items and components)

Legend for variable labels: see appendix E
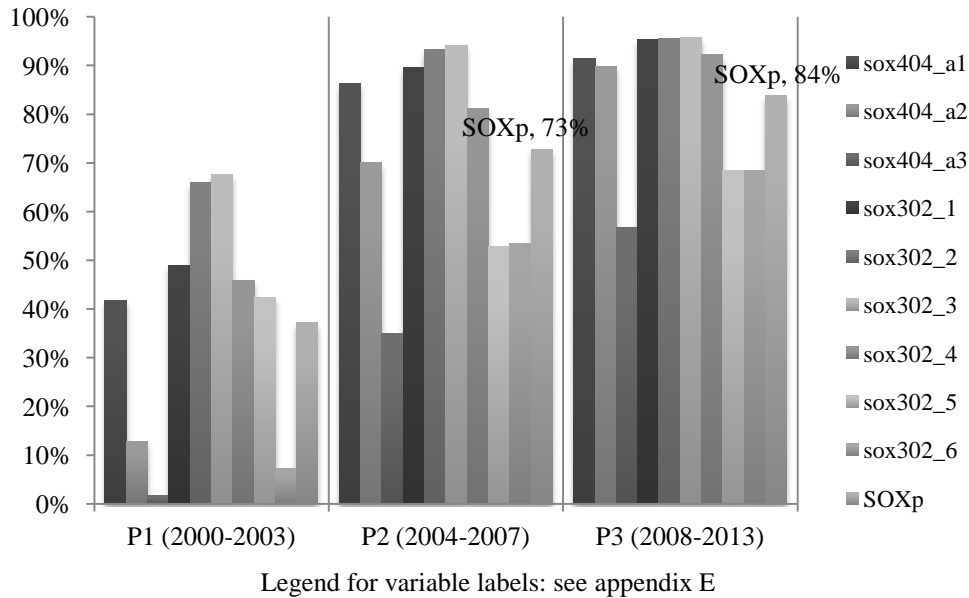
Indeed, the magnitude of corporate governance quality was affected already by the SOX, while 8th CLD continues to strengthens the corporate governance mosaic. Although not formally, the results presented in Figure 4 show that before the directive period (2000-2005), the firms manage (71%) be responsible in adopting good corporate governance practices, however, after the regulatory changes (i.e. 8thCLD), the responsibility of corporate governance increased significantly from period 2 (76%) to period 3 (90%).

Figure 4: 8th Company Law Directive trend (composite items and components)

Legend for variable labels: see appendix E
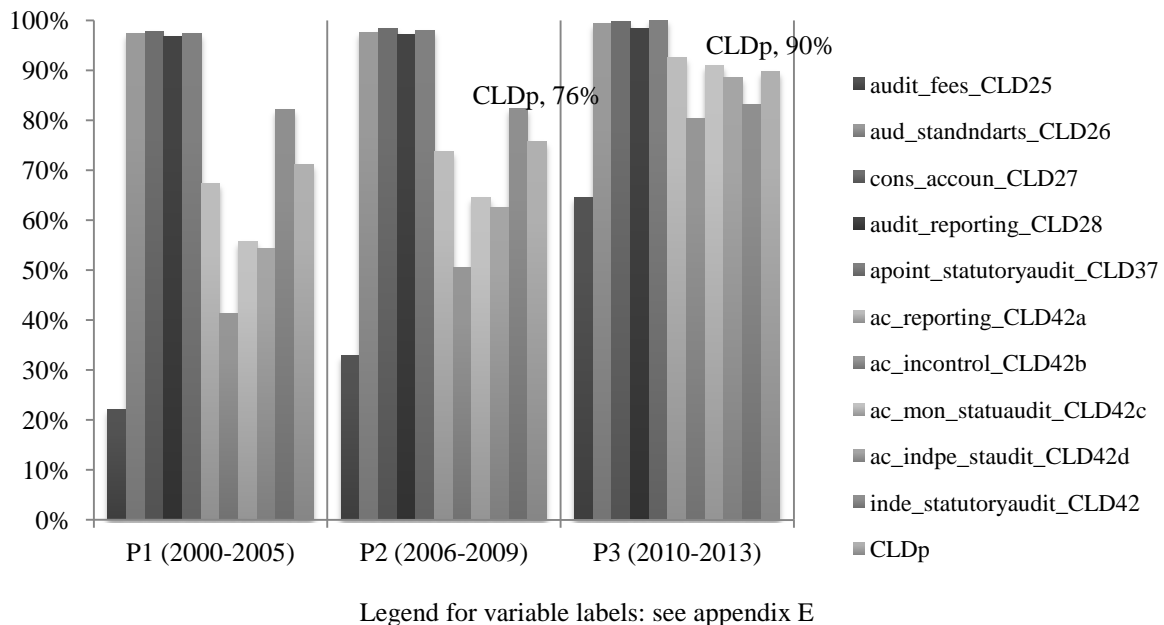
A notable exception is the Article CLD_25 where the mean value is relatively low throughout the overall period. Thus, although the trend is on the increase, it is still unimplemented duly on the sample average. Therefore, Figure 4 shows no satisfactory trend across periods, despite the fact that from period 2 (33%) was increased in period 3 (64%).

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Consequently, SOX calls for more strict requirements than his counterpart, specifically with respect to internal control over financial reporting, since the management team stands directly responsible for the establishing and maintaining an effective internal control system.

From a holistic perspective, these implements suggest that corporate governance quality and earnings manipulation were affected significantly after SOX (2002) and the 8th CLD (2006) entered into force.

3.5.2 Testing model

In this section, we present the results of our two regression analyses. We first examine whether the regulatory policies were positively associated with the CGQ *index*. Then, we investigate whether the quality factors predicting the CGQ contrast between the pre- and post-regulatory policy periods (i.e., SOXp and 8th CLDp) and whether alternative passage-related policies are predictive because the incidence of earnings quality is subject to such a legislative regime. Finally, we hypothesize whether the SOXp and 8th CLDp are complementary or substitute for each other.

Prior to testing the model, in Table 12 (Panels A and B), the Spearman correlations between the variables examined in this study are reported. The correlation matrix shows that there are several significant correlations between the explanatory variables; however, most of them are not excessively high. It is relevant to this study that most of the correlations between the explanatory variables and dependent variable are (significant), as expected. For example, Panel A of Table 12 shows that only *BIG4* was not correlated with CGQ, whereas *DEBT* was negatively correlated, as expected. In contrast, Panel B of Table 12 reports that *EMROA* (EM ROA–adjusted) , *lagROA* and *CFO* are significantly correlated with EM but in the opposite direction than expected. The only exceptions are the *DEBT* and *PROFIT* control variables, which are not correlated with the EM variable. In addition, in our cases, collinearity diagnostics, most importantly the variance inflation factor (i.e., 2.8 -Model 1 and 1.92 - Model 2), reveal that moderate collinearity indeed exists.

However, as literature suggest that multicollinearity is potentially a problem when the variance inflation factor exceeds a value of 10; thus, we dismiss multicollinearity as a serious threat to the validity of the estimated parameters (Freckleton, 2011; Mason & Perreault, 1991). The model 1 specified in this study is tested using fixed effects and random effects regression analysis. We were interested in analyzing the impact of test variables that vary over time, where each entity is different therefore the entity's error term and the constant (which captures individual characteristics). Yet, we test that error terms are not correlated by using Hausman test and Breusch–Pagan test which suggested that FE is suitable. Contrary to this, model 2 is testing by using OLS regression analysis. Indeed, we followed the same methodology as in chapter 1. Consequently, the results which are presented in Table 13 support hypotheses 7, 9 and 11, while those presented in the table 14 support hypothesis 8, 10 and 12.

Table 12. Spearman's rank correlation coefficient

Panel A: Spearman correlation between variables (model 1)

	CGQ	8th CLDp	SOXp	SIZE	ROA	lagROA	CFO	DEBT	PROFIT	IAS/IFRS	BIG4
CGQ	1.00										
8th CLDp	0.6537*	1									
SOXp	0.4846*	0.5950*	1								
SIZE	0.3823*	0.3041*	0.1100*	1							
ROA	0.0979*	0.0980*	-0.0138	0.1482*	1						
lagROA	0.1724*	0.1802*	0.0944*	0.1926*	0.6491*	1					
CFO	0.0806*	0.0312	-0.0619*	0.1970*	0.6922*	0.4726*	1				
DEBT	-0.1126*	-0.1754*	-0.1725*	-0.1007*	-0.2803*	-0.2947*	0.15*	1			
PROFIT	0.0806*	0.0931*	-0.045	0.3234*	0.6524*	0.4271*	0.421*	-0.1679*	1		
IAS/IFRS	0.3234*	0.5602*	0.3531*	0.2508*	0.1207*	0.1926*	0.577*	-0.1826*	0.1217*	1	
BIG4	-0.0392	0.0208	-0.010	0.2033*	0.1913*	0.1636*	0.678*	-0.0047	0.1688*	0.1059*	1

N=923 | *Correlation significant at p<0.01 level

Panel B: Spearman correlation between variables (model 2)

	EMROA	8th CLDp	SOXp	ROA	lagROA	CFO	DEBT	IAS/IFRS	BIG4
EMROA	1								
8th CLDp	-0.1718*	1							
SOXp	-0.0941*	0.5643*	1						
ROA	0.2402*	0.1136*	-0.01	1					
lagROA	0.1988*	0.1073*	0.0134	0.7073*	1				
CFO	0.1037*	0.0239	-0.0799*	0.7108*	0.5063*	1			
DEBT	-0.0009	-0.1891*	-0.1850*	-0.3115*	-0.3193*	-0.1803*	1		
PROFIT	-0.017	0.1050*	-0.0415	0.6558*	0.4393*	0.4533*	-0.2045*		
IAS/IFRS	-0.1620*	0.5426*	0.3066*	0.1337*	0.1310*	0.0546	0.1930*	1	
BIG4	-0.0782*	0.0179	-0.0024	0.1985*	0.1672*	0.1670*	-0.025	0.1060*	1

N=865 | *Correlation significant at p<0.01 level

3.5.3 Corporate Governance Quality (Model 1)

Even in this section the observations in panel data involve at least two dimensions; a cross-sectional dimension i and a time series dimension t. As stated, we test model 1 (#10) by using panel data analysis in which the behavior of entities are observed across time. Therefore, Table 13, reports our first regression results (Fixed effect (FE) estimator)), which estimate the relationship between the test variables and corporate governance quality.

As hypothesized, the higher *SOXp* and *8th CLDp* score enforcement is positively related to CGQ. Specifically, Table 13 shows a positive relationship between the SOX provisions and CGQ at the significance level of $p<0.01$. Similarly, as expected, the regression result shows that *8th CLDp* is significantly positively associated with CGQ at the significance level of $p<0.01$. Thus, this finding can be interpreted to mean that the implementation of the *SOXp* and the *8th CLDp* had a positive impact on that quality of corporate governance, which increased.

Table 13. FE regression analysis parameters (Model 1)

VARIABLES	Expected sign	CGQ	
		Coefficient	Std. Err.
SOXp	(+)	0.734***	-0.0925
8th CLDp	(+)	1.233***	-0.071
SIZE	(+)	0.290***	-0.107
ROA	(+)	0.483	-0.388
lagROA	(+)	0.0038	-0.357
CFO	(+)	-0.243	-0.165
PROFIT	(+)	-0.211	-0.178
IAS/IFRS	(+)	-0.431***	-0.14
BIG4	(+)	0.117	-0.436
DEBT	(-)	-0.308*	-0.167
SOX*8thCLD	(+)	-0.0591***	-0.0114
Constant		-5.294***	-1.672
Observations		923	
R-squared		0.654	
Number of id		71	

*** $p<0.01$ level (two – tailed), ** $p<0.05$ level (two – tailed), * $p<0.1$ level (two – tailed),

However, contrary to our expectations, the interactive effect of the *SOXp* and the 8th *CLDp* on CGQ is negative instead of positive, as was expected ($p<0.01$). Although the effect size is marginal compared to the direct effects, this finding suggests that compliance with SOXp does not incrementally enhance CGQ when compliance with 8th CLD is high, and vice versa. Further, as shown in Table 13, most of the control variables also exhibit a significant relationship with CGQ; however, for some variables, the association is in the contradictory direction from what was hypothesized (i.e., *IAS/IFRS , DEBT*).

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3.5.4 Earnings Manipulation (Model 2)

In this section we used OLS regression analysis. This estimator is particularly powerful as it relatively easy to also check the model assumption such as linearity, conditional mean of the errors, collinearity, constant variance and the effect of outliers using simple graphical methods (see Hutcheson & Sofroniou, 1999).Yet, in a such regression model in which the expected value of the error term is zero and are uncorrelated and have equal variances, the best linear unbiased estimator (BLUE) of the coefficients is given by the ordinary least squares (OLS) estimator. Therefore, following the methodology as presented in chapter 1 of this DD, Table 14 presents our second regression results (OLS estimator), which examine the association between the *SOXp* and *8th CLDp* and the EM. Further, the likelihood that the quality of financial reporting will be more reliable is increased because of the laws enacted to govern the firms. Taking into account that the EM is inversely impacted by those laws, we have reason to hypothesize that the two together are negatively correlated with the EM. Thus, we find that a negative association between the *SOXp* and EM appears to be significant ($p<0.1$). In contrast to *SOX*, as reported in Table 14, the *8th CLDp* is highly negatively associated with the level of earnings manipulation ($p<0.01$). However, in model 2 the interactive effect of the *SOXp* and the *8th CLDp* on EM is not associated significantly with EM. Thus, by interpreting the results, we conclude that stronger the *SOXp* and *8th CLDp* score enforcement leads to a decrease in the magnitude of earnings manipulation.

Table 14. Regression analysis parameters (Model 2)

VARIABLES	Expected sign	EM (ROA-adjusted)	
		Coefficient	Std. Err.
SOXp	(-)	-0.000988*	-0.0006
8th CLDp	(-)	-0.00133***	-0.0005
ROA	(-)	0.0234***	-0.0025
lagROA	(-)	-0.0187***	-0.0024
CFO	(-)	-0.00189*	-0.0011
PROFIT	(-)	-0.00453***	-0.0011
IAS/IFRS	(-)	-0.00173**	-0.0008
BIG4	(-)	-0.00186*	-0.001
DEBT	(+)	0.000114	-0.001
SOX*8thCLD	(-)	0.000108	-0.0001
Constant	(-)	-0.0143***	-0.0036
Observations		865	
R-squared		0.164	

*** $p<0.01$ level (two – tailed), ** $p<0.05$ level (two – tailed), * $p<0.1$ level (two – tailed),

In addition, most of the control variables also reveal a significant relationship with earnings manipulation. The only exception in the model is the *DEBT* variable, which is not associated with EM at a significant level. Contrary to our expectations, however, the only

exceptions in our variations of the model the *ROA* variable is positively instead of negatively associated with EM.

3.6 Sensitivity analysis

Table 15 and 16 presents the stage-two regression analysis. By testing our first and second integrated models, we examine whether the *SOXp* and the *8th CLDp* interact significantly on the CGQ, and negatively on the incidence of EM

Therefore, observing particular provisions of regulatory policies, at some point, the SOXp is very rigorous compared to its counterpart 8th CLDp because it makes the management team responsible for any failure in establishing and maintaining the effectiveness of its internal control system and financial reporting accuracy systems. Thus, in this sense, the SOXp is somewhat more complementary than the 8th CLDp.

Based on the results of the stage-one regression, we also respecified the original integrated model by excluding the interaction terms between the SOXp*8thCLDp variable that could potentially influence CGQ. Moreover, the respecification was based on the unexpected findings that the SOXp and 8th CLDp variables were related to CGQ, suggesting that the smaller the impact of the regulatory policies is, the smaller the impact on the level of CGQ.

The results of the respecified Model 1 are presented in Table 15. As shown in the Table 13, the interaction of SOXp and 8th CLDp exhibits a significant negative relationship with CGQ. Additionally, it is noteworthy that with the exclusion of the interaction term, the direct effect of the SOXp on CGQ is less likely to be significant by approximately 0.46 units (Coef. SOXp value 0.73 declines to 0.27).

Table 15. FE regression analysis parameters (respecification Model 1)

VARIABLES	Expected sign	CGQ	
		Coefficient	Std. Err.
8th CLDp	(+)	0.958***	-0.0479
SOXp	(+)	0.279***	-0.03
SIZE	(+)	0.241**	-0.108
ROA	(+)	0.562	-0.393
lagROA	(?)	0.135	-0.362
CFO	(+)	-0.293*	-0.167
PROFIT	(+)	-0.215	-0.181
IAS/IFRS	(+)	-0.528***	-0.141
BIG4	(+)	-0.0715	-0.441
DEBT	(-)	-0.302*	-0.17
Constant	(+)	-2.418	-1.601
Observations		923	
R-squared		0.643	
Number of id		71	

*** p<0.01 level (two – tailed), ** p<0.05 level (two – tailed), * p<0.1 level (two – tailed),

Similarly, the direct effect of the *8th CLDp* exhibits a less significant positive relationship with CGQ, which grows small at a value of approximately 0.21 (Coef. 8th CLDp value 1.23 decreases to 0.98). Instead, the direct effect of the *SOXp* and *8th CLDp* on CGQ also remains significant in the respecified Model 1, with the likelihood that both residuals have complementarily been strengthened. Furthermore, as CGQ increases, firms are required to adopt standards to ensure a safe business environment.

In addition, Table 16 presents the respecification Model 2 regression analysis from stage 1. At this stage, the sensitivity analysis conveys the point of difference in comparing the results from Table 14, referring to our test variables and control variables.

Table 16. Regression analysis parameters (respecification Model 2)

VARIABLES	Expected sign	EM (ROA-adjusted)	
		Coefficient	Std. Err.
8th CLDp	(-)	-0.000733***	-0.0002
SOXp	(-)	-0.000172	-0.0002
ROA	(-)	0.0234***	-0.0025
lagROA	(-)	-0.0189***	-0.0023
CFO	(-)	-0.0018	-0.0011
PROFIT	(-)	-0.00453***	-0.0011
IAS/IFRS	(-)	-0.00175**	-0.0008
BIG4	(-)	-0.00175*	-0.001
DEBT	(+)	0.000167	-0.0009
Constant		-0.0185***	-0.002
Observations		865	
R-squared		0.162	

*** $p < 0.01$ level (two – tailed), ** $p < 0.05$ level (two – tailed), * $p < 0.1$ level (two – tailed),

An important observation is that out of the test variables of the *SOXp* and *8th CLDp* that were associated with EM in the composite model, only the *8th CLDp* results are associated with EM. Thus, the *SOXp* in the re-integrated model is not significantly associated with EM (Table 16). Next, in the respecified integrated model (stage 2), *CFO*, which was significantly negatively associated with EM, is also not associated with EM. Further, in reintegrated Model 2, we control whether earnings manipulation changes course from accrual to real manipulation and in contrast, only *SOXp* is followed by a decline in accrual manipulation after *SOXp* enters into force (is not reported).

3.7 Discussion

The results of integrated Model 1 support the direct effects hypotheses that the *SOXp* and the *8th CLDp* are positively related to CGQ. There is no straightforward evidence that supports our findings; however, these findings complement most of the previous literature that has addressed the issue of the effect of regulatory policies on changes in corporate governance (Braendle & Noll, 2006; Braiotta & Zhou, 2008; Brown & Caylor, 2006; Dalton & Dalton, 2008; Lavenex & Schimmelfennig, 2009; Romano, 2005; Street & Gray, 2002).

Collectively, this evidence indicates regulatory policies are important devices that drive corporate governance quality and deter earnings manipulation. Thus, regulatory policies call firms to meet their corporate responsibilities, where the Board, Audit Committee and management team are charge to establish and maintain an effective internal control system and also financial reporting process. In this regard, *SOXp* is more stringent, while the *8th CLDp* requires less with respect to corporate responsibilities since does not explicitly impose an obligation on the management team, if it fails to create and maintain an accurate financial reporting system and internal control function. Therefore, our findings supports new facts that in the average sample, only 79.1% of the specific provisions have been implemented by EU firms cross-listed in the U.S., which means that the quality of corporate governance has moved in a positive direction.

In contrast, some prior studies (Braiotta & Zhou, 2008) have to some extent treated the effect of the Directive. In general, our outcomes are more extensive because, study broadly examines, one by one, most of the *8th CLD* provisions that directly affect the level of corporate governance quality. For example we examined provisions 25, 26, 27, 28, 37, 41 and 42, while prior studies only provided conjectural support with respect to *8th CLDp* on CGQ.

Regarding the *SOXp*, our results are in line with the previous evidence (Krishnan et al., 2008; Raghunandan & Rama, 2006) (which are based on 9 SOX provisions), suggesting that more disclosure of corporate responsibilities that the firms experienced (i.e., financial reporting and internal controls), the greater is the governance quality. Similar to these results, Kinney and Shepardson (2011) find that SOX statistically increases the magnitude of material weakness disclosure rates, positively influencing governance quality. Complementing the supporting evidence, Li (2014) claimed that the costs of SOX compliance significantly exceed its benefits and reduce the net benefits of cross-listings. However, although we find that the *SOXp* positively affects CGQ, as reported by Stanberry (2010), only 43% of European Companies believe that the law's benefits will outweigh its costs. Yet, Li (2014) indicates that the law has been moderately successful in enhancing corporate governance responsibility.

Specifically, we found that the trend (implementation) for the SOX and 8th CLD variables and their subcomponents has increased significantly between observed periods. A notable exception is that some of requirements of the regulatory were already installed within the corporate governance mosaic (i.e. establishment of the audit committee, the rules of financial reporting, etc.), while they turned out to be formalizing with the entry into force of the SOX and 8th Directive. In this line, before the directive period (2000-2005), firms managed (71%) to be responsible in adopting good corporate governance practices, however, the corporate governance responsibility increased significantly across time. Yet it is worth emphasize that as a result of the SOX, the role of 8thCLD remains vague to some extent. Consequently, these suggest that corporate governance quality and earnings manipulation were affected after the regulatory changes, and specifically after the SOX (2002) entered into force. Indeed, unlike 8th CLD, our observation suggested that the SOX has affected on the magnitude of corporate governance mosaic more qualitatively than his counterpart.

Further, although integrated Model 1 yielded a negative relationship between SOXp*8thCLDp and CGQ, in the respecified model excluding the interaction, *SOX*8thCLD* does not cause *SOXp* and *8th CLDp* to become insignificant. Thus, Table 15 shows that moreover, SOXp and *8th CLDp* are positively associated with CGQ in the high ranges. Therefore, this finding indicates that neither *SOXp* nor the *8th CLDp* can substitute for each other and that, therefore, the usage of *SOXp* does not affect the reduction in the *8th CLDp*.

Regarding the integrated model in stage one, with respect to the control variables *ROA* and *lagROA, CFO, PROFIT* and *BIG4* were variables that were not associated with CGQ, although a positive relationship was hypothesized between them and CGQ. Complementarily, in the integrated Model 1, *IAS/IFRS* and *DEBT* were the only variables significantly associated with CGQ but in the opposite direction than expected. By contrast, in the stage-two respecified integrated Model 1, Table 15 shows that *ROA, lagROA*, PROFIT and BIG4 were the only variables not associated with CGQ.

Furthermore, as reported in Table 14, the results of integrated Model 2 support the direct effects hypotheses that the regulatory policies are negatively related to earnings manipulation. These findings are consistent with most of the previous literature (Cohen et al., 2008; Horn, 2012; Iliev, 2010; Krishnan et al., 2008; Raghunandan & Rama, 2006) with regard to the influence of *SOXp* on the magnitude of earnings manipulation because no evidence with regard to the *8th CLDp* was provided. As Cohen et al. (2008) show, the level of real earnings management activities declined prior to *SOX*p and increased considerably after the passage of *SOXp*. Individually, therefore, our evidence indicates that the regulatory policies are essential to deter corporate earnings manipulation or an inappropriate financial reporting process. Thus, we found that under regulatory disclosures scheme, the regression results indicate a decline in real manipulation only after SOX enters into force.

With respect to the other variables, in the integrated Model 2 (Table 14), *DEBT* and the interaction terms of the *SOX*8thCLD* variable were the only variables not associated with EM, although a negative relationship was hypothesized between them and earnings management. Perplexed by this finding, we respecified integrated Model 2 (Table 16) by excluding the interaction terms between the *8th CLDp* and the *8th SOXp*. The respecified integrated model yielded a negative relationship between the *8th CLDp* and EM; however, the *SOXp* was not related, as expected. Thus, this view is strengthened by the finding that the direct effects of the *8th CLDp* on EM remain significant in the respecified integrated Model 2. In effect, *SOXp*8thCLDp* in combination does not deter EM, but individually, they have an effect. Unlike integrated Model 2, the stage-two respecified integrated Model 2 explains that the CFO effect has been insignificantly associated with EM whereas *DEBT* continues to have no effect on EM.

3.8 Conclusion

This study addresses two of the last decade's largest events in the financial markets. Thus, we examine the effects of two regulatory policies that have affected EU firms that are cross-listed in the U.S. Recently, the financial markets have been characterized by numerous scandals, playing a role in corporate governance taking another advanced direction.

This study investigates whether the management team alters its corporate governance quality and earnings manipulation following the implementation of two regulatory policies: *SOX* and the *8th CLD*. Specifically, we test whether CGQ increased and accrual manipulation decreased in the post – SOX and post – 8th CLD period. We focus on EU firms cross-listed in the U.S. by confining our sample to firms that are represented by ADRs levels II and III because, in every case, these firms are required to comply with both regulatory policies. Focusing on these firms facilitates a powerful test of both CGQ and earnings manipulation behavior because these firms are characterized by large capital, a huge market share, large numbers of workers and complex operations.

In sum, the implementation of SOXp was increased significantly across periods, from period 2 (73%) to period 3 (84%), although to some extent still seems to have little difficulty in realism. Well, efforts remain visible, particularly with respect to the management assessment of internal controls over financial reporting (Article SOX404_(2a)). Further, the lowest magnitude across periods was noticed regarding Article SOX302~5 (the signing officers are responsible for internal controls and have evaluated these internal controls within the previous ninety days and have reported on their findings) and Article SOX302~6 (a list of all deficiencies in the internal controls and information on any fraud that involves employees who are involved with internal activities), although from 53% in period 2, their implementation went to 69% in period 3.

Therefore, the strengths of SOX are most likely linked with the provision that addresses the corporate responsibilities, in particular the responsibility of management for establishing and maintaining an adequate internal control structure and procedures for financial reporting. In addition to SOX 302, Article SOX 404_(a2&a3) requires that each registered public accounting firm that issues the audit report for the issuer shall attest to, and report on, the internal control structure and procedures of the issuer for financial reporting. However, we found that firms still have to work on this regard, although it is most debatable issue covered by SOX.

Comparatively, both alternative policies have affected positively the corporate governance and earnings quality, however, it is evident that SOX affects more toughly. In contrast, 8th CLD is less stringent than SOX, and the only strengthens issue that is most likely attributable to Directive was the new responsibilities given to audit committee with respect to monitoring effectiveness of internal control and evaluation of risk assessment. This has contributed directly to the growth of CGQ and in preventing the appearance of EM. Otherwise, this Directive does not pushed management team to establish and maintain neither internal control system nor leaves the management team responsible for any duty by which it can be charged corporation.

Therefore, this study contributes to the CGQ and EM literature in several ways.

First, this study reveals how regulatory policy influences how firms extended to increase CGQ and decrease EM. Indeed, the results suggest that in the post − regulatory periods, the level of CGQ reached significant growth, followed by a decline in EM. Second, this study is among the scarce works that have estimated the impact of two alternative regulatory policies on the level of corporate governance quality. Unlike the *SOXp*, to date, the effects of the *8th CLDp* on CGQ and EM and administrators' actions remain largely unrevealed. Therefore, this study should complement the existing literature and should be of interest of policymakers who have a mandate to comprehend the consequences of the latest regulatory policies.

However, this study should be interpreted in the spirit of several limitations. First, in relation to the *SOXp*, only the impact of the internal control and financial reporting (302 and 404) at the level of CGQ and EM were treated, although other provisions could also be considered. Unlike the *SOXp*, this study examines the impact of the *8th CLDp* more extensively and therefore, the impact of 10 different individual provisions on CGQ and EM was observed, although these impacts could have been estimated separately for each legal provision. The second limitation concerns the measurement of the quality level of the corporate governance index, which was based on 14 dichotomous variables and therefore may be not representative. Additionally, with comprehensive criteria, they could also be incorporated; however, we considered that there are exactly three corporate mechanisms that seek to monitor the work of management and protect the interests of shareholders. This study is also limited with regard to the measurement of earnings manipulation, which was based only on the model proposed by Kothari et al. (2005), thus ignoring other discretionary models excessively supported by prior evidence. A further limitation concerns relying on the types of earnings manipulation. Thus, we did not categorize whether in addition to reducing EM, the increase in real earnings management is in response to alternative regulatory policies.

Based on all of the above, we believe that further study is needed in this area because at many points, a *SOX* provision seems (supposedly) to be more complementary than the *8th CLD* provisions. Therefore, this study suggests that the European policymakers should formalize management's responsibilities regarding the effectiveness of internal control over financial reporting so that, as required by SOX, they appear similar, thereby increasing the chance of the management team being more efficacious in that regard. More precisely, SOX 404 requires attestations about the effectiveness of internal accounting controls (requires auditors to provide an opinion on management's assessment), while SOX 302 requires that principal executive officers and principal financial officers of reporting companies to certify quarterly and annual reports. Contrary to this, the *8th CLDp* does not require for such tasks and this study suggest that should be further considered.

Therefore, given the lack of current literature, future research should be able to address the further issue of whether the *8th CLDp* is more appropriate than the *SOXp* and the extent to which these alternative regulatory policies complement each other.

4. GENERAL DISCUSSION

This chapter of the doctoral dissertation presents a discussion of the research, namely the main findings, limitations, and implications for future research and practical application. The dissertation relies on three main objectives. However, the primary objectives are to examine the role of corporate governance mechanisms on accrual earnings or financial reporting quality. As an important objective of this doctoral dissertation includes an evaluation of alternative regulatory policies' impact on corporate governance quality and earnings manipulation. The chapter is organized as follows; first, it provides a summary of the research and conclusions for each chapter of the dissertation. Second, it discusses the main limitations and the validity of the results, while section three presents the study's implications for regulators, practitioners, educators and future researchers.

Main findings

Good corporate governance drives the success of any corporation. Therefore, this doctoral dissertation aims to examine the impact of several corporate governance mechanisms and alternative regulatory policies on corporate governance quality and earnings manipulation. Overall, the doctoral work is original in its format, and includes a representative sample by covering European companies listed in Europe and those EU companies cross-listed in the U.S.A.

In more detail, Chapter 1 examines the impact of two important corporate governance mechanisms (internal audit function quality and board of directors' quality) on the occurrence of earnings management. Although these relationships have been investigated in prior research, the study contributes to the literature in several ways. First, unlike many other studies focused on U.S. firms, this study considers EU firms cross-listed in the U.S.A. Second, it deploys a novel and very comprehensive approach to measuring the internal audit function quality and board of directors' quality variables, each including five quality dimensions. Third, it appraises a long 14-year time span that covers the period both before and after major changes in regulatory policies were introduced on both sides of the Atlantic.

Three key findings emerge from this chapter. On balance, it is found that internal audit function quality and board of directors' quality, two key mechanisms in the corporate governance mosaic, are negatively associated with earnings management. It is noteworthy that this finding holds not only at the construct level, but also at the level of construct components. Second, counter to our expectations, the interactive effect of internal audit function quality and board of directors' quality on earnings management is positive. One potential explanation for this occurrence is the substitution effect between the two mechanisms.

Chapter 2 explores how the presence of an audit committee influences financial reporting quality for EU listed companies. Although it was intended to examine the impact of the audit committee on financial reporting quality, to the best of our knowledge this study remains one of the rare works that covers the role of the committee within the spirit of the 8th CLD. However, in both stages of the testing models the results actually support the dissertation's findings. Moreover, the findings make several contributions to the literature.

Therefore, empirical evidence is provided on the role of *AcComp* and *AcEffe* in line with the 8th CLD and FRQ.

We show that audit committee effectiveness varies in the attitude of its involvement within the corporate governance mosaic. The strengthening of internal controls causes financial reporting to always remain reliable; however, the specification of frontline issues by covering formal financial reporting procedures (i.e., payroll policy, accounts payable, and receivable procedures) should be a firm's ongoing priority. Although the committee's responsibilities are clearly defined in Article 41 of the 8th CLD, this research further indicates whether they are adequate and justify the requirements of this Directive. In addition, this study gives evidence of the extent and ways of the audit committee's monitoring of the provisions and, accordingly, which provisions are more effective in explaining the significant association with FRQ.

Overall, the dissertation's most relevant and notable contribution is that empirical evidence is found in support of calls for a diversity of expertise in audit committee competences and further commitment to audit committee effectiveness, including internal control systems, internal audit, and risk assessment. Thus, the thesis contributes to the financial reporting literature by characterizing audit committee effectiveness and audit committee competences as a constraint on low FRQ.

Chapter 3 aims to investigate whether management teams have altered their corporate governance quality and earnings manipulation following the implementation of two regulatory policies: *SOXp* and the *8th CLDp*. Specifically, we test whether CGQ has increased and accrual manipulation decreased in the post-SOX and post-8th CLD period. We focus on EU firms cross-listed in the U.S.A. by confining our sample to firms represented by ADR levels II and III because, in every case, these firms are required to comply with both regulatory policies. This study contributes to the CG and EM literature in several ways. First, the study reveals how regulatory policy influences how firms intended to increase CGQ and decrease EM. Indeed, the results suggest that in the post-regulatory periods the level of CGQ saw significant growth, followed by a decline in EM.

Therefore, this study is among the rare works that have estimated the impact of two alternative regulatory policies on the level of corporate governance quality. Compared to SOX, to date the effects of the 8th CLD on CGQ and EM and administrators' actions remain largely unrevealed. Therefore, this study should complement the existing literature and be of interest to policy makers who are required to comprehend the consequences of the latest regulatory policies.

Limitations of the research
Like any research, this study entailed some limitations, which are treated carefully in all chapters of this doctoral dissertation.

Chapter 1 describes how, like with any study, a particular limitation of this study concerns the measurement of the variables. As noted in the chapter, discretionary accruals are only a proxy for earnings management, and no perfect measure of earnings management exists. A

similar limitation pertains to the measurement of internal audit function quality and board of directors' quality. Our study deployed a very comprehensive approach by including five dimensions for each construct. While this increases the potential to capture corporate governance quality more inclusively, it also increases the likelihood of measurement error. These limitations, also relevant to other studies, should however not preclude further research concerning corporate governance quality and earnings management. In particular, the study suggests it is worthwhile to investigate the effects of several corporate governance mechanisms simultaneously due to their potential interactive effects on earnings management.

As shown in Chapter 2, this study does not cover firms which are not listed in regulated markets; thus, a further study at the EU firm level would fill the gap left by this dissertation. Next, this study has particular limitations related to the measurement of variables. As noted, independence and financial expertise are used as a proxy for audit committee competences ; however, other indicators could also be used. A similar limitation pertains to the measurement of audit committee effectiveness. Our study adopted a very comprehensive approach by including four dimensions, as the Directive requires. Although this method increases the potential to capture audit committee effectiveness more comprehensively, it also raises the likelihood of measurement error. Yet, in general, these limitations should not prevent further research concerning audit committee dimensions (i.e., competences and effectiveness) and financial reporting quality. In particular, this study suggests it is worthwhile to investigate several audit committee indicators at the same time due to their potential interactive effects on financial reporting quality.

Chapter 3 of this doctoral dissertation should also be interpreted with regard to several limitations. First, in relation to SOX, only the impact of the internal control and financial reporting (302 and 304) at the level of CGQ and EM were treated, although other provisions could also be considered. Contrasting SOX, this study examines the impact of the 8th CLD more extensively and, therefore, the impact of 10 different individual provisions on CGQ and EM was observed, although these impacts could have been measured separately for each legal provision.

The second limitation concerns measurement of the quality level of the corporate governance index, which was based on 14 dichotomous variables and therefore may be not representative. In addition, along with comprehensive criteria, they could also be incorporated; however, it was considered that there are exactly three corporate mechanisms which seek to monitor the work of management and protect the interests of shareholders.

This dissertation is also limited in terms of the measurement of earnings manipulation provided in Chapter 1, which was based solely on the model proposed by Kothari et al. (2005), thus ignoring other discretionary models supported by abundant prior evidence. A further limitation concerns relying on the types of earnings manipulation. Thus, the study did not determine whether, in addition to reducing EM, the increase in real earnings management is in response to alternative regulatory policies.

Implications of the research

We expect this doctoral dissertation will hold broad implications for academics, policy makers, and interested parties (i.e., corporates, NGOs, relevant consultants, etc.). Hence, one might ask in which ways would academics, policy makers, practitioners, and researchers benefit directly from this doctorate research in the future? The doctoral dissertation aims to an give answer in three directions. First, it estimates the effect of the internal audit function and the board of directors on earnings management; second, it assesses the audit committee function on financial reporting quality based on the 8th CLD; and third, it evaluates the impact of regulatory policies on corporate governance quality and earnings manipulation.

Three key findings emerge from Chapter 1. First, consistent with the expectations, internal audit function quality and board of directors' quality, two key mechanisms in the corporate governance mosaic, are found to be negatively associated with earnings management. It is noteworthy that this finding holds not only at the construct level, but also at the level of construct components. Second, counter to our expectations, the interactive effect of internal audit function quality and board of directors' quality on earnings management is positive. One potential explanation for this occurrence is the substitution effect between the two mechanisms. Therefore, these findings bear two important implications. On the macro level, the study lends support for the view that the changes in regulatory policies particularly designed to strengthen the quality of corporate governance have been effective. At the firm level, this study detected mechanisms and their subcomponents that are effective in deterring earnings management.

Chapter 2 of the doctoral dissertation explicitly found that audit committee effectiveness and its competences (based on 8th directive) are positively associated with financial reporting quality. However, it calls for further research because at some points the Directive should be re-specified more clearly with respect to management's responsibilities concerning financial reporting quality and to seek administrative penalties when firms deliberately fail to implement the legal provisions. In addition, the study suggests that at certain time intervals the audit committee should issue regular reports with respect to the monitoring of corporate activities (separately from any other corporate report) thereby increasing transparency, and with respect to all of the potential weaknesses that are identified within the corporate governance.

Chapter 3 of the doctoral dissertation examines the effects of the SOX and 8th CLD provisions in the corporate governance quality and earnings manipulation. This chapter suggests that further study is needed in the area because at many points SOX seems to be more comprehensive than the 8th CLD. Further, the study indicates that the European policy makers should formalize management's responsibilities regarding the effectiveness of internal control and financial reporting so that, as required by SOX, they appear similar, thereby increasing the chance of the management team being more efficacious in that regard. More precisely, SOX 404 requires attestations about the effectiveness of internal accounting controls (requires auditors to provide an opinion on management's assessment), while SOX 302 requires that principal executive officers and principal financial officers of

reporting companies to certify quarterly and annual reports. Contrary to this, 8th CLDp does not require for such tasks and this study suggest that should be further considered. Therefore, given the lack of current literature, future research should address the further issue of whether the 8th CLDp is more appropriate than the SOXp and the extent to which these alternative regulatory policies complement each other.

Conclusions of the research

Considering the problems addressed by this doctoral dissertation, to the best of our knowledge this remains one of the rare works that covers issue relating to the quality of corporate governance and accrual earnings in the contemporary context after the implementation of the SOX and 8th CLD provisions. Unlike the financial data readily available in archival databases, the data concerning corporate mechanisms and regulatory policy variables and their constituents were collected by hand. The data sources were firms' annual reports, in particular proxy statements electronically filed with the SEC in the EDGAR database, and firms' other reports (i.e. corporate reports). The hand collection was a very time-consuming activity yet worthwhile since it enabled the construction of a unique and high quality set of corporate governance data that is unprecedented in earlier research. This unique dataset represents a completely novel aspect of this scientific work.

It is believed the topics covered by this dissertation will complement the current literature, and guide the appropriate response regarding use of the internal audit function and the board of directors for preventing accrual earnings. Then, it gives an answer in relation to the effect of the audit committee in raising the quality of financial reporting, and ultimately clearly addresses whether SOXp and the 8th CLDp have increased the quality of corporate governance by reducing earnings manipulation. Moreover, it indicates whether these two laws are complementary or substitutes of each other.

Finally, although our findings are consistent with the hypothesis of this doctoral study, and despite the fact this doctoral study somewhat rectifies the lack of existing literature, we reiterate the idea such supplementary research should be continued.

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APPENDICES

LIST OF APPENDICES

Appendix A: Descriptive Statistics for discretionary accrual measures for chapter I

Dependent variable	Mean	Std. Dev.	Min	Max	Observations	
J-Model	-0.02845	0.053275	-0.50177	1.069824	N =	1504
MJ-Model	-0.02853	0.05316	-0.49848	1.070842	N =	1503
J-Model with lagROA	-0.02838	0.068159	-0.48095	1.110022	N =	1504
MJ-Model lagROA	-0.02855	0.067918	-0.47726	1.11195	N =	1503

Appendix B: Distribution of CGQ and interaction term between IAFQ and BDQ by industry (all firms represented by ADRs program I, II and III)

Industry (NACE two digits)	Variable	N	Mean	Sd	Min	Max	dis. by industry
Administrative And Support Service Activities	IAFQ	14	4.071	0.997	3	5	1%
	BDQ	14	3.929	0.73	3	5	1%
	IAF*BDQ	14	16.429	6.098	9	25	1%
Construction	IAFQ	56	3.875	0.935	2	5	3%
	BDQ	56	3.732	1.018	1	5	3%
	IAF*BDQ	56	14.964	6.066	3	25	3%
Electricity, Gas, Steam And Air Conditioning Supply	IAFQ	28	2.5	0.509	2	3	2%
	BDQ	28	2.893	0.832	2	5	2%
	IAF*BDQ	28	7.179	2.465	4	12	2%
Financial And Insurance Activities	IAFQ	238	2.807	1.799	0	5	13%
	BDQ	238	3.151	1.379	0	5	13%
	IAF*BDQ	238	10.525	7.834	0	25	13%
Human Health And Social Work Activities	IAFQ	14	0	0	0	0	1%
	BDQ	14	1.429	0.514	1	2	1%
	IAF*BDQ	14	0	0	0	0	1%
Information	IAFQ	182	3.115	1.8	0	5	10%
	BDQ	182	3.61	1.111	0	5	10%
	IAF*BDQ	182	12.313	7.685	0	25	10%
Manufacturing	IAFQ	490	3	1.875	0	5	28%
	BDQ	490	3.349	1.291	0	5	28%
	IAF*BDQ	490	11.5	8.206	0	25	28%
Mining And Quarrying	IAFQ	140	2.864	2.133	0	5	8%
	BDQ	140	3.493	1.447	0	5	8%
	IAF*BDQ	140	12.143	9.304	0	25	8%
Professional, Scientific And Technical Activities	IAFQ	420	2.983	1.871	0	5	24%
	BDQ	420	3.457	1.259	0	5	24%
	IAF*BDQ	420	11.045	8.229	0	25	24%
Public Administration And Defence; Compulsory Social Security	IAFQ	14	3.643	2.023	0	5	1%
	BDQ	14	4.143	0.535	3	5	1%
	IAF*BDQ	14	15.571	8.873	0	25	1%
Transportation And Storage	IAFQ	98	2.255	1.784	0	5	6%
	BDQ	98	2.878	1.318	0	5	6%
	IAF*BDQ	98	7.806	7.283	0	25	6%
Water Supply; Sewerage, Waste Management And Remediation Activities	IAFQ	14	5	0	5	5	1%
	BDQ	14	4.357	0.497	4	5	1%
	IAF*BDQ	14	21.786	2.486	20	25	1%
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	IAFQ	70	4.086	1.271	0	5	4%
	BDQ	70	3.914	0.897	2	5	4%
	IAF*BDQ	70	16.571	6.833	0	25	4%
Total	*IAFQ*	*1778*	*2.998*	*1.856*	*0*	*5*	*100%*
	BDQ	*1778*	*3.391*	*1.283*	*0*	*5*	*100%*
	*IAF*BDQ*	*1778*	*11.494*	*8.198*	*0*	*25*	*100%*

Appendix C: Distribution of financial reporting quality (FRQ), audit committee competences (AcComp) and its effectiveness (AcEffe) by industry (chapter 2)

Industry (NACE two digits)	Variables	N	Mean	SD	Min	Max	dis. by industry
Mining And Quarrying	*FRQ*	77	-0.01	0.19	-0.10	1.1	4.32%
	AcComp	110	0.81	0.39	0.00	1.0	5.07%
	AcEffe	110	0.85	0.36	0.00	1.0	5.07%
Manufacturing And Construction	*FRQ*	531	-0.03	0.01	-0.08	0.1	14.88%
	AcComp	640	0.83	0.36	0.00	1.0	14.75%
	AcEffe	640	0.90	0.29	0.00	1.0	14.75%
Electricity, Gas, Steam And Air Conditioning Supply	*FRQ*	35	-0.04	0.02	-0.07	0.0	1.96%
	AcComp	40	0.78	0.42	0.00	1.0	1.84%
	AcEffe	40	0.85	0.36	0.00	1.0	1.84%
Water Supply; Sewerage, Waste Management and Remediation Activities	*FRQ*	9	-0.08	0.00	-0.09	-0.1	0.50%
	AcComp	10	1.00	0.00	1.00	1.0	0.46%
	AcEffe	10	1.00	0.00	1.00	1.0	0.46%
Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles	*FRQ*	97	-0.05	0.02	-0.09	0.0	5.44%
	AcComp	110	0.70	0.46	0.00	1.0	5.07%
	AcEffe	110	0.83	0.38	0.00	1.0	5.07%
Transportation and Storage	*FRQ*	76	-0.06	0.03	-0.31	0.0	4.26%
	AcComp	90	0.78	0.42	0.00	1.0	4.15%
	AcEffe	90	0.83	0.37	0.00	1.0	4.15%
Accommodation And Food Service Activities	*FRQ*	17	-0.07	0.02	-0.10	0.0	0.95%
	AcComp	20	0.55	0.51	0.00	1.0	0.92%
	AcEffe	20	0.70	0.47	0.00	1.0	0.92%
Information And Communication	*FRQ*	158	-0.02	0.03	-0.07	0.1	8.86%
	AcComp	190	0.77	0.42	0.00	1.0	8.76%
	AcEffe	190	0.86	0.34	0.00	1.0	8.76%
Real Estate Activities; Financial and Insurance Activities	*FRQ*	253	-0.03	0.01	-0.07	0.0	7.09%
	AcComp	310	0.58	0.48	0.00	1.0	7.14%
	AcEffe	310	0.68	0.45	0.00	1.0	7.14%
Professional, Scientific And Technical Activities	*FRQ*	480	-0.04	0.03	-0.12	0.1	26.91%
	AcComp	590	0.73	0.44	0.00	1.0	27.19%
	AcEffe	590	0.86	0.34	0.00	1.0	27.19%
Administrative And Support Service Activities	*FRQ*	24	-0.04	0.06	-0.28	0.0	1.35%
	AcComp	30	0.83	0.38	0.00	1.0	1.00%
	AcEffe	30	0.87	0.35	0.00	1.0	1.00%
Public Administration And Defence; Compulsory Social Security	*FRQ*	9	-0.06	0.01	-0.08	-0.1	0.50%
	AcComp	10	1.00	0.00	1.00	1.0	0.46%
	AcEffe	10	1.00	0.00	1.00	1.0	0.46%
Arts, Entertainment and other services	*FRQ*	18	-0.04	0.03	-0.08	0.04	0.76%
	AcComp	20	0.85	0.24	0.50	1.00	0.69%
	AcEffe	20	0.85	0.24	0.50	1.00	0.69%
Total	*FRQ*	*1784*	*-0.04*	*0.05*	*-0.31*	*1.1*	*100%*
	AcComp	*2170*	*0.75*	*0.43*	*0.00*	*1.0*	*100%*
	AcEffe	*2170*	*0.86*	*0.35*	*0.00*	*1.0*	*100%*

Appendix D: Summary of hypothesis, main findings and contribution

Chapter	Sample	Hypothesis	Methodology used	Findings	Contribution
1	2000-2014 EU firms cross- listed in USA market	H1: IAFQ is negatively associated with EDAC. H2: BoDQ is negatively associated with EDAC. H3: The interaction of BoDQ and IAFQ is negatively associated with EDAC.	The model specified in this study was tested using OLS regression analysis.	Of relevance for this study, most correlations (Spearman's correlations) between the explanatory variables and the EDAC variable are (statistically significantly) negative. The only exceptions are the DEBT and IAS/IFRS control variables that are not correlated with the EDAC variable. As hypothesized, IAFQ is negatively related to EDAC. Similarly, consistent with the hypothesis, BoDQ is also negatively related to EDAC. In contrast the interactive effect of IAFQ and BoDQ on EDAC is positive rather than negative, as expected	Three key findings emerge from the study. First, consistent with the expectations, we find that internal audit function quality and board of directors' quality, two key mechanisms in the corporate governance mosaic, are negatively associated with earnings management. It is noteworthy that this finding holds not only at the construct level, but also at the level of construct components. Second, counter to our expectations, the interactive effect of internal audit function quality and board of directors' quality on earnings management is positive. One potential explanation for this occurrence is the substitution effect between both mechanisms. Third, we find that the quality of both the internal audit function and the board of directors is increasing over time, in particular following the implementation of SOX in the U.S. and the 8th CLD in the EU. These findings bear two important implications. On the macro level, our

					study lends support for the view that changes in regulatory policies particularly designed to strengthen the quality of corporate governance have been effective. At the firm level, this study has detected mechanisms and their subcomponents that are effective in deterring earnings management.
2	2004-2014 EU publicly listed companies across main EU exchanges.	H4: Audit committee effectiveness is positively associated with financial reporting quality; H5: Audit committee competences is positively associated with financial reporting quality. H6: The financial reporting quality in the period after the 8th CLD is higher than it is in the period before the 8th CLD.	The model specified in this study was tested using OLS regression analysis.	As hypothesized, *AcEffe* is negatively related to weak FQR *(p<0.01)*. Similarly, consistent with hypothesis 2, *AcComp* is also negatively related to weak FQR *(p<0.01)*. Contrary to our expectations of hypothesis 3, we found that *8thCLD (laweffect)* is positively instead of negatively related to weak FRQ *(p<0.01)*	Although the committees' responsibilities are clearly defined in Article 41 of the 8th EU Directive, this research further indicates whether they are adequate and justify the requirements of this directive. In addition, this study provides evidence of the incidence of the monitoring provisions by the audit committee and accordingly, which are more effective in explaining the significant association with FRQ. On balance, the most relevant and notable contribution of this paper is that we find empirical evidence that supports the calls for a diversity of expertise in audit committee competences and further commitment to audit committee effectiveness, including internal control systems, internal audit and risk assessment. Thus, our paper contributes to the financial reporting literature by characterizing audit committee effectiveness and audit committee competences as a constraint on weak FRQ.

| 3 | 2000-2014 EU firms cross- listed in USA and represented by ARDs level II and III | H7: Compliance with SOX provisions is positively related to CGQ;

H8: Compliance with SOX provisions is negatively related to EM;

H9: Compliance with 8th CLD provisions is positively related to the CGQ;

H10: Compliance with 8th CLD provisions is negatively related to the incidence of earnings EM;

H11: The interaction of compliance with SOX provisions and compliance with 8th CLD provisions is positively associated with CGQ;

H12: The interaction of compliance with SOX provisions and compliance with 8th CLD provisions is negatively associated with EM. | The model specified in this study was tested using Fixed Effects, Random Effects and OLS regression analysis. | In this study the most of the correlations between the explanatory variables and dependent variable are (significant), as expected. In our cases, collinearity diagnostics, most importantly the variance inflation factor (i.e., 2.8 - Model 1 and 1.92 - Model 2), reveal that moderate collinearity indeed exists. However, O'Brien (2007) and Beasley (1991) suggest that multicollinearity is potentially a problem when the variance inflation factor exceeds a value of 10; thus, we dismiss multicollinearity as a serious threat to the validity of the estimated parameters.

As hypothesized, regression shows a positive relationship between CLD, SOX provisions and CGQ at the significance level of $p<0.01$.

In addition, the interactive effect of the SOXp and the CLDp on CGQ is negative instead of positive, as was expected.

As for model 2 we found that a negative association between the | This study contributes to the CG and EM literature in several ways.

First, this study reveals how regulatory policy influences how firms extended to increase CGQ and decrease EM. Indeed, the results suggest that in the post-regulatory periods, the level of CGQ raised significant, followed by a decline in EM.

Second, this study is among the scarce works that have estimated the impact of two alternative regulatory policies on the level of corporate governance quality. Unlike the SOX, to date, the effects of the 8th CLD on CGQ and EM and administrators' actions remain largely unrevealed. Therefore, this study should complement the existing literature and should be of interest of policy makers who have a mandate to comprehend the consequences of the latest regulatory policies. |

				SOXp and EM appears to be significant ($p<0.1$). Moreover, the CLDp is as well highly negatively associated with the level of earnings manipulation ($p<0.01$). However, in model 2 the interactive effect of the SOXp and the CLDp on EM is not associated significantly with EM	

Appendix E: Variable definition and sources

Variables	Definition	Source
Toas	Total Assets of firm i in year t	Amadeus and Bloomberg, SEC filings and financial statements
Rev	Revenue (Turnover) of firm i in year t	Amadeus and Bloomberg, SEC filings and financial statements
Rec	Accounting Receivables	Amadeus and Bloomberg, SEC filings and financial statements
PPE	Property, plant and equipment	Amadeus and Bloomberg, SEC filings and financial statements
EDAC	Earnings discretionary accruals (Modified Jones Model)	Amadeus and Bloomberg, SEC filings and financial statements
ROA-adjusted	Kothari et al. 2005 (ROA adj. J-model)	Amadeus and Bloomberg, SEC filings and financial statements
lagROA-adjusted	Kothari et al. 2005 (lag ROA adj. J-model)	Amadeus and Bloomberg, SEC filings and financial statements
IAFQ	Internal Audit Function Quality. IAFQ represents a summated score of five subcomponents (as below) with a theoretical value ranging from 0 to 5. A value of 5 denotes high IAFQ whereas the value 0 indicates low IAFQ.	SEC filing, annual reports and corporate reports
iaf1	Existence of IAF	SEC filing, annual reports and corporate reports
iaf2	Proficiency of IAF	SEC filing, annual reports and corporate reports
iaf3	Size of IAF	SEC filing, annual reports and corporate reports
iaf4	Independence of IAF	SEC filing, annual reports and corporate reports
iaf5	Financial audits	SEC filing, annual reports and corporate reports
BoDQ	Board of directors quality. BoDQ represents a summated score of five subcomponents (as below) with values comprising a theoretical range from 0 to 5. A value of 5 denotes high BoDQ whereas the value 0 indicates low BoDQ	SEC filing, annual reports and corporate reports
bd1	Size of BoD	SEC filing, annual reports and corporate reports
bd2	Independence of BoD	SEC filing, annual reports and corporate reports
bd3	Frequency of meetings	SEC filing, annual reports and corporate reports
bd4	Financial expertise	SEC filing, annual reports and corporate reports
bd5	Board rotation	SEC filing, annual reports and Corporate reports
CFO	Cash flow form operation	Amadeus and Bloomberg, SEC filings and financial statements
ROA	Return on Assets	Amadeus and Bloomberg, SEC filings and financial statements
lagROA	Lagged Return on Assets	Amadeus and Bloomberg, SEC filings and financial statements
SIZE	Represents the natural log of total assets	Amadeus and Bloomberg, SEC filings and financial statements

DEBT	Denotes the ratio between total debt and total assets	Amadeus and Bloomberg, SEC filings and financial statements
BIG4	Four largest international professional services networks, offering audit, assurance, tax, consulting, advisory, actuarial, corporate finance, and legal services	Amadeus and Bloomberg, SEC filings and financial statements
PROFIT	It is a dummy variable signifying that a company in a particular year reported a profit (value 1) or loss (value 0)	Amadeus and Bloomberg, SEC filings and financial statements
IAS/IFRS	It is a dummy variable denoting that a firm's financial statements have been prepared according to the International Financial Reporting Standards (IAS/IFRS)	Amadeus and Bloomberg, SEC filings and financial statements
FRQ	Financial Reporting Quality signifying for the magnitude of earnings quality.	Amadeus and Bloomberg, SEC filings and financial statements
AcExi	Audit Committee Existence	SEC filing, annual reports and corporate reports
AcEffe	Audit Committee Effectiveness is based on section 41 (2) of the 8th CLD. More precisely, we predict whether an audit committee will be charged with monitoring the 1) financial reporting (41 (2a)); 2) the effectiveness of the internal control, internal audit and risk management systems (41 (2b)); 3) the external auditor (41 (2c)); and 4) reviewing and monitoring the independence of the external auditors or audit firm (41 (2d)).	SEC filing, annual reports and corporate reports
AcComp	The independence and financial knowledge concerning the competences of the audit committee (AcComp- audit committee competences)	SEC filing, annual reports and corporate reports
lawEffect	Control for the effects before and after the 8th CLD entered into force	SEC filings, own calculations
Leverage	The ratio of a company's loan capital (debt) to the value of its common stock (equity).	Amadeus and Bloomberg, SEC filings and financial statements
Colldp	Average number of days it takes a firm to collect its accounts receivable; the period between presenting an invoice and receiving the payment.	Amadeus and Bloomberg, SEC filings and financial statements

Credp	Creditors Payment Period indicates the average number of days it takes a firm to pay its accounts payable.	Amadeus and Bloomberg, SEC filings and financial statements
CGQ	Corporate Governance Quality. Following the methodology of Bebchuk et al. (2009) and Gompers et al. (2003), we have constructed the corporate governance index based on 14 individual indicators that, taken together, produce the CGQ index. More specifically, the CGQ index is derived from the qualitative characteristics of the three main corporate mechanisms (IAFQ-5 characteristics; BoDQ-5 characteristics and AC-4 characteristics).	SEC filing, annual reports and corporate reports
AC	Audit Committee in third chapter stand for its formal existence, size (<3), financial expertise (yes=1 or no=0) and independence (at least 1). Each component was dichotomized; thus, the AC represents a summated score of four subcomponents, with values comprising a theoretical range from 0 to 4	
SOXp	Sarbanes - Oxley Act of 2002. SOXp represents a summated score of 9 provisions, with values comprising a theoretical range from 0 to 9.	SEC filing, annual reports and corporate reports

SOX302	Includes: *(302~1)* The signing officers have reviewed the report; *(302~2)* The report does not contain any material untrue statements or material omission or be considered misleading; *(302~3)* The financial statements and related information fairly present the financial condition and the results in all material respects; *(302~4)* The signing officers are responsible for internal controls and have evaluated these internal controls within the previous ninety days and have reported on their findings; *(302~5)* A list of all deficiencies in the internal controls and information on any fraud that involves employees who are involved with internal activities; and *(302~6)* Any significant changes in internal controls or related factors that could have a negative impact on the internal controls.	SEC filing, annual reports and corporate reports
SOX404	Includes: *(404~1)* responsibility of management for establishing and maintaining an adequate internal control structure and procedures for financial reporting; *(404~2)* contain an assessment of the effectiveness of the internal control structure and procedures of the issuer for financial reporting; *(404~3)* attestation of the effectiveness of internal accounting controls (requires auditors to provide an opinion on management's assessment).	SEC filing, annual reports and corporate reports
8thCLDp	8th Company Law Directive provisions (8th CLDp), represents a summated score of 10 provisions, with values comprising a theoretical range from 0 to 10	SEC filing, annual reports and corporate reports
CLD25	*CLD~25* denotes audit fees policy.	SEC filing, annual reports and corporate reports
CLD26	*CLD~26* provision show whether financial statements of audited firms are based on international auditing standards. Thus, that statutory auditors and audit firms have carry out statutory audits in compliance with international auditing standards (ISA's IFAC etc.)	SEC filing, annual reports and corporate reports
CLD27	*CLD~27* provision shows whether firms' consolidated financial statements were audited by statutory audit.	SEC filing, annual reports and corporate reports

CLD28	*CLD~28* provision shows whether the statutory auditor(s) or the audit firm(s) presents the results of the statutory audit in an audit report. The report shall be prepared in accordance with the requirements of auditing standards adopted by the Union or Member State concerned, as referred to in Article 26.	SEC filing, annual reports and corporate reports
CLD37	*CLD~37* provision denotes the appointment of statutory auditors or audit firms. The statutory auditor or audit firm shall be appointed by the general meeting of shareholders or members of the audited entity.	SEC filing, annual reports and corporate reports
CLD41	*CLD~41* provision indicates audit committee's commitment as proxy for the financial reporting (41 (2a)); 2) the effectiveness of the internal control, internal audit and risk management systems (41 (2b)); 3) the external auditor (41 (2c)); and 4) reviewing and monitoring the independence of the external auditors or audit firm (41 (2d)).	SEC filing, annual reports and corporate reports
CLD42	*CLD~42* provision shows the independence of statutory auditors or audit firms that carry out the statutory audit of a public-interest entity (independence):	SEC filing, annual reports and corporate reports
IND_D	Industry effect	
Y_D	Year effect	
e	Denotes error term of the equation	

Appendix F: Regression analysis used as robust in the first chapter only

Independent variables	Regression Models estimator as robustness check			
	[1]	[2]	[3]	[4]
IAFQ	-0.007**	-0.009**	-0.009**	-0.016*
	(0.003)	(0.002)	(0.002)	(0.007)
BoDQ	-0.011***	-0.011***	-0.011***	-0.017*
	(0.003)	(0.002)	(0.002)	(0.007)
IAFQ*BDQ	0.002*	0.002**	0.003**	0.004
	(0.001)	(0.001)	(0.001)	(0.002)
BIG4	-0.036	0.001	0.003	0.013
	(0.035)	(0.009)	(0.008)	(0.010)
ROA	-0.001*	0.002	0.003	-0.045
	(0.0001)	(0.009)	(0.010)	(0.074)
lagROA	-0.088***	-0.085***	-0.086***	0.072
	(0.009)	(0.008)	(0.008)	(0.056)
	(0.000)	(0.000)	(0.000)	(0.000)
ISA/IFRS	0.004	0.005*	0.006*	0.017*
	(0.003)	(0.003)	(0.003)	(0.008)
CFO	-2.805*	-3.236**	-3.375**	-25.74**
	(1.222)	(1.211)	(1.264)	(7.950)
PROFFIT	0.002	-0.003	-0.004	-0.064***
	(0.004)	(0.004)	(0.004)	(0.017)
DEBT	-0.001	-0.004	-0.005	-0.027
	(0.0001)	(0.004)	(0.005)	(0.014)
SIZE	0.000	0.000)	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Constant	0.033	0.012	0.014	0.088***
	(0.034)	(0.0110)	(0.011)	(0.023)

We tested hypothesis by running 4 different estimators and results remains quite consistent through models:

[1] Fixed effects estimator

[2] Random effects estimator

[3] Population averaged estimator

[4] Between estimators

Earnings management is dependent variables and stands as proxy for discretionary accruals

First sign in the row indicates ß coefficients and its direction (- or +)

Second number in the line shows the Standard Deviation (SE)

*The coefficient is significant at the p<0.05 level (two tailed)

** The coefficient is significant at the p<0.01 level (two tailed)

*** The coefficient is significant at the p<0.001 level (two tailed)

Appendix G: Summary in Slovenian language/Daljši povzetek disertacije v sloven –

skem

UČINEK KAKOVOSTNEGA UPRAVLJANJA PODJETIJ IN ALTERNATIVNIH REGULATIVNIH POLITIK NA URAVNAVANJE DOBIČKA: IZSLEDKI EVROPSKIH PODJETIJ, KI KOTIRAJO NA BORZAH V ZDA

Uvod

Povzetek disertacije vključuje naslednja vsebinska poglavja: opredelitev predmeta preučevanja, raziskovalna vprašanja in cilji, raziskovalna metodologija in izbira vzorcev, sestava in vsebina disertacije, glavne ugotovitve, omejitve raziskave, implikacije za prakso in prihodnje raziskave ter sklep.

Opredelitev predmeta preučevanja

Poslovne načrte je zaradi številnih dejavnikov tveganja, med katere spadajo slabo upravljanje podjetij, nepravilno vodenje podjetij in zunanji dejavniki, redko mogoče uresničiti brez odstopanj (Cadez in Guilding, 2008). Obstoječi empirični dokazi kažejo, da se v primerih, ko se obeta, da cilji ne bodo uresničeni, managerji pogosto zatekajo k prirejanju rezultatov poslovanja (Bedard in Johnstone, 2004). V izogib takemu početju, ki zavaja delničarje in druge udeležence finančnega trga, je potrebno vzpostaviti upravljanje podjetij na način, ki preprečuje nastanek takšnih manipulacij (Prawitt et al., 2009; Francis, 2004; Xie et al., 2003; Ghosh et al., 2010; Raghunandan in Rama, 2006; Braiotta in Zhou, 2008).

Upravljanje podjetij vključuje vrsto akterjev, kot npr. upravne odbore, notranjo revizijo, revizijske komisije, zunanje revizorje, regulatorje in druge, ki skupaj sestavljajo mozaik oziroma sistem korporativnega upravljanja. Cohen et al. (2004) trdijo, da je ena najpomembnejših vlog, ki jih opravlja sistem upravljanja podjetij, zagotavljanje kakovosti računovodstva in finančnega poročanja. Številne raziskave so preučevale učinke različnih značilnosti sistema upravljanja podjetij, kot npr. spremenljivke kakovosti revizij in kakovosti upravnih odborov na oblikovanje rezultatov poslovanja. Te raziskave nakazujejo, da so kakovost revizije, kakovost upravnega odbora in kakovost revizijskih odborov kot tudi mehanizmi upravljanja podjetij povezane s kakovostjo upravljanja podjetij in prirejanja rezultatov poslovanja (Abbott et al., 2016; Abbott et al., 2012; Engel et al., 2010; Klein, 2002; Lin in Hwang, 2010; Myers et al., 2007).

V okviru sistema korporativnega upravljanja imajo ključne vloge upravni odbori, revizijske komisije in funkcija notranje revizije (Gramling et al., 2004; Prawitt et al., 2009; Abbott et al., 2012; Anderson et al., 1993; Arena in Azzone, 2009; Bradley in Chen, 2011; Peasnell, Pope in Young, 2005; Stewartin Munro, 2007; Sun et al., 2012; Xie et al., 2003). Vsi trije organi, ki predstavljajo centralni predmet preučevanja te

disertacije, so neločljiv sestavni del mozaika korporativnega upravljanja, katerega naloga je zagotoviti kakovostno finančno poročanje.

Zaradi goljufivega in prevarantskega poročanja ter finančnih škandalov na prelomu tisočletja (npr. Enron, Parmalat, Worldcom) je bilo upravljanje podjetij v zadnjem času deleženo precejšnje pozornosti javnosti in regulatorjev (Beasley et al., 2000; Coram et al., 2006; James, 2003; Moyes et al., 2006). Regulativni ukrepi so bili usmerjeni v povečevanje kakovosti korporativnega upravljanja in kakovosti finančnega poročanja, zato disertacija preučuje tudi učinke dveh alternativnih regulativnih politik (Zakon Sarbanes-Oxley v ZDA in 8. Direktiva na področju prava družb v EU, v nadaljevanju krajše SOX in 8. Direktiva) na kakovost upravljanja podjetij in prirejanje računovodskih izkazov.

Čeprav se obe regulativi zavzemata za izboljšanje kakovosti upravljanja podjetij in finančnega poročanja, leta 2002 sprejeti SOX prinaša strožje zahteve v primerjavi z leta 2006 sprejeto 8. Direktivo (Piotroski in Srinivasan, 2008). Iz tega bi lahko sklepali, da skladnost poslovanja podjetij z zahtevami SOX bolj zmanjša prirejanje rezultatov poslovanja v primerjavi z 8. Direktivo, vendar želimo to hipotezo tudi empirično potrditi.

Pričujoča raziskava se torej ukvarja s tremi dimenzijami odnosa med korporativnim upravljanjem in prirejanjem rezultatov poslovanja. V prvem delu preučujemo povezavo med kakovostjo funkcije notranje revizije, kakovostjo upravnih odborov in uravnavanjem dobička. V drugem delu preučujemo povezavo med učinkovitostjo in kompetencami revizijske komisije ter kakovostjo finančnega poročanja v luči 8. Direktive. V tretjem delu pa preučujemo vpliv skladnosti z alternativnimi regulativnimi politikami (SOX in 8. Direktiva) na kakovost upravljanja podjetij in prirejanje rezultatov poslovanja.

Raziskovalna vprašanja in cilji

Primarni cilj doktorske disertacije je empirično preučiti, kako različni mehanizmi iz okvira mozaika korporativnega upravljanja podjetij (kakovost funkcije notranje revizije, kakovost upravnega odbora, učinkovitost in kompetence revizijske komisije) vplivajo na kakovost finančnega poročanja (uravnavanje dobička).

Poleg primarnega cilja želi raziskava preučiti tudi vpliv spremembe regulatornih politik (uveljavitev SOX in 8. Direktive) na kakovost korporativnega upravljanja in kakovost finančnega poročanja. S tem namenom preučevano časovno obdobje te disertacije zajema čas pred in po velikih spremembah teh regulativnih politik.

Študija ima tri raziskovalna vprašanja, s katerimi želi zapolniti vrzeli v obstoječi literaturi o kakovosti upravljanja podjetij in kakovosti finančnega poročanja. Raziskovalna vprašanja so:

1. Kakšen je vpliv kakovosti funkcije notranje revizije in kakovosti upravnega odbora na uravnavanje dobička?

2. Kakšen je vpliv učinkovitosti in kompetenc revizijske komisije na kakovost finančnega poročanja v luči 8. Direktive?
3. Kakšen je vpliv alternativnih regulativnih politik (SOX in 8. Direktiva) na kakovost upravljanja podjetij in prirejanje rezultatov poslovanja?

Raziskovalna metodologija in izbira vzorcev

Za odgovor na raziskovalna vprašanja smo specificirali štiri regresijske modele. V prvem regresijskem modelu, s katerim testiramo raziskovalno vprašanje 1, je odvisna spremenljivka uravnavanje dobička. V drugem regresijskem modelu, s katerim testiramo raziskovalno vprašanje 2, je odvisna spremenljivka kakovost finančnega poročanja. Tretje raziskovalno vprašanje, kjer nastopata dve odvisni spremenljivki, testiramo z dvostopenjsko regresijsko analizo. V prvi stopnji je odvisna spremenljivka regresijskega modela kakovost upravljanja podjetij, v drugi stopnji pa prirejanje rezultatov poslovanja..

Za testiranje vsakega regresijskega modela smo izbrali drugačen vzorec podjetij. Prvi regresijski model je testiran na vzorcu podatkov za 127 velikih podjetij iz EU, ki hkrati kotirajo tudi na borzah v ZDA. Časovni razpon podatkov je od leta 2000 do 2013. Drugi regresijski model je testiran na vzorcu podatkov za 217 velikih podjetij iz EU, ki kotirajo na borzah v EU, za obdobje med leti 2004 in 2013. Tretji vzorec, s katerim testirano dvostopenjski regresijski model v okviru raziskovalnega vprašanja 3, del zopet vključuje podjetja iz EU, ki hkrati kotirajo tudi na borzah v ZDA, pri čemer smo dodali še pogoj, da poročajo ameriški komisiji za vrednostne papirje in borzo (Securities and Exchange Commision). Dvojna kotacija je pomembna zato, ker so ta podjetja zavezana skladnosti z dvema regulativama (evropsko in ameriško). Ta vzorec vključuje 72 podjetij. Preučevano časovno obdobje je od leta 2000 do 2014, kar predstavlja 14-letni časovni razpon, ki vključuje obdobje pred in po spremembah regulativnih politik.

Uravnavanje dobička, kakovost finančnega poročanja ter prirejanje rezultatov poslovanja merimo z diskrecijskimi časovnimi razmejitvami, kar je prevladujoč pristop v literaturi. Finančni podatki, ki so bili uporabljeni pri analizi, so zbrani iz arhivskih baz finančnih podatkov Bloomberg in Amadeus.

Za merjenje konstruktov iz okvira sistema korporativnega upravljanja podjetij smo razvili lastne merske inštrumente, ki na celovit način povzemajo različne vidike kakovosti. Kakovost funkcije notranje revizije denimo je merjena s petimi komponentami kakovosti (formalni obstoj notranje revizije, usposobljenost revizorjev, velikost notranje revizije, neodvisnost notranje revizije in vključenost notranje revizije v revidiranje računovodskih izkazov), prav tako s petimi komponentami kakovosti je merjena tudi kakovost upravnega odbora (velikost upravnega odbora, neodvisnost članov upravnega odbora, frekvenca sej, finančna znanja članov odbora in rotiranje članov odbora). Kakovost korporativnega upravljanja je merjena celo s 14 indikatorji.

V nasprotju s finančnimi podatki, ki so na voljo v arhivskih zbirkah podatkov, so bili vsi podatki, vezani na merjenje konstruktov kakovosti mehanizmov korporativnega

upravljanja zbrani ročno. Viri podatkov so bila letna poročila podjetij, predvsem elektronsko oddana poročila v bazi podatkov SEC in EDGAR ter tudi poročila iz spletnih strani podjetij. Ročno zbiranje podatkov je bilo zelo zamudno opravilo, vendar vredno truda, saj je omogočilo vzpostavitev unikatne in visoko kakovostne zbirke podatkov o upravljanju podjetij, ki v takšni obliki nima primere v predhodnih raziskavah.

Povezave med spremenljivkami smo najprej preučil binarno s pomočjo Spearmanovega in Pearsonovega koeficienta korelacije. Večina ugotovljenih povezav je bila takih, kot smo jih opredelili s hipotezami. Ker visoka stopnja korelacije predstavlja potencialno nevarnost za multikolinearnost, smo opravili tudi diagnostično analizo kolinearnosti. O'Brien (2007) in Belsley (1991) sta izrazila mnenje, da bi multikolinearnost lahko predstavljala težavo, če faktor variance inflacije preseže vrednost 10. Ker v naši analizi kritična vrednost ni bila presežena, domnevamo, da multikolinearnost ne predstavlja resne grožnjo za veljavnost ocenjenih parametrov, zato smo nadaljevali z regresijsko analizo.

Ocena multiplih regresijskih modelov je bila opravljena s pomočjo programskega paketa STATA (StataCorp LP, 4905 Lakeway Drive, College Station, Texas 77845-4512, ZDA). Za preskus modelov sta bili uporabljeni dve regresijski analizi, in sicer metoda navadnih kvadratov in panelna analiza s fiksnimi učinki. V vseh raziskovalnih poglavjih so bile narejene tudi analize občutljivosti modelov na način, da smo dodajali ali odvzemali posamezne spremenljivke ter pri tem spremljali, ali koeficienti in drugi parametri regresijskih modelov ostajajo stabilni.

Sestava in vsebina disertacije

Disertacija se začne z uvodom, ki mu sledijo tri vsebinska poglavja. V vsakem poglavju obravnavamo eno raziskovalno vprašanje. V prvem poglavju preučujemo povezavo med kakovostjo funkcije notranje revizije, kakovostjo upravnih odborov in uravnavanjem dobička. V drugem poglavju preučujemo povezavo med učinkovitostjo in kompetencami revizijskih komisij ter kakovostjo finančnega poročanja v luči 8. Direktive. V tretjem poglavju pa preučujemo vpliv skladnosti z alternativnimi regulativnimi politikami (SOX in 8. Direktiva) na kakovost upravljanja podjetij in prirejanje rezultatov poslovanja.

V splošnem so poglavja strukturirana na naslednji način. Uvodnemu delu, kjer je opredeljen predmet preučevanja, raziskovalno vprašanje ter raziskovalni cilji, sledi pregled literature, opredelitev hipotez in specifikacija raziskovalnega modela. Temu sledi predstavitev raziskovalne metodologije, kamor spadajo pojasnila o vzorčenju, pridobivanju podatkov in merjenju spremenljivk. Sledi empirična analiza podatkov in predstavitev rezultatov, ki vključuje tudi teste občutljivosti rezultatov na spremembe posameznih parametrov v modelu. Poglavja zaključimo z diskusijo in zaključkom, ki vsebuje tudi morebitne implikacije za regulatorje, podjetja in drugo zainteresirano javnost.

V 1. poglavju analiziramo vpliv kakovosti upravnih odborov in kakovosti funkcije notranje revizije na uravnavanje dobička. Poglavje je osredotočeno na funkcijo notranje revizije, saj je njen vpliv na uravnavanje dobička dokaj slabo raziskan. Na splošno obstajajo tri vrste revizijskih storitev. Prvostopenjske presoje so notranje presoje, medtem ko so drugo- in tretjestopenjske presoje zunanje presoje. Inštitut notranjih revizorjev (INR) navaja, da je »funkcija notranje revizije neodvisno, objektivno zagotovilo in revizijska aktivnost, ki je oblikovana zato, da doda vrednost in izboljša delovanje znotraj organizacije. Organizaciji pomaga pri doseganju ciljev, in sicer s vpeljavo sistematičnega pristopa za ocenjevanje in izboljšanje učinkovitosti obvladovanja tveganj, nadzora in postopkov upravljanja«.

Za razliko od funkcije notranje revizije je upravni odbor najvišji organ upravljanja podjetja, ki skrbi za določanje pravil in postopkov vodenja organizacije. Upravni odbor predstavlja skupino posameznikov, ki so izbrani, da upravljajo podjetje kot predstavniki delničarjev, z namenom uveljavljanja interesov delničarjev, kar vključuje tudi preprečevanje uravnavanja dobička s strani managerjev (Fama in Jensen, 1983; Lafond in Roychowdhury, 2008).

Opredelitev hipotez o vplivu kakovosti funkcije notranje revizije in kakovosti upravnega odbora na uravnavanje dobička sledi iz teoretičnega argumentiranja ter predhodnih empiričnih dokazov. V ta namen poglavje vključuje pregled predhodnih študij, ki so se ukvarjale z vplivom teh dveh mehanizmov na uravnavanje dobička. Na podlagi literature in teoretičnih izhodišč opredelimo tri hipoteze, ki jih želimo empirično potrditi.

Za merjenje uravnavanja dobička je uporabljen spremenjeni Jonesov model diskrecijskih časovnih razmejitev. Dechow et al. (2010) so raziskali najpogostejše uporabljene alternativne modele in ugotovili, da je spremenjeni Jonesov model najprimernejši, saj je z njim mogoče zajeti visoko stopnjo uravnavanja dobička z diskrecijskimi razmejitvami. Čeprav uporabljamo spremenjeni Jonesov model, je teoretski model možno testirati tudi z alternativnimi modeli za merjenje diskrecijskih časovnih razmejitev (npr. prilagojeni model ROA).

Drugo poglavje analizira vpliv treh karakteristik revizijske komisije na kakovost finančnega poročanja v luči 8. Direktive. Te karakteristike so formalni obstoj revizijske komisije, učinkovitost revizijske komisije in kompetence revizijske komisije. Revizijska komisija je navadno pooblaščena za nadziranje postopka finančnega poročanja in omejevanje okoliščin, ki bi lahko vodile k nezanesljivemu finančnemu poročanju. Kot je bilo ugotovljeno v prejšnjih raziskavah, revizijska komisija služi kot povezava med upravnim odborom, notranjimi revizorji in zunanjimi revizorji (Bédard in Gendron, 2010; Gendron in Bédard, 2006; Ghosh et al., 2010; Klein, 2002; Krishnan et al., 2008; Rainsbury et al., 2009).

Vloga revizijske komisije je pridobila na pomenu v zadnjem času, saj so regulatorji od podjetij, ki kotirajo na borzah, zahtevali sprejetje nove politike, s katero lahko zagotavljajo višjo kakovost finančnega poročanja. Pomemben del tega poglavja zato predstavlja ocena učinkovitosti revizijskih komisij v luči 8. Direktive. V predhodnih

raziskavah je bila učinkovitost revizijskega odbora ocenjevana s pomočjo »klasičnega pristopa« (velikost revizijske komisije, pogostost sestankov, in drugi), naša raziskava pa ocenjuje učinkovitost glede za skladnost z zahtevami 8. Direktive. Natančneje, raziskali smo, ali je revizijska komisija spremljala: (1) finančno poročanje (člen 41 2a), (2) učinkovitost notranjih nadzorov in sistemov obvladovanja tveganj (člen 41 2b), (3) zunanje revizorje (člen 41 2c) in (4) neodvisnost zunanjih revizorjev ali revizijskih podjetij (41 2d).

Tretje poglavje se osredotoča na preučitev učinkov dveh regulativnih politik (zakon SOX v ZDA in 8. Direktiva v EU) na kakovost upravljanja podjetij in prirejanje rezultatov poslovanja. Zakona sta bila pripravljena kot odgovor na izbruh številnih finančnih škandalov (Enron, Parmalat, Worldcom) na prelomu tisočletja. Zakon SOX je bil uveden leta 2002 z namenom povrniti zaupanje vlagateljev v finančne trge ter izboljšati kakovost korporativnega upravljanja in kakovost finančnega poročanja. V ta namen SOX krepi vlogo in neodvisnost revizijskih komisij ter notranjih revizij. 8. Direktiva, ki je bila uvedena leta 2006, ima podobne cilje kot SOX, to je okrepiti kakovost upravljanja podjetij in zanesljivost finančnega poročanja.

Medtem ko so učinki zakona SOX na kakovost korporativnega upravljanja in finančnega poročanja že bili preučevani v predhodnih študijah, so empirični dokazi o učinkih 8. Direktive zelo skopi. Primerjalna raziskava o obvladovanju tveganj v Evropi iz leta 2012, ki ga je opravila Zveza evropskih združenj za obvladovanje tveganj, je denimo odkrila, da 44 % podjetij, ki kotirajo na borzi, sploh ni vedelo za 8. Direktivo. Tudi tisti, ki so jo poznali, pa so pogosto navedli, da jo ne poznajo dobro ali ne razumejo.

Glavne ugotovitve

Dobro upravljanje podjetja je ključno za uspešno poslovanje vsakega podjetja. Zato želi ta doktorska disertacija raziskati učinek alternativnih mehanizmov upravljanja podjetij in alternativnih regulativnih politik na kakovost upravljanja podjetij ter prirejanje rezultatov poslovanja.

V 1. poglavju so preučeni učinki dveh pomembnih mehanizmov upravljanja podjetij (kakovost funkcije notranje revizije in kakovost upravnega odbora) na uravnavanje dobička. S pomočjo raziskave smo prišli do treh ključnih ugotovitev. Prvič, kakovost funkcije notranje revizije in kakovost upravnega odbora, dva ključna mehanizma mozaika za upravljanje podjetij, sta negativno povezana z uravnavanjem dobička. Potrebno je izpostaviti, da ta povezava ne obstaja samo na ravni konstruktov, ampak tudi na ravni posameznih komponent obeh konstruktov. V nasprotju z našimi pričakovanji pa je interakcijski učinek kakovosti funkcije notranje revizije in kakovosti upravnega odbora na uravnavanje dobička pozitiven. Ena izmed možnih razlag tega pojava je možnost prisotnosti substitucijskega učinka teh dveh mehanizmov.

Čeprav so bile te povezave raziskane že v predhodnih raziskavah, študija prispeva k literature na tem področju na različne načine. Za razliko od številnih drugih raziskav, ki

se ukvarjajo s podjetji iz ZDA, se ta osredotoča na podjetja iz EU, ki kotirajo tudi na borzah v ZDA. Študija vpeljuje nov in izredno celovit pristop merjenja konstruktov, saj glavna konstrukta kakovost funkcije notranje revizije in kakovost upravnega odbora meri s pomočjo petih komponent kakovosti. Preučuje tudi dolgo, 14-letno obdobje, ki zajema tako čas pred in po velikih spremembah v regulativnih politikah, ki so bile uvedene na obeh straneh Atlantika.

V 2. poglavju preučujemo vpliv treh karakteristik revizijske komisije (formalni obstoj revizijske komisije, učinkovitost revizijske komisije in kompetenc revizijske komisije) na kakovost finančnega poročanja podjetij, ki kotirajo na borzah v EU. Raziskava na vzorcu 217 velikih podjetij iz EU, ki kotirajo na borzi, kaže, da sam obstoj revizijske komisije nima vpliva na kakovost finančnega poročanja, medtem ko sta učinkovitost komisije in njene kompetence negativno povezani z nizko kakovostjo finančnega poročanja.

Rezultati poleg tega razkrivajo, da se je po sprejemu 8. DPPD odgovornost revizijske komisije znotraj okvira upravljanja podjetij znatno povečala, posledično pa tudi njena učinkovitost, in sicer s pomembnim pozitivnim vplivom na kakovost finančnega poročanja. Po našem najboljšem vedenju je ta raziskava ena izmed prvih, ki preučuje vlogo revizijske komisije pri kakovosti finančnega poročanja v duhu 8. Direktive.

Tretje poglavje raziskuje, ali je uveljavitev dveh regulativnih politik (SOX in 8. Direktiva) vplivala na kakovost upravljanja podjetij in prirejanja rezultatov poslovanja. Konkretno smo preskusili, ali se je v obdobju po sprejetju SOX in 8. Direktive kakovost upravljanja podjetij izboljšala, stopnja uravnavanje dobička pa zmanjšala. Osredotočili smo se na podjetja iz EU, ki kotirajo tudi na borzah v ZDA, in naš vzorec omejili na podjetja, ki kotirajo na ameriških borzah v obliki ameriških potrdil II. in III. stopnje (ADR). Dvojna kotacija je pomembna zato, ker morajo ta podjetja upoštevati obe regulativni politiki. Rezultati kažejo, da se je kakovost upravljanja podjetij po sprejetju regulativnih politik občutno povečala, medtem ko se je uravnavanje dobička zmanjšalo.

Disertacija spada med redka dela, ki ocenjujejo učinke dveh alternativnih regulativnih politik na stopnjo kakovosti upravljanja podjetij in prirejanje rezultatov poslovanja. V primerjavi s SOX so bili učinki 8. Dirketive na kakovost upravljanja podjetij ter uravnavanje dobička do danes slabo raziskani. Zato ta raziskava dopolnjuje obstoječo literaturo in bo zanimiva za oblikovalce politik, ki želijo oceniti učinkovitost in posledice zadnjih sprememb regulativnih politik.

Omejitve raziskave

Tako kot pri vseh raziskavah, je tudi rezultate te študije potrebno interpretirati v luči njenih omejitev.

Kot pri večini merjenj spremenljivk, je tudi v naši študij pri merjenju spremenljivk nastala merska napaka. Kot je navedeno v delu, predstavljajo diskrecijske časovne razmejitve zgolj približek za uravnavanje dobička, saj popolna metoda za merjenje

uravnavanja dobička ne obstaja. V naši študiji smo izhajali iz modela Jonesove, ki ga predlagajo Kothari et al. (2005). Čeprav se ta model veliko uporablja, pa ni edini, saj v literaturi obstajajo tudi alternativni modeli ocene diskrecijskih časovnih razmejitev.

Podobne omejitve se nanašajo na merjenje konstruktov kakovost funkcije notranje revizije ter kakovost upravnih odborov. V naši študiji smo razvili zelo celovit pristop, saj smo za vsak konstrukt vključili pet komponent kakovosti. To pa ne povečuje zgolj možnosti za natančnejše zajetje kakovosti funkcije notranje revizije in kakovosti upravnih odborov, ampak povečuje tudi možnosti za napake v meritvah. Kot navedeno v drugem poglavju disertacije, se za merjenje kompetenc revizijskih komisij pogosto uporabljata neodvisnost in finančno znanje. Naša raziskava se je odločila za bolj celovit pristop v luči 8. Direktive. Izhajajoč iz členov te Direktive smo kompetence merili glede na štiri dimenzije. Čeprav je pristop bolj celovit, pa lahko povečuje tudi možnost merske napake.

Nadalje, raziskava je omejena na podjetja, ki kotirajo na borzah, ne vključuje pa podjetij, ki na borzah ne kotirajo, čeprav je takšnih večina podjetij.

Posebne omejitve veljajo za 3. poglavje doktorske disertacije. V povezavi s SOX smo obravnavali samo vpliv dveh členov (učinek notranjih kontrol in finančnega poročanja, člena 302 in 304) na kakovost upravljanja podjetij in uravnavanje dobička, čeprav bi bilo mogoče upoštevati tudi druga določila zakona SOX. Bolj natančno raziskava preučuje učinek 8. Direktive, saj obravnava 10 različnih členov. Omeniti velja tudi merjenje stopnje kakovosti upravljanja podjetij. Indeks kakovosti je zasnovan na 14 binarnih spremenljivkah. Čeprav ta obsegajo zelo različne komponente kakovosti, sestavljeni indeks ni nujno najboljši indikator kakovost upravljanja podjetij.

Te omejitve, ki so relevantne tudi za druge raziskave, pa ne smejo preprečevati nadaljnjega raziskovanja povezav med kakovostjo upravljanja podjetij in uravnavanjem dobička. Raziskava še posebej izpostavlja, da je vredno raziskati interakcijske učinke različnih mehanizmov upravljanja podjetij zaradi njihovih morebitnih vzajemnih učinkov na uravnavanje dobička.

Implikacije raziskave

Pričakujemo, da bo ta doktorska disertacija imela implikacije na raziskovalce, akademike, oblikovalce politik in druge zainteresirane deležnike (podjetja, nevladne organizacije, ustrezne svetovalce ipd.).

Iz 1. poglavja izhajajo tri ključne ugotovitve. V skladu s pričakovanji sta kakovost funkcije notranje revizije in kakovost upravnega odbora, dva ključna mehanizma mozaika za upravljanje podjetij, negativno povezana z uravnavanjem dobička. Potrebno je izpostaviti, da ta ugotovitev ne zdrži samo na ravni konstruktov, ampak tudi na ravni posameznih komponent kakovosti obeh konstruktov. V nasprotju z našimi pričakovanji je vzajemni učinek kakovosti funkcije notranje revizije in kakovosti upravnega odbora na

uravnavanje dobička pozitiven. Ena izmed možnih razlag tega pojava je možnost substitucijskega učinka med tema dvema mehanizmoma.

Te ugotovitve imajo dve implikaciji. Na makro ravni podpirajo stališče, da so bile spremembe regulativnih politik, zasnovane zato, da povečajo kakovost upravljanja podjetij, učinkovite. Na ravni podjetij pa je raziskava odkrila mehanizme in njihove komponente, ki so učinkovite pri odvračanju od uravnavanje dobička.

V 2. poglavju doktorske disertacije je bilo ugotovljeno, da sta učinkovitost revizijske komisije in njene kompetence pozitivno povezani s kakovostjo finančnega poročanja. Ugotovljeno je bilo tudi, da je potrebno direktivo na nekaterih mestih definirati jasneje, predvsem glede odgovornosti upravnega odbora v povezavi s kakovostjo finančnega poročanja. Iz študije izhaja tudi priporočilo, da naj v določenih časovnih intervalih revizijska komisija izda redna poročila o nadzorovanju poslovnih aktivnosti (ločeno od katerega koli drugega poslovnega poročila) in tako poveča transparentnost.

V 3. poglavju doktorske disertacije so preučeni učinki SOX in 8. Direktive na kakovost upravljanja podjetij ter prirejanje rezultatov poslovanja. Iz raziskave izhaja, da je SOX na številnih točkah strožji in doslednejši od 8. Direktive. Raziskava kaže na to, da bi evropski oblikovalci politik lahko bolj formalizirati odgovornosti upravnih odborov v povezavi z učinkovitostjo notranjih nadzorov in finančnega poročanja na način, ki ga zahteva tudi SOX, s tem pa bi povečali možnosti, da bo upravni odbor na tem področju deloval učinkoviteje. SOX v členu 404 npr. natančno zahteva potrdila o učinkovitosti notranjih računovodskih nadzorov (zahteva, da revizorji podajo mnenje o ocenjevanju upravnega odbora), medtem ko v členu 302 od izvršnih direktorjev zahteva, da potrjujejo četrtletna in letna poročila. Nasprotno pa določila 8. Direktive ne predvidevajo teh dolžnosti, zato ta raziskava predlaga, da je to področje potrebno preučiti v prihodnosti. Prihodnje raziskave se lahko ukvarjajo tudi s vprašanjem, katera določila (SOX ali 8. Direktiva) so primernejša ter v kakšnem obsegu se ti alternativi regulativni politiki dopolnjujeta.

Sklep

Po našem najboljšem vedenju je to eno izmed redkih del, ki preučuje vpliv kakovosti upravljanja podjetij na prirejanje rezultatov poslovanja (uravnavanje dobička) v sodobnem kontekstu po uveljavitvi določil SOX in 8. Direktive. Izpostaviti velja, da so bili podatki za oceno kakovosti upravljanja podjetij ter njihovih sestavnih komponent zbrani ročno. Ročno zbiranje podatkov je bilo zelo zamudno opravilo, vendar vredno truda, saj je omogočilo vzpostavitev unikatne in visoko kakovostne zbirke podatkov o upravljanju podjetij, ki v takšni obliki nima primere v predhodnih raziskavah. Ta unikatni nabor podatkov predstavlja pomembno prednost tega znanstvenega dela.

Verjamemo, da bodo teme, ki so zajete v tej disertaciji, dopolnile trenutno literaturo in vplivale na primerne odzive v podjetjih pri korporativnih odločitvah povezanih s funkcijo notranje revizije, revizijsko komisijo, ter upravnimi odbori. Prav tako bi izsledki te

študije lahko vplivali na odločitve regulatorjev, saj so pokazali, da so določila SOX in 8. Direktive privedla do večje kakovosti upravljanja podjetij in manjšega prirejanja rezultatov poslovanja.

Ne glede na te prispevke pa študija ni odgovorila na vse dileme, zato bodo na tem področju potrebne še nadaljnje raziskave.