Audit committees and financial reporting quality: The 8th EU Company Law Directive perspective

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ABSTRACT

In order to increase corporate governance quality, the 8th EU Company Law Directive enacted a mandatory audit committee in publicly listed companies in the EU and defined its tasks and responsibilities. In response to the directive, we examine the incremental value of audit committee monitoring effectiveness and audit committee competencies over the mere existence of an audit committee. We find that audit committee monitoring effectiveness and competencies are positively associated with financial reporting quality, whereas, somewhat surprisingly, the effect of the existence of an audit committee is negative. This finding shows that the existence of audit committees is a necessary but not a sufficient condition for enhancing financial reporting quality. Collectively, the study's findings suggest that the 8th Directive has had a positive effect on corporate governance quality and, in turn, financial reporting quality in the EU.

1. Introduction

An audit committee is an operating committee of a company's board of directors in charge of overseeing financial reporting and disclosure (Choi et al., 2014). Idealistically, the aim of financial reporting is to present reliable information about the company's financial position and performance that is useful for a wide range of users when making economic decisions (Barth et al., 2008). However, in reality financial reports are often distorted or even fraudulent (Blanco et al., 2014; Cho et al., 2015), thus impairing the ability of interested constituents to make rational decisions.

Audit committee authorities typically involve the oversight of financial reporting, monitoring of accounting policies, oversight of external auditors, regulatory compliance, risk management, and special investigations in cases of suspect or problematic accounting practices (Dezoort et al., 2002). Despite widespread conjectures that the audit committee's function improves financial reporting quality, these are not unequivocally supported by 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.

The equivocal evidence is likely attributable to the fact that audit committees are highly diverse in terms of their size, independence, monitoring effectiveness, competencies, and other relevant quality features (Choi et al., 2014; Gendron and Bédard, 2006). In effect, the existence of an audit committee within a company may be just a necessary, but not a sufficient condition for enhancing financial reporting quality.

The weaknesses of audit committees in particular and corporate governance systems in general were highlighted by several financial scandals (e.g. Enron, Parmalat) at the turn of the millennium (Bajra and Cadez, 2017; Črnigoj and Verbič, 2014; Kutan,

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2010). These scandals gave rise to significant changes in regulatory policies on both sides of the Atlantic. In the European Union (EU), the establishment of an audit committee became mandatory with the passing of the 8th Company Law Directive (Directive 2006/43/EC, from here on the 8th CLD). The directive also enhanced the audit committee's responsibilities with respect to many governance issues. In particular, it increased demands in terms of the monitoring effectiveness and competencies of audit committees (Abernathy et al., 2013; Beasley et al., 2009; Bédard and Gendron, 2010; Cohen et al., 2014; Dezoort et al., 2002).

In response to the 8th CLD, the study has two main objectives. The first is to examine the impact of audit committee monitoring effectiveness and audit committee competencies on the financial reporting quality in European firms subjected to the 8th CLD. The examination of these two audit committee characteristics is motivated by a combination of the considerable attention devoted to them in the 8th CLD and the minimal attention found in the empirical literature. We are especially interested in the incremental value of monitoring effectiveness and competencies compared to the mere existence of an audit committee.

The second objective is to examine whether the financial reporting quality in EU firms has improved since the 8th CLD came into force. To our knowledge, this is one of the first studies to empirically investigate the effects of the 8th CLD and may provide original insights concerning the effectiveness of regulatory policies in enhancing financial reporting quality.

The findings are based on a sample of 217 large EU publicly listed companies. The study provides empirical evidence showing that both predictor variables – audit committee monitoring effectiveness and competencies – are positively related with financial reporting quality. Further, evidence is presented that financial reporting quality has improved since the 8th CLD entered into force.

The study contributes to the literature in several ways. First, by examining several audit committee characteristics, it provides guidance for corporate constituents and policymakers concerning their relative importance in securing financial reporting quality. Second, as one of the first studies to address the relationship between audit committees and financial reporting quality in the EU regulatory context, it provides empirical evidence on the effectiveness of the 8th CLD in enhancing corporate governance quality.

This paper is organized as follows. In Section 2, we present the theoretical framework and develop the hypotheses. Section 3 contains the research design and methodology, including a discussion of the sample selection and data source. We present our results in Section 4. The paper concludes with a discussion and conclusion.

2. Theoretical framework and hypotheses development

2.1. Financial reporting quality

All corporations are obliged to keep accounting records and prepare financial reports (Taipaleenmäki and Ikäheimo, 2013), but it is the techniques they use to report their financial results that determine the quality of their financial reporting (Jerman and Novak, 2014; Macías and Muiño, 2011). Financial reporting is considered to be high in quality when financial reports present the true and fair financial position and performance of a company in line with generally accepted accounting standards (Kusnadi et al., 2016; Martí and Kasperskaya, 2015; Peecher, 2002).

In contrast to the sound conceptual definition of financial reporting quality, its empirical measurement is far more challenging (Barth et al., 2008; Francis and Smith, 2005). A commonly used proxy is discretionary accruals (Dechow et al., 1995; Ecker et al., 2013; Jones, 1991; Peasnell et al., 2000). Unlike the nondiscretionary component of total accruals, which reflects business conditions that naturally create and terminate accruals, the discretionary component identifies management choices to manage reported earnings (Bajra and Cadez, 2017).

The main motive for earnings management is the private interest of the managers (Hartmann and Slapničar, 2012). This is particularly apparent when their compensation depends on the firm's financial (e.g. profit) or market (e.g. stock price) performance. While their interest in managing profits is self-evident in cases of variable compensation, they may also be motivated to manage profits in cases where their compensation is fixed. A low financial performance may be damaging to their status and future career prospects, and thus managing earnings is also in their interest in the circumstances of fixed compensation (Naranjo-Gil, 2016). In either case, we are dealing with a classic agency problem (Hooper et al., 2009; Kosi and Valentincic, 2013) where managers are contracted to act on behalf of the owners with their own self-interests being contrary to those of the owners; in addition, there is a clear asymmetry of information (managers have more information about the firm's performance than the owners).

Financial records (earnings) are typically manipulated using two alternative accounting techniques. The first includes changing the numbers of actual financial transactions, which is often an act of fraud. The second involves leveling out fluctuations of sales and expenses from one period to the next, which is also known as "income smoothing" (Lo, 2008; Roychowdhury, 2006; Slapnicar and Rejc Buhovac, 2014; Teoh and Wong, 1993).

2.2. Audit committee monitoring effectiveness and financial reporting quality

Audit committees are primarily mandated to oversee the financial reporting process and ensure true and fair financial reporting (Beasley et al., 2009). In general, one's effectiveness is espoused relative to one's objectives (Cadez and Guilding, 2008). Following this definition, an audit committee would be considered effective when the quality of its financial reporting is maximized. However, this general definition is problematic in the corporate governance context for two reasons (Groff and Valentinčič, 2011). First, there is no universally accepted definition of financial reporting quality. Second, it is managers who are ultimately and legally responsible for true and fair reporting, not audit committees.

For these reasons, audit committee effectiveness is typically discussed in terms of its involvement in different monitoring activities. Three broad areas of oversight include: (1) monitoring the financial reporting process; (2) monitoring internal controls and

risk management; and (3) monitoring external auditor activity (Beasley et al., 2009; Kusnadi et al., 2016).

In our study, audit committee effectiveness is assessed through the prism of involvement in four monitoring activities as required by the 8th CLD. These requirements are listed in the provisions of Article 41(2), which govern four main activities: monitoring the financial reporting process (Article 41.2a); monitoring of internal control, internal auditing, and risk management (Article 41.2b); monitoring the work of external auditors (Article 41.2c); and monitoring of external auditors' independence (Article 41.2d).

Monitoring the financial reporting process includes the monitoring of accounting policies, regulatory compliance, and special investigations in cases of suspect or problematic accounting practices (Beasley et al., 2009). Issues encountered by audit committees are reported to the managers (Aver and Cadez, 2009), who are ultimately responsible for the accuracy of the company's financial statements (Choi et al., 2014). In effect, we expect the monitoring of the financial reporting process to be positively related with financial reporting quality.

The next dimension is the monitoring of the internal control, internal audit, and risk management systems. These systems within a company are established to minimize losses from operations, ensure the efficient use of resources, minimize fraud, and limit managerial incentives to engage in overly risky initiatives (Dezoort et al., 2002). Again, we assume that the monitoring of these processes is positively related to financial reporting quality.

The third important task is to make recommendations for the appointment, reappointment and removal of external auditors to the shareholders or board of directors. In addition, the audit committee is required to assess, and report to the board on, the competence, qualification, and independence of the external auditors (Groff and Valentinčič, 2011). We expect that a greater involvement of the audit committee in these activities will result in higher quality external auditing services and, in turn, higher financial reporting quality.

Taking all areas of audit committee monitoring collectively, we expect that monitoring effectiveness is positively related with financial reporting quality, and posit the following hypothesis:

Hypothesis 1. *Audit committee monitoring effectiveness is positively associated with financial reporting quality.*

2.3. Audit committee competencies and financial reporting quality

Audit committee competencies designate the audit committee's ability to perform oversight of the financial reporting process and ensure true and fair financial reporting (Badolato et al., 2014). This ability is particularly hindered if members of the audit committee are under the influence of managers (i.e. dependent) or if audit committee members do not have accounting and financial expertise (Badolato et al., 2014; Hayes, 2014; Klein, 2002).

Audit committee independence refers to the extent to which the audit committee is not under the influence of management (Bruynseels and Cardinaels, 2014). If the audit committee is mainly populated by board members, financial reporting may be at risk of bias. Independence is desired from the financial reporting perspective because independent committee members are more likely to express an unbiased opinion about financial reporting processes than dependent members (Hayes, 2014).

Financial expertise implies that audit committee members have knowledge and experience in accounting and finance. In reality, the need for financial literacy depends on the complexity of the company, but some experience in corporate financial matters is typically required (McDaniel et al., 2002). Financial expertise is desired, since experts in the field are more likely to detect inappropriate accounting and auditing practices than members who are deficient in these domains (Dhaliwal et al., 2010; Gendron and Bédard, 2006; Tanyi and Smith, 2015).

In our study, audit committee competencies are gauged through the requirements imposed by the 8th CLD, set out in Article 41(1). This article denotes that the audit committee must comprise at least three members, at least one of whom should be independent and have expertise in accounting and/or auditing. It should be noted that these are minimal requirements, as member states can have stricter laws (i.e. in the UK the committee should have at least three independent directors, while in Germany all committee members should possess knowledge of accounting and the internal control process and the committee chairman should be independent).

Prior evidence suggests that audit committee independence and financial expertise are positively related with financial reporting quality. For instance, Hayes (2014) and Badolato et al. (2014) find a positive association between financial expertise and financial reporting quality. Similarly, Klein (2002) and Kusnadi et al. (2016), among others, find that the audit committee's independence enhances financial reporting quality and that a committee with mixed financial expertise tends to be positively associated with financial reporting quality. By contrast, Rainsbury et al. (2009) found no significant association between the audit committee's expertise and financial reporting quality. Some authors have also investigated competencies as an integrated construct encompassing both independence and financial expertise (Abernathy et al., 2013; Dhaliwal et al., 2010; Miko and Kamardin, 2015; Xie et al., 2003). They typically find that the quality of financial reporting increases when competencies are higher.

In line with theoretical reasoning and previous empirical evidence (Carcello et al., 2006; Hayes, 2014; Krishnan and Lee, 2009), we expect that audit committee competencies are positively related with financial reporting quality. Therefore, we posit the following hypothesis:

Hypothesis 2. *Audit committee competencies are positively associated with financial reporting quality.*

2.4. The 8th CLD and financial reporting quality

The empirical evidence suggests that new regulatory policies concerned with corporate governance (e.g. the Sarbanes Oxley Act in the United States of America) and financial reporting (e.g. the International Financial Reporting Standards) often result in higher quality corporate governance and financial reporting (Barth et al., 2008; Bartov and Cohen, 2009; Cohen et al., 2014; Lobo and Zhou, 2006; Zeghal et al., 2012). Contrary to the ample evidence concerned with the effects of the Sarbanes Oxley Act and the International Financial Reporting Standards on financial reporting quality (Aksu and Espahbodi, 2016; Brown et al., 2014; Foster et al., 2007; Zhou et al., 2017), there is hardly any evidence concerning the effect of the 8th CLD on financial reporting quality.

The audit committee function was voluntary up until the start of the 2000 s (Beasley and Salterio, 2001; Groff and Valentinčič, 2011). In the EU, its role was enhanced with the passing of the 8th CLD in 2006, which required that firms listed on EU exchanges establish audit committees. Further, the directive not only calls for the establishment of an audit committee function, but defines its responsibilities, tasks, and required competencies. Since these requirements are imposed with the aim of enhancing corporate governance quality, we expect that financial reporting quality has increased since the directive was introduced.

Prior empirical evidence concerned with the 8th CLD's effect on financial reporting quality is scarce. We only identified two studies that investigate this relationship, which both seem to support a positive effect of the 8th CLD on financial reporting quality (Bantleon et al., 2011; Braiotta and Zhou, 2008). However, it should be noted that discerning the direct effects of the 8th CLD on financial reporting quality is tricky because the application of the directive's provisions varies considerably from one state jurisdiction to another. However, our study is designed in a way that compliance with the directive is assessed before and after it entered into force.

Hypothesis 3. *Financial reporting quality in the period following the 8th CLD is higher than in the period before the 8th CLD.*

3. Research design and methodology

3.1. Sample selection and data collection

The period under investigation is from 2004 to 2013. This 10-year data span covers the period before and after the implementation of the 8th CLD, thus allowing for a meaningful investigation of the directive's impact on financial reporting quality.

The population of interest includes 2300 firms listed on the main EU stock exchanges (source: Amadeus database). Since examining all of these companies would be overwhelming due to the need to manually collect the data related to audit committees, we imposed six filters to reduce the sample size to a manageable level. We excluded: (1) firms from countries that joined the EU after 2006 (for which compliance with EU regulations was not mandatory before accession); (2) Swiss firms (as they are not required to comply with EU regulations); (3) firms with an annual turnover of less than EUR 5 billion and firms with fewer than 10,000 employees (large firms are more likely to exhibit advanced corporate governance practices and their disclosures); (4) firms cross-listed on several EU markets (to avoid duplicates); (5) banks (financial reporting in banks is highly industry-specific); and (6) firms without at least 5 years of consecutive data for the financial indicators of interest (to avoid missing data problems). In effect, the filtering procedure reduced the sample size to 217 large European firms.

The data for audit committee characteristics were collected manually from thousands of annual account reports, directors' reports and similar materials. More precisely, all the data for audit committee monitoring effectiveness, independence, and financial expertise were collected by hand; an endeavor that took 9 months to complete (December 2014–September 2015).

The data concerning financial reporting quality were collected from the Amadeus and Bloomberg databases as well as the firms' financial statements.

3.2. Measurement of variables

3.2.1. Financial reporting quality

Consistent with the earlier literature, discretionary accruals are treated as a proxy for financial reporting quality (Ayers et al., 2006; Dechow et al., 1995; Dhaliwal et al., 2010; Ghosh et al., 2010; Lo, 2008). We first estimate the total accruals and then subtract the non-discretionary accruals, which yields the discretionary part of total accruals.

The total accruals are calculated as follows:

$$TAcc_{it} = (\Delta ca_{it} - \Delta cc_{it}) - (\Delta cl_{it} - \Delta ipaid_{it}) - da_{it}, \tag{1}$$

where $TAcc$ are total accruals, Δca is the change in current assets, Δcc is the change in cash flow, Δcl is the change in current liabilities, $\Delta ipaid$ is the change in interest-bearing liabilities, and da is depreciation and amortization; all categories for firm i in year t.

In stage two, we estimated the relative total accruals with the modified Jones model advanced by Dechow et al. (1995), using the following formula:

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

where:

$TAcc_{it}$ denotes the total accruals for firm i in year t (calculated using Eq. (1));

$Toas_{i,t-1}$ denotes the total assets for firm i in year $t-1$;

ΔRev_{it} denotes changes in revenues for firm i between the years t and $t-1$;

ΔRec_{it} denotes changes in accounts receivable for firm i between the years t and $t-1$;

PPE_{it} denotes gross property, plant, and equipment for firm i in year t;

ε_{it} is the error term of the equation.

Finally, the discretionary accrual (DA) component is estimated as the difference between the total accruals and the non-discretionary accruals component as follows:

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

(3)

The value of DA is represented as the residual obtained from the estimation of model 2; hence, the residual is composed of the following: *(1) the specification error – (u)*; and *(2) financial reporting quality – (FRQ)*, where $e_i = FRQ_i + u_i$. Since the regression residuals have a zero mean *$AVG(e_i) = AVG(FRQ_i) + AVG(u_i) = 0,$* the residual is the portion of accruals not explained by changes in current assets, liabilities, cash and depreciation, thus representing the discretionary accruals. Considering this, firms with negative discretionary accruals exhibit high FRQ (Badolato et al., 2014; Kasznik, 1999).

3.2.2. Audit committee monitoring effectiveness

Audit committee monitoring effectiveness was measured in terms of compliance with four sub-provisions of Article 41(2) of the 8th CLD. Following a two-stage procedure, we first assessed the involvement in four monitoring activities. With respect to sub-provision (a), a value of 1 is assigned if the audit committee was engaged in monitoring *financial reporting processes* in a given year (i.e. accounting policies and methods regarding financial statements, payroll policies, accounts payable, accounts receivable, etc.) and 0 otherwise. Concerning sub-provision (b), a value of 1 is allotted if the audit committee was involved in monitoring *internal control, internal auditing, and risk management* in a given year, and 0 otherwise (Bédard and Gendron, 2010; Rupley et al., 2011). Regarding sub-provision (c), if the audit committee was involved in the *recommendation to appoint, reappoint and/or remove the external auditors*, a value of 1 was assigned, and 0 otherwise. With respect to sub-provision (d), if the audit committee was involved in monitoring the *external auditors' independence*, a value of 1 was assigned and 0 otherwise.

In stage two, a composite score was constructed. If the sum of values in stage one was 3 or higher, the ascribed value was 1. If the sum of values in stage one was 2 or lower, the ascribed value is 0.

3.2.3. Audit committee competencies

Audit committee competencies were measured in terms of compliance with the provisions of Article 41(1) of the 8th CLD. Following a two-stage procedure, we first assessed independence and financial expertise separately. For independence, a value of 1 indicates that at least one audit committee member was independent (non-executive), and 0 otherwise. Regarding financial expertise, if at least one committee member was a financial expert we assigned a value of 1, and 0 otherwise.

In stage two, we constructed a composite item. If the sum of values in stage one was 2, the ascribed value was 1. If the sum of values in stage one was 1 or 0, the ascribed value is 0. Thus, if only one of the criteria for independence or expertise is met, competencies are coded as 0.

3.2.4. The 8th company law directive

The 8th CLD is measured as a dummy variable taking the value of 0 for the period before 2006 and 1 for the period after the 8th CLD entered into force.

3.3. Model specification and control variables

The hypotheses are tested using the comprehensive model below. In addition to the three main independent variables of interest, the model includes a number of control variables identified as important determinants of financial reporting quality in prior research.

$$FRQ_{it} = b0 + b1ACmeff_{it} + b2ACcomp_{it} + b3CLD8_{it} + b4ACexi_{it} + b5Leverage_{it} + b6ROA_{it} + b7lagROA_{it} + b8Size_{it}$$
$$+ b9IFRS_{it} + b10CFO_{it} + b11ROE_{it} + b12Colldp_{it} + b13Credp_{it} + \varepsilon_{it}$$

(4)

where:

FRQ_{it} denotes financial reporting quality for firm i in year t;

$ACmeff_{it}$ denotes the audit committee's monitoring effectiveness for firm i in year t;

$ACcomp_{it}$ denotes the audit committee's competencies for firm i in year t;

$CLD8_{it}$ is a dummy variable denoting the period after the 8th CLD for firm i in year t;

$ACexi_{it}$ is a dummy variable denoting the audit committee's existence in firm i in year t;

$Leverage_{it}$ denotes the ratio of total debt to total assets for firm i in year t;

ROA_{it} denotes the return on assets for firm i in year t;

$lagROA_{it}$ denotes the lagged return on assets for firm i in year t;

Size$_{it}$ denotes the firm's size for firm i in year t;

IFRS$_{it}$ is a dummy variable denoting that the firm's financial statements were prepared using IFRS for firm i in year t;

CFO$_{it}$ 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.

Since the proxy for *FRQ* is discretionary accruals, care needs to be taken when interpreting the regression coefficients. Namely, *FRQ* is an inverse of discretionary accruals and therefore negative coefficients in the regression model signify a positive relationship between the independent variables and *FRQ*, and vice versa.

The first control variable is *ACexi*, measured as a dummy variable with a value of 1 if the firm had a formally established audit committee function. Since audit committees are tasked to oversee financial reporting, a positive association with FRQ is expected.

The next control variable is *Leverage*, measured as the ratio of total debts to total assets. As found by Burgstahler and Dichev (1997) and Degeorge et al. (1999), firms with a higher degree of leverage have a bigger incentive to manage their earnings in order to present themselves as more attractive to lenders. The expected relationship with FRQ is negative.

ROA and *lagROA* capture information about the management's efficiency in using the firm's assets to generate earnings; it is measured by dividing a firm's net income by its total assets. *LagROA* is included to control for endogeneity. More profitable firms are less likely to engage in earnings management and hence a positive relationship with FRQ is expected for both.

Size is measured as the natural log of total assets. As noted by Barton and Simko (2002), large firms often manage their earnings to meet analysts' expectations. Similarly, Myers et al. (2007) suggest that large firms do not show their real earnings; a negative relationship with FRQ is therefore expected.

Next, we employ the *IFRS* variable, which is a dummy variable indicating that the firm prepared its financial statements based on International Financial Reporting Standards. We expect that IFRS adoption increases accounting quality and hence a positive relationship with FRQ is expected.

CFO is a measure of the amount of cash generated by a company's normal business operations scaled by total assets. Prior research suggests that a higher CFO reduces the incidence of earnings management (Dechow et al., 1998; Roychowdhury, 2006) and thus a positive coefficient with FRQ is expected.

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. As noted by Liu and Lu (2007), firms have strong incentives to manage earnings in order to meet certain return thresholds, hence a negative coefficient with FRQ is expected.

Further, *Colldp* represents the average number of days to collect payments on goods sold from buyers, whereas *Credp* represents the average number of days to pay the suppliers. These two variables are proxies for the velocity of cash flows. A negative relationship with FRQ is expected, since longer periods indicate a greater difference between cash flows and accruals.

3.4. Data analysis

The data were analyzed using the STATA software package. Data screening revealed missing values for some variables. No missing values were detected for variables that were hand-collected from annual reports, i.e., *ACmeff, ACcomp,* and *ACexi*. Some data were missing for financial indicators retrieved from the Amadeus and Bloomberg databases, i.e. *leverage, ROA, Size, CFO, Colldp,* and *Credp*, but no imputation was made. As a result, observations with missing data were excluded from the analysis.

The initial regression model is tested using an OLS regression. As a robustness check, we tested alternative models including additional variables not considered in the initially specified model. In particular, we included four interaction terms between the two main variables of interest, i.e. *ACmeff* and *ACcomp*, and two variables concerned with corporate governance and financial reporting regulation, i.e. *CLD8* and *IFRS*. In addition, we tested two sub-models of the original models: one including only variables of interest without control variables and one including only control variables. Finally, we report three panel regression models where we control for fixed effects.

4. Empirical results

4.1. Descriptive statistics

Table 1 presents the descriptive statistics for the variables in the specified model. As is evident from Table 1, the *ACmeff* mean score for the overall period is 0.856 or 85.6% of the maximum hypothetical score (1). Of the four *ACmeff* components that were appraised, firms scored highest for the monitoring of the financial reporting process (0.961). This can be interpreted as meaning that in 96.1% of firm year observations the audit committee was compliant with the 8th CLD with respect to monitoring the financial reporting process. The *ACcomp* mean score for the overall period is 0.755. This can be interpreted as meaning that in 75.5% of firm year observations the audit committee was compliant with the 8th CLD with respect to the competencies required of the audit committee.

Table 1
Descriptive statistics.

VARIABLES	Obs	Mean	Std. Dev.	Min	Max
FRQ	1784	−0.036	0.047	−0.313	1.093
ACmeff	2170	0.850	0.351	0	1
ACcomp	2170	0.754	0.430	0	1
CLD8	2170	0.700	0.458	0	1
ACexi	2170	0.862	0.345	0	1
Leverage	1979	3.227	49.836	−342	2123
ROA	1979	0.032	0.146	−1.925	0.670
lagROA	1793	0.030	0.144	−1.925	0.660
Size	1979	15.162	2.360	6.597	20
IFRS	2169	0.620	0.485	0	1
CFO	1979	0.065	0.124	−1.639	0.834
ROE	1979	0.216	4.609	−49.791	181
Colldp	2169	49	51	0.000	890
Credp	2169	40	47	0.000	886

Legend for variable labels: FRQ – financial reporting quality (inverse of discretionary accruals); ACmeff – audit committee monitoring effectiveness; ACcomp– audit committee competencies; CLD8–8th Company Law Directive; ACexi – Audit committee existence; Leverage – debt-to-total assets ratio; ROA – return on assets; lagROA – lagged ROA indicator; Size – natural log of total assets; IFRS – an indicator that a firm's financial statements are prepared using International Financial Reporting Standards; CFO – cash flow from operations; ROE – return on equity; Colldp – collection period in days; Credp – credit period in days.

4.2. Model testing

Table 2 reports Pearson's correlations between the variables examined in the study. Of the total 91 correlations, 46 are statistically significant. The highest recorded correlation is 0.79 between the *leverage* and *ROE* variables. Of relevance for this study are the correlations between the *FRQ* and the explanatory variables. Of these 13 correlations, 10 are statistically significant and for 6 of them the coefficient is negative.

Because the high correlations between the explanatory variables suggest a potential threat of multicollinearity, a collinearity diagnostic analysis was conducted. The collinearity parameters, most importantly the variance inflation factors, reveal moderate collinearity. The highest recorded variance inflation factor was 2.6 for the *ACcomp* variable. However, as suggested by O'Brien (2007), multicollinearity is problematic when variance inflation factors exceed the value of 10, hence we assume that multicollinearity is not a serious threat to the validity of the estimated parameters.

The results of the regression model are presented in Table 3, Panel A. When interpreting the coefficients, recall that, because the proxy for FRQ is discretionary accruals, negative coefficients are interpreted as indicating a positive relationship between the predictor variables and financial reporting quality, and vice versa. As hypothesized, the coefficients for *ACmeff* and *ACcomp* are negative and statistically significant. However, contrary to our expectations we find that the coefficient for *CLD8* is positive instead of negative.

It is noteworthy that many control variables also exhibit a significant relationship with *FRQ*. Somewhat surprisingly, the coefficient for *ACexi* is positive, meaning that the relationship with *FRQ* is negative. Two variables not associated with *FRQ* are *lagROA* and *Credp*. The coefficient for the *IFRS* variable is statistically significant, but in the opposite direction to what was expected.

4.3. Sensitivity analysis

As a robustness check, the results of the re-specified model including four interaction terms are presented in Panel B of Table 3. When compared to Panel A, two main points of difference are evident. The *ACcomp* and *IFRS* variables, which are associated with the *FRQ* variable in Panel A, are not associated with *FRQ* in Panel B. The other coefficients remain relatively stable in the re-specified model. Of the four interaction terms, three exhibit a statistically significant relationship with FRQ. The highest effect is recorded for the *ACmeff*CLD8* interaction term, followed by the *ACcomp*IFRS* interaction term. These interaction effects increase *FRQ*. The third significant effect is recorded for the *ACmeff*IFRS* interaction term, although this effect decreases *FRQ*.

The next robustness check includes two sub-models of the original model. The first only includes variables of interest without control variables and is presented in Panel A of Table 4. The second only includes control variables and is presented in Panel B of Table 4. As is evident, the coefficients seem to remain stable and consistent compared to the models in Table 3.

In the last stage, we tested three additional regression models to control for fixed effects across industry, country and year. We imposed time-independent effects for each entity that is possibly correlated with the regressor (predictor variable). The key insight from the fixed effects model is that, if the unobserved variable does not change over time, any changes in the regressor must be due to influences other than these fixed entities' characteristics (Bell and Jones, 2015; Torres-Reyna, 2014). The fixed effects are reported in Table 5. Again, the coefficients remain stable and consistent compared to the original model.

5. Discussion

This study attempted to investigate the incremental value of audit committee monitoring effectiveness and audit committee

Table 2
Pearson's correlation matrix.

	FRQ	ACmeff	ACcomp	CLD8	ACexi	Leverage	ROA	lagROA	Size	IFRS	CFO	ROE	Colldp	Credp
FRQ	1													
ACmeff	−0.1039*	1												
ACcomp	−0.0920*	0.7204*	1											
CLD8	0.0438*	0.4468*	0.4802*	1										
ACexi	0.0255*	0.7187*	0.7015*	0.4006*	1									
Leverage	−0.0122	0.0050	−0.0424	0.0097	0.0093	1								
ROA	−0.4346*	0.1856*	0.1221*	0.0249*	0.0845*	−0.0102	1							
lagROA	−0.1669*	0.0153	0.0464*	−0.0542*	−0.0358*	−0.0006	0.0805*	1						
Size	−0.3379*	0.1773*	0.1787*	0.0443*	0.1135*	0.0026	0.1719*	0.2694*	1					
IFRS	−0.0129	0.1841*	0.1896*	0.2170*	0.1279*	0.0077	0.0754*	0.0780*	0.2470*	1				
CFO	−0.3112*	0.0182	0.0357*	−0.0367*	−0.0097	−0.0005	0.1176*	0.4548*	0.3094*	0.0914*	1			
ROE	−0.0046	0.0123	−0.0303*	0.0113	0.0102	0.7981*	−0.0118	0.0260	0.0083	0.0316*	0.0942*	1		
Colldp	0.0375*	−0.0263*	−0.0508*	0.0223*	−0.0606*	0.0070	0.1393*	0.0150	−0.0423*	0.0659	−0.0335*	−0.0054	1	
Credp	0.0559*	0.0137	−0.0261*	0.0226*	0.0211*	−0.0077	0.0257*	−0.2264*	−0.0890*	0.1368*	−0.1883*	−0.0295*	0.4054*	1

Legend for variable labels: see Table 1.
* Correlation significant at the p < 0.05 level.

Table 3
Regression model parameters.

VARIABLES	Panel A (original model)	Panel B (re-specified model with interactions)
ACmeff	−0.0107**	−0.0242***
	(0.0045)	(0.0057)
ACcomp	−0.0140***	−0.0004
	(0.0037)	(0.0065)
CLD8	0.0065**	0.0261***
	(0.0026)	(0.0059)
ACexi	0.0261***	0.0189***
	(0.0045)	(0.0045)
Leverage	−0.0000**	−0.0000**
	(0.0000)	(0.0000)
ROA	−1.6080***	−1.5210***
	(0.0846)	(0.0857)
lagROA	−0.0002	−0.0004
	(0.0078)	(0.0078)
Size	−0.0044***	−0.0044***
	(0.0004)	(0.0004)
IFRS	0.0135***	−0.0015
	(0.0022)	(0.0077)
CFO	−0.0822***	−0.0791***
	(0.0089)	(0.0088)
ROE	0.0006*	0.0005*
	(0.0003)	(0.0003)
Colldp	0.0000***	0.0000***
	(0.0000)	(0.0000)
Credp	−0.0000	−0.0001
	(0.0000)	(0.0000)
ACmeff*IFRS		0.0074***
		(0.0027)
ACcomp*IFRS		−0.0153**
		(0.0065)
ACmeff*CLD8		−0.0199***
		(0.0067)
ACcomp* CLD8		−0.0047
		(0.0060)
Constant	−0.0567***	−0.0408***
	(0.0086)	(0.0098)
Observations	1713	1713
R-squared	0.344	0.355

Standard errors in parentheses.

Legend for variable labels: see Table 1.

*** p < 0.01.

** p < 0.05.

* p < 0.1.

competencies for ensuring financial reporting quality in the context governed by the 8th Company Law Directive. The uniqueness of this study lies in the way the two predictor variables were operationalized. To our knowledge, it is the first study to have operationalized audit committee monitoring effectiveness and audit committee competencies in terms of compliance with the 8th Company Law Directive, a regulatory framework for corporate governance in the EU.

The models tested support the hypotheses that audit committee monitoring effectiveness and audit committee competencies are positively related with financial reporting quality. These findings support the view encompassed in the 8th CLD that audit committees' involvement in monitoring activities and their competencies are desirable components of the corporate governance mosaic, which lead to higher quality financial reporting.

Counter to our expectations, however, is the negative relationship between the existence of audit committees and financial reporting quality. As already noted in the introduction, the empirical evidence concerning this relationship is equivocal, as the same prior studies have also identified a negative relationship (Alves, 2013; Stewart and Munro, 2007). However, with this study we are able to shed more light on the nature of this relationship. As our results show, it is not the existence of the audit committee in itself that enhances financial reporting quality, but its monitoring effectiveness and competencies that have a significant impact. In other words, if an audit committee is formally established but not immersed in monitoring activities and/or is incompetent, then such an audit committee provides little value. In effect, the existence of an audit committee within a company is a necessary, but not a sufficient condition for enhancing financial reporting quality.

The third important observation of this study is the negative direct relationship between the 8th CLD variable and financial reporting quality. Although one might interpret this finding from the perspective that financial reporting quality has not increased since the 8th CLD was introduced, such a conjecture is likely to be misleading. This is because the estimated effect size is much

Table 4
Regression model parameters – Robustness check.

VARIABLES	Panel A (model with no control variables)	Panel B (model with control variables only)
ACmeff	−0.0160***	
	(0.0049)	
ACcomp	−0.0083**	
	(0.0038)	
CLD8	0.0141***	
	(0.0030)	
ACexi		0.0101***
		(0.0028)
Leverage		−0.0001**
		(0.0000)
ROA		−1.6670***
		(0.0840)
lagROA		−0.0025
		(0.0079)
Size		−0.0047***
		(0.0004)
IFRS		0.0130***
		(0.0022)
CFO		−0.0827***
		(0.0089)
ROE		0.0006*
		(0.0003)
Colldp		0.0001***
		(0.0000)
Credp		−0.0000*
		(0.0000)
Constant	−0.0268***	−0.0561***
	(0.00341)	(0.0085)
Observations	1784	1713
R-squared	0.123	0.233

Standard errors in parentheses.
Legend for variable labels: see Table 1.
  *** $p < 0.01$.
  ** $p < 0.05$.
  * $p < 0.1$.

smaller than the effect sizes of the audit committee monitoring effectiveness and competencies variables. This suggests that the genuine effect of the regulatory change is indirect via the compliance with particular requirements of the directive rather than direct (Chen et al., 2010; Christensen et al., 2015).

When trying to relate our findings to previous studies we have very little to build on when it comes to the relationship between monitoring effectiveness and financial reporting quality. Unlike prior studies in the field of audit committee effectiveness (Abernathy et al., 2013; Choi et al., 2014; Dezoort et al., 2002; Gendron and Bédard, 2006; Ghosh et al., 2010; Rupley et al., 2011), our study is particularly concerned with monitoring effectiveness. For this reason, our findings are not directly comparable to the studies identified above.

There is more to build on when it comes to the effect of audit committee competencies on financial reporting quality. Earlier evidence points almost uniformly in the same direction. Audit committee competencies, including independence and financial expertise components, are positively related to financial reporting quality (Abernathy et al., 2013; Badolato et al., 2014; Dhaliwal et al., 2010; Hayes, 2014; Klein, 2002; Kusnadi et al., 2016; Miko and Kamardin, 2015; Xie et al., 2003).

Concerning the effect of the 8th CLD on financial reporting quality, again there is not much prior evidence to build on. Braiotta and Zhou (2008) and Bantleon et al. (2011) appear to be the only studies to have examined the audit committee's function in the context of the 8th CLD. Although they report that firms with formally established audit committees are less engaged in earnings management, their studies lack the support of quantitative evidence.

As part of the robustness check, we also tested an alternative model including four interaction terms between the key variables of interest (audit committee monitoring effectiveness, audit committee competencies, 8th CLD, IFRS adoption). Interestingly, with the inclusion of the interaction terms the direct effects of audit committee competencies and IFRS adoption on financial reporting quality became insignificant. The direct effects appear to have been replaced by the significant interaction effect of these two variables, suggesting that the effect of audit committee competencies on financial reporting quality depends on the adoption of IFRS, a view also suggested by Jeanjean and Stolowy (2008). It is also interesting that the direct effect of audit committee monitoring effectiveness on financial reporting quality remains significant in the alternative model, but the effect is enhanced by the significant interaction effect of monitoring effectiveness with the 8th CLD. This significant interaction effect suggests that the influence of audit committee monitoring effectiveness on financial reporting quality was enhanced following the implementation of the 8th CLD.

Despite the apparently positive effects of the 8th CLD on corporate governance quality, we also note some problems with the

Table 5
Fixed effects regression model parameters (with time fixed effects).

VARIABLES	Panel A(industry fixed effects model)	Panel B (country fixed effects model)	Panel C(year fixed effects model)
ACmeff	−0.0149***	−0.0176***	−0.0205***
	(0.0047)	(0.0049)	(0.0053)
ACcomp	−0.0124***	−0.0138***	−0.0139***
	(0.0033)	(0.0036)	(0.0038)
CLD8	0.0063***	0.0069***	0.0101**
	(0.0024)	(0.0025)	(0.0043)
ACexi	0.0227***	0.0233***	0.0221***
	(0.0039)	(0.0042)	(0.00429)
Leverage	−0.0000	−0.0000**	−0.0000**
	(0.0000)	(0.0000)	(0.0000)
ROA	−2.0000***	−1.6630***	−1.5890***
	(0.0867)	(0.0843)	(0.0845)
lagROA	−0.0018	0.0058	−0.0010
	(0.0074)	(0.0079)	(0.0078)
Size	−0.0044***	−0.0052***	−0.0044***
	(0.0004)	(0.0005)	(0.0004)
IFRS	0.0146***	0.0094**	0.0134***
	(0.0022)	(0.0037)	(0.0022)
CFO	−0.0713***	−0.0760***	−0.0804***
	(0.0084)	(0.0090)	(0.0089)
ROE	0.0006**	0.0005*	0.0006*
	(0.0003)	(0.0003)	(0.0003)
Colldp	0.0000***	0.0000***	0.0000***
	(0.0000)	(0.0000)	(0.0000)
Credp	−0.0000	−0.0000	−0.0000
	(0.0000)	(0.0000)	(0.0000)
Constant	0.00861*	−0.0467***	−0.0468***
	(0.0049)	(0.0105)	(0.0093)
Observations	1713	1713	1713
Number of id.	206	206	206
Industry fixed effects	YES		
Country fixed effects		YES	
Year fixed effects			YES

Standard errors in parentheses.

Legend for variable labels: see Table 1.

*** $p < 0.01$.

** $p < 0.05$.

* $p < 0.1$.

directive. According to the directive, the committee should have at least three members, one of whom should be independent. This notion of independence postulates that two members are likely to be dependent, as audit committee members are typically members of the board of directors. In effect, if the majority of the audit committee members are board members, it is difficult to concur that the committee is indeed independent, even if the independence criteria envisaged by the directive are met. This paradox may explain why some studies find counterintuitive relations between audit committee independence and financial reporting quality (Kusnadi et al., 2016). It is also consistent with the observations by Klein (2002), who found a significant relationship with financial reporting quality only in companies where the audit committee was populated by a majority of independent members.

6. Conclusion

In response to the 8th EU Company Law Directive, we examined the impact of audit committee monitoring effectiveness and audit committee competencies on financial reporting quality in publicly listed companies in the EU. We found that audit committee monitoring effectiveness and competencies are positively associated with financial reporting quality, while the existence of an audit committee is negatively associated with financial reporting quality.

The key implication of the findings above is that the formal existence of an audit committee within a company is just a necessary, but not a sufficient condition for enhancing financial reporting quality. As our results suggest, a combination whereby the audit committee is not immersed in monitoring activities and/or is incompetent is of little value when it comes to enhancing corporate governance and financial reporting quality.

Another important implication of our study is that the 8th CLD has enhanced the quality of audit committees and, in turn, the quality of corporate governance and financial reporting in the EU. Nevertheless, despite the apparent positive effects, we also identified room for improvement. For example, the current version of the directive calls for at least one independent member of an audit committee, although it is questionable whether a committee composed of one independent and several dependent members can indeed be considered independent. Another issue we identified is the low transparency in disclosing audit committees' monitoring

effectiveness.

Like any other study, this study suffers from all the limitations of archival-based research. One particular limit revolves around the coding of audit committee characteristics. As mentioned earlier, all data were collected by hand and thus there is room for measurement error. Nevertheless, these limitations should not preclude further research concerning the relationship between audit committee characteristics and financial reporting quality.

Acknowledgment

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