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Directors' Board Characteristics and Audit Quality: Evidence From Belgium

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This study investigates the relationship between board characteristics and external audit quality on a sample of 97 Belgian listed companies during the period 2003-2007. Board characteristics proxies are the composition of the board, its independence, its structure in terms of duality or independence and its diligence. Our results are consistent with board independence and size being complements with external audit, rather than substitutes.

Keywords: corporate governance, audit fees, big four, directors' board

Introduction

Governance mechanisms can limit management discretion and enhance business efficiency. However, recent financial and accounting scandals all around the world (Enron and WorldCom in the United States, Parmalat in Italy, Lernout & Hauspie in Belgium, etc.) and the irregular financial statements of some listed companies are evidence of some manager's failure in professional ethics and are questioning the effectiveness of governance mechanisms. This leads to a confidence crisis which requires the introduction of important control systems to ensure the credibility of financial statements. The concept of corporate governance, based on willingness for transparency, first allows better management and then reconciliation of divergent interests in the firm. Therefore, it is essential, after the recent world economy being recently turmoil, to restore confidence to the different stakeholders.

Hay, Knechel, and Ling (2008) examined the existence of "complementarities" or "substitutability" between corporate governance mechanisms and external audit quality. The literature shows that this relationship is complementary. The independent administrators ask for a high quality of external audit and better governance mechanisms to produce reliable financial statements. Carcello, Hermanson, Neal, and Riley (2002), Abbott, Parker, Peters, and Raghunandan (2003) showed that firms with good internal governance structures require a high audit quality and thus they pay higher fees.

The issue of audit quality is at the heart of the agency theory and governance since the demand of external audit services reduces managerial opportunism and agency conflicts and protects shareholder interests by ensuring the relevance and reliability of financial statements. It has been widely discussed in both Anglo-Saxon

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and European environments. Recent studies (Piot, 2005; Salleh, Stewart, & Manson, 2006; Boo & Sharma, 2008; Hay et al., 2008; Krishnan & Visvanathan, 2009) investigated the impact of some governance factors on the external audit quality. The study of the various international contexts of audit reveals some specificity in Belgium. Indeed, while this country is presented as one where the practice of auditing is derived from an ancient tradition (Bertin, 2000), demand for external auditing of quality has not been demonstrated by the few empirical studies that have investigated this context. This article aims to improve our understanding of the determinants of the external audit quality of Belgian firms.

DeAngelo (1981) defined audit quality as the probability that an auditor discover a violation in the financial statements of the company, and reveals it publicly. Since the audit quality is unobservable ex-ante, some observable proxies are used in the literature (DeFond, 1992; Piot, 2005). The most commonly used quality proxy is the reputation of the audit firm meaning its affiliation to one of the "Big four" ("Big eight" in 1980). DeAngelo (1981) showed that these large audit firms have both human and physical resources that allow them to guarantee the quality of financial and accounting reporting. The size of the audit firm is also measured by the number of customers (Al-Ajmi, 2008). Other studies use alternative attributes of the external audit quality, such as the auditor industry specialization (Beasley & Petroni, 2001), the amount of paid fees (O'Sullivan, 2000; Abbott et al., 2003; Yatim, Kent, & Clarkson, 2006; Hay et al., 2008).

The main objective of our study is to understand specifically the influence of the board of directors characteristics on the external audit quality in the Belgian context, as the board is the most important mechanism for the monitoring and control roles of top management and participates in the selection of external auditor. Thus, we will know if the independence of the board constitutes a complementary or substitutable control mechanism for external audit quality. Audit quality is measured by the fees paid to auditors and by their affiliation to one of the "Big four" audit firms.

The remainder of the paper is organized as follows. Section 2 presents the theoretical framework related to the board of directors' characteristics and audit quality and used to formulate our hypothesis. We develop our research design in section 3, and discuss our empirical results in section 4. Section 5 sets forth our conclusions.

Characteristics of Directors' Board and Auditor Choice

The Board of Directors' Independence

The practices of good governance—especially those cited in the Lippens code (2005) in Belgium—require the existence of a significant number of independent board members. Under the Code of Corporate Governance (2009), at least half of the board should consist of non- executive directors and at least three of them should be independent. In other words, this director doesn't have any managerial role in the firm except being an administrator, controlling the management and protecting the shareholders' interests.

O'Sullivan (2000) demonstrated that the proportion of independent directors has a positive effect on the audit quality measured by audit fees, in United Kingdom. Carcello et al. (2002) pointed out that independent board of directors tend to choose an external audit which offers a good quality of control or a "Big four" audit firm because administrators seek to protect shareholders interests and their reputation, avoiding any situation affecting their legal liability. In New Zealand, Hay et al. (2008) showed that the measures of internal control and corporate governance are positively related to audit fees. Lennox (2005) and Goodwin-Stewart and Kent (2006)

confirmed the positive relationship between board independence and audit quality, respectively approximated by the affiliation to one of the "Big four" auditors and audit fees. These empirical results confirm the hypothesis of complementarities between independence of the directors and external audit quality.

An alternative view suggested that a more independent board may substitute the role of the external auditor since outside members do not hold an active role in the firm and provide thus independent judgments (Klumpes & Gul, 1999; Peel & Clatworthy, 2001).

For our part, the first hypothesis to test is:

H1: There is a positive relationship between independent board directors and external audit quality.

Duality of Directors' Board

In addition to the independence of the directors' board, its structure also characterizes corporate governance. Two forms of board structure are observed: the duality or the separation of chairman and CEO functions. The duality of the board implies that the same person holds both the chairman function and the CEO function. However, separation implies that CEO and board chairman should be different persons to clearly separate operational from control responsibilities. In the literature, the effects of these two aspects appear to be controversial because some authors are favorable to the separation of functions in respect of the agency theory (Coles, Daniel, & Naveen, 2008; Klein, 1998) while others recommend the duality of CEO in respect of the stewardship theory (Klein, 1998; Bhagat & Black, 2002).

In Belgium, the Lippens Code (2005) and the Belgian Code of Corporate Governance (2009) argued that a clear separation of responsibilities at the head of the firm must exist between the leading of the board and the leading of the firm's activities. Thus, the chairman of the board and the CEO functions must be separated into two distinct positions.

The board structure and its duality may have a significant effect on the demand for audit quality. Most studies conclude that shareholders require a high quality of external audit with a dual structure of the board (Peel & Clatworthy, 2001; Ashbaugh & Warfield, 2003). Since the CEO or the chairman of the board is not effectively controlled, this duality may lead to suboptimal decisions, frauds and managerial opportunism. This will encourage shareholders to deepen the external control mechanisms and so to recruit highly skilled auditors. Dechow, Sloan, and Sweeny (1996) showed that firms who manage their earnings have usually a dual structure of their board. This suggested that the combination of these two functions is likely to compromise the effectiveness of the board in their control tasks. Therefore, the auditor spends more time and provides more efforts to ensure his work and so, requires higher fees. In the American context, Krishnan and Visvanathan (2009) showed that the separation between the two functions of CEO and director reduces the risk of failure of corporate governance mechanisms, and so reduces the auditor's fees. A high proportion of outside members enhance the monitoring and control role of the opportunistic behavior of top management as they judge decisions objectively

On the contrary, other researchers such as Yatim et al. (2006) suggested that companies with a dual structure pay low fees for audit and don't look for high reputation audit firms. This confirms the stewardship theory. In fact, since the insider CEO is better informed about its firm, this allows more effective decisions, favors a stronger leadership and limits agency problems in comparison to those between the CEO and the chairman when a separate structure is applied. Nevertheless, in the United Kingdom, O'Sullivan (2000) didn't find any result that supports that the duality of the board of directors has a significant impact on audit fees. Salleh et al. (2006)

provided the same evidence in the Malaysian context.

Although the contradicting results from past studies, it is hard to determine the exact nature of the relation between the board structure and the demand of external audit quality in the Belgian context.

Our second hypothesis:

H2: There is a positive relationship between CEO duality and external audit quality.

Size of the Directors' Board

The board size refers to the number of inside and outside administrators. The agency theory advocates that a large board size has difficulties to function effectively, as a big number of administrators create agency conflicts and make more difficult to find a consensus between them (Jensen, 1993). Lipton and Lorsch (1992) recommended limiting the boards' size to ten people, with a preference to a size of eight or nine. The Cadbury Committee (1992) also recommended counting one executive director for every non-executive director and suggests an ideal size of the board between eight and ten members. According to Jensen (1993), reducing the size of directors' board can help them to improve the firm performance. On the contrary, a large board size causes coordination costs and the free-rider problems. As a consequence, a high quality of audit is required as external auditors spend more time doing their job and so charge higher fees. Beasley (1996) found that the size of the board significantly affects the risk of fraud in financial statements. The auditor devotes more time to his control mission, which leads to higher audit fees.

Otherwise, another argument is in favor of a large board size. In fact, as boards become larger, the directors collectively hold more aggregate information that helps them in their monitoring and advisory functions. They join their expertise to take optimal decisions for the benefit of the firm. Of course, this supposes that these advantages are valuable in comparison with the costs incurred within the decision-making process. In this sense, there is no need of a high audit quality. Elsewhere, Klumpes and Gul (1999) stated that large board size is associated with a low audit quality measured by low fees paid to auditors. Krishnan and Visvanathan (2009) found that board size is a non significant variable in determining the quality of the external audit measured by audit fees. Similarly, Yatim et al. (2006) detected non-significant results regarding the relationship between the board size and audit fees.

Our third hypothesis is:

H_3: There is a positive relationship between size of the board of directors and external audit quality.

Diligence of the Board of Directors

Based on the work of DeZoort, Hermanson, Archambeault, and Reed (2002), we consider another attribute which is the diligence of the directors' board. The authors suggested that meetings are a good proxy of diligence. Board meetings give an idea about the time directors spend monitoring managerial performance (Vafeas, 1999; Adams, 2003) and to improve the effectiveness of the board (Lipton & Lorsch, 1992; Conger, Finegold, & Lawler, 1998). When boards hold frequent meetings, they spend more time monitoring top management and remain informed about the firm's situation and its sector's perspective, which ultimately make them more reactive in the decision-process (Abbott et al., 2003). Some researchers argue that boards that meet frequently are more often likely to perform their duties diligently (Byrne, 1996). It would then be expected that board meetings frequency are negatively associated with external audit fees (Yatim et al., 2006).

Alternatively, some other studies found an opposite relationship. For example, Carcello et al. (2002) found

that board diligence is associated with higher fees in USA. They argued that a more diligent board of directors in carrying out its responsibilities requires a heightened level of monitoring process, financial information and therefore requires a high level of external audit quality. More recently, Krishnan and Visvanathan (2009) showed that the two variables measuring the activity of the board of directors and audit committee (number of meetings conducted annually by the board and by the audit committee) are significant and associated positively with audit fees. However, in the Malaysian context, the result of Yatim et al. (2006) indicated that board diligence is not significantly associated with audit fees. This can be explained by the fact that the number of meetings is a bad proxy for the board activity since it does not indicate the effective work done by the members during their meetings (Menon & Williams, 1994).

Our last hypothesis is:

H_4: There is a negative relationship between diligence of the board of directors and external audit quality.

Research Design

We present in the following section the methodological aspects of our study. We successively describe our sample and the variables.

Data Source and Sample

The sample used in this study includes ninety-seven (97) Belgian companies listed on the Euronext Brussels Stock Exchange over the period 2003[1]-2007. These are companies for which it was easy to access to information. Data were collected manually from annual reports available on the companies' website. Contrary to other studies, we do not exclude any sector.

Proxies for Dependent and Independent Variables

Dependent variables are audit fees (*FAUD*) and auditor reputation (*RAUD*). They are measured as follow:

(1) Audit fees (*FAUD*): it is a metric variable approximated by the natural logarithm of audit fees paid during the year (Craswell & Taylor, 1995; Carcello et al., 2002). Palmrose (1986) showed a significant and positive relationship between audit fees and audit company size;

(2) Reputation of the auditor (*RAUD*): it is a binary variable equal to 1 if the audit firm belongs to the "Big four" and equal to 0 otherwise.

Like previous research such us DeFond (1992), we hypothesize that large audit firms, who ask for high audit fees or belong to the "Big four" network provide services of better quality because they are required to maintain their reputation by providing a good control of quality (Watts & Zimmerman, 1983).

The independent variables describe the board of directors and are measured as follow:

(1) Independence of the board of directors (*INDE*): similar to Carcello et al. (2002), we use the proportion of non-executive members on the board to capture the independence of the board;

(2) Duality of the board (*DUAL*): it corresponds to the accumulation of the functions of CEO and Chairman of the board. The duality of the board is a dummy variable that takes the value of 1 if the same person holds both positions, and 0, otherwise (Baliga, Moyer, & Reo, 1996);

[1] We choose to start our analysis in 2003 because of the financial scandals like the one which affected the Belgian company Lernout & Hauspie. Besides, the legislative reforms in Belgium concerning governance practices were introduced in 2002 and continued thereafter with the royal decrees of April 4, 2003 and with the Lippens Code 2005 and Code of Good Governance in 2009.

(3) Size of the board of directors (*SIZE*): following Yermack (1996), this variable is measured by the total number of directors on the board;

(4) Diligence of the board (*DILI*): it is measured by the number of meetings conducted annually by the directors of the board (Carcello et al., 2002);

(5) The variables *AGE* and *SEN* describe the financial director in terms of his age and his seniority in the firm. According to Feng, Luo, and Shevlin (2011), companies having accounting manipulations show that the CFOs fail in their oversight role. These variables are supposed to represent the possible entrenchment of the chief financial officer (CFO). The external audit can be used by the firm as a mechanism to limit managerial discretion and opportunism.

To enhance the explanatory power of our models, we consider the following control variables:

(1) Leverage of audited company (*LTDTA*): it is the debt ratio measured by the long term debt to total assets ratio. Debt can be considered as a solution to the conflict between managers and shareholders (Jensen & Meckling, 1976) thanks to its contractual obligations. The auditor comes precisely to assert respect with the terms of the contract. Therefore, the role of the auditor increases more and more when the debt increases and so when conflicts between shareholders and debt holders increase. In this sense, Piot (2005) and Velury, Reisch, & O'reilly (2003) argued that it is useful to use a better audit quality to ensure the credibility of financial statements and the respect of contract terms. Finally, according to Raffounier and Shatt (2011), an increase in debt leads to an increase to agency costs. Debt has a higher risk for lenders, they will be reassured by quality of service from auditors. Then, the relationship between leverage and audit quality would be positive;

(2) Profitability of audited company (*PROF*): it the ability of the firm to generate returns from its assets. It is a proxy for firm performance that it is defined by the profit before tax and interest on total assets. According to Goodwin-Stewart and Kent (2006) and Skinner and Srinivasan (2010), there is a significant and positive relationship between profitability and audit fees.

Models Specification

To document the relationship between the board characteristics and external audit quality approached successively by the fees paid by the firm and by the auditor's reputation, two regression models are applied. The first one is a linear regression model whose dependent variable is metric. The second model is a logistic regression model where the dependent variable is binary.

$$FAUD_{it} = \beta_0 + \beta_1 INDE_{it} + \beta_2 DUAL_{it} + \beta_3 SIZE_{it} + \beta_4 DILI_{it} + \beta_5 AGE_{it} + \beta_6 SEN_{it} + \beta_7 LTDTA + \beta_8 PROF_{it} + e_{it} \quad (1)$$

$$RAUD_{it} = \beta'_0 + \beta'_1 INDE_{it} + \beta'_2 DUAL_{it} + \beta'_3 SIZE_{it} + \beta'_4 DILI_{it} + \beta'_5 AGE_{it} + \beta'_6 SEN_{it} + \beta'_7 LTDTA + \beta'_8 PROF_{it} + e'_{it} \quad (2)$$

The variables are defined as follows:

FAUD: audit fees which are equal to the natural logarithm of audit fees;

RAUD: auditor reputation is a binary variable equal to 1 if the audit firm belongs to the "Big four" and to 0 otherwise;

INDE: independence of the board of directors is measured by the proportion of non-executive outsider directors relative to the total number of directors;

DUAL: duality of the board is a dummy variable that takes the value of 1 if the same person holds both positions and 0 otherwise;

SIZE: the size of the board of directors is measured by the total number of directors;

DILI: the diligence of the board is measured by the number of meetings conducted annually by the board;

AGE: the age of the CFO;

SEN: the seniority of CFO in the company measured by the natural logarithm of the number of months worked in the firm;

LTDTA: the financial leverage of audited company measured as the long term debt to total assets ratio;

PROF: economic profitability of the firm which is equal to the ratio of profit before tax and interest on total assets;

β_i and β'_i are the coefficients to estimate;

e and *e'* represent error term.

The index *i* corresponds to the company and the index *t* to the period.

Regression (1) is applied on table data as a random effect model estimated by GLS (Generalized Least Squares). Model (2) is estimated as a logistic regression model for binary dependant variable. To evaluate the possible influence of multicollinearity, the VIFs (variance inflation factors) are examined. As all factors are less than three[2], we can conclude that our models do not present any serious problems that may affect the reliability of our results (Ding & Stolowy, 2003).

Results

Descriptive Statistics and Bivariate Analysis

The descriptive statistics are presented in Table 1 and Table 2. According to the Table 1, the audit quality measured by audit fees is highly volatile with a mean of approximately 240,000 Euros (significantly different from zero). Table 2 shows that the majority of Belgian listed companies are audited by firms with a high reputation. This clearly shows that there is a high degree of concentration of the audit market in Belgium. The "Big four" firms are auditing approximately 78.52% of the sample of Belgian listed companies during the period 2003-2007. However, the concentration of Big four auditors in this context remains lower compared to Anglo-Saxon countries (90%).

In addition, we find that, on average, boards of companies in our sample consist of around 10 members. The mean percentage of independent non-executive directors is 42.8%. This result suggests that the boards of directors of Belgian listed companies comply with best practices recommended by the Belgian Code of Corporate Governance (2009). Concerning diligence, the boards meet on average eight times per year. Furthermore, the age of the CFO is between 30 and 65 years and has been present in the company for an average of 36 months. The debt represents an average of about 20% of total assets. The percentage of profitability is relatively low with an average of 5.3%.

In Table 2, the statistics show the frequencies and percentages of dichotomous variables. We find that 24.46% of the firms merge the functions of CEO and chairman, meaning that separation of the functions of CEO

[2] These results are available on request.

and chairman is the most often observed with approximately 75% of Belgian listed firms where CEO and chairman are distinct persons.

To draw our first conclusions about the existence of a potential relationship between the audit quality and variables describing the directors' board, we conduct a bivariate analysis. The results are presented in Table 3.

Table 1

Descriptive Statistics for Continuous Variables (2003-2007)

Variables	Mean	Median	Standard deviation	Skewness	Kurtosis	Min	Max
FAUD	12.385***	12.066	2.218	0.363	3.26	6.697	19.488
INDE	0.428***	0.428	0.173	0.504	3.519	0	0.929
SIZE	10.242***	9	4.325	1.285	4.979	4	28
DILI	7.715***	7	3.928	2.310	13.516	1	35
AGE	45.597***	44	7.534	0.259	2.030	30	65
SEN	3.597***	3.817	0.9821	-0.838	3.943	0	5.529
LTDTA	0.178***	0.16	0.153	0.804	3.237	0	0.705
PROF	0.053***	0.043	0.126	1.25	16.008	-0.629	0.904

Notes. This table presents the descriptive statistics in terms of mean, median, standard deviation, skewness, kurtosis, minimum and maximum of continuous variables. *** Significant at 1%.

Table 2

Descriptive Statistics of Binary Variables (2003-2007)

Variables	Modality	Frequency	Percentage
RAUD	1	329	78.52
	0	90	21.48
Total		419	100
DUAL	1	102	24.46
	0	315	75.54
Total		417	100

Note. This table presents frequency and percentage for the entire period of study for dichotomous variables.

Table 3

Bivariate Analysis Using FAUD and RAID Variable

FAUD	*INDE*	*DUAL*	*SIZE*	*DILI*	*AGE*	*SEN*	*LTDTA*	*PROF*
0	0.405	0.239	8.833	7.096	43.642	3.556	0.151	0.049
1	0.452	0.115	11.625	8.515	46.055	3.630	0.205	0.051
Diff (*p*-value)	0.016**	0.004***	0.000***	0.000***	0.026**	0.558	0.001***	0.925
RAUD	*INDE*	*DUAL*	*SIZE*	*DILI*	*AGE*	*SEN*	*LTDTA*	*PROF*
0	0.378	0.264	8.272	5.849	42.615	3.374	0.148	0.005
1	0.440	0.236	10.779	8.301	46.123	3.624	0.188	0.068
Diff (*p*-value)	0.004***	0.599	0.000***	0.000***	0.024**	0.176	0.027**	0.000***

Notes. This table shows the evolution of the average of the explanatory variables under the terms of the variables *FAUD* and *RAUD*. This variable is described: *FAUD* = 0 when it is below the mean value, and *FAUD* = 1 when it is above. *RAUD* is the auditor reputation that represents our second measure of audit quality that takes the values 0 or 1. Diff (*p*-value) is the *t*-test for the comparison of the means. *** Significant at 1%, ** significant at 5%.

Results show that audit quality measured by audit fees and auditor reputation improves with all variables except for *DUAL* variable. However, results seem significant only for four variables. The audit quality improves

with the increase of independent board members (*INDE*), with the size of the board (*SIZE*), with frequency of meetings (*DILI*) and with the age of the CFO (*AGE*). Next, we will try to confirm these findings using a multivariate analysis.

Empirical Results

Results from the audit fees regression appear in Table 4. They demonstrate a significant (at a 1% level) positive association between independence of the board and external audit quality confirming our first hypothesis and suggesting a complementary association between the proportion of independent directors on the board and external audit quality.

The results obtained from the audit firm reputation regression also confirm this finding. It can be thus established that the independent members of the board of directors look for a high quality of audit services to better protect their reputation and to protect the shareholders' interests. The independence of the board of directors has an impact on the external audit quality by influencing the choice of an auditor of great reputation and paying higher fees for a better control. Besides, the independent directors of boards of Belgian firms want to strengthen supervision to produce better financial statements in order to preserve their reputation. Board independence and external audit are two complementary control mechanisms. This thesis of complementarities is supported by Carcello et al. (2000) in the United States and by Hay et al. (2008) in New Zealand. Our results are also consistent with those of Piot (2005) for a sample of Canadian firms over the period 1998-1999, and with those obtained by Adjaoud, Mamoghli, and Siala (2008) in the same context over the period 2002-2004.

Table 4

Effect of Characteristics of the Board of Directors on External Audit Quality

Variables	Expected sign.	Mode 1 (*FAUD*)			Model 2 (*RAUD*)		
		Coef.	P > |z|	Sign. obtained	Coef.	P > |z|	Sign. obtained
INDE	(+)	3.061	0.000***	(+)	16.199	0.004***	(+)
DUAL	(+)	0.475	0.049**	(+)	26.551	0.999	0
SIZE	(+)	0.282	0.000***	(+)	0.717	0.007***	(+)
DILI	(-)	-0.000	0.964	0	0.146	0.285	0
AGE	(+)	0.028	0.025**	(+)	-0.026	0.607	0
SEN	(+)	-0.001	0.978	0	0.828	0.028**	(+)
LTDTA	(+)	0.209	0.697	0	-2.088	0.494	0
PROF	(+)	-0.629	0.115	0	1.604	0.405	0
β_0		7.688	0.000		-13.384	0.007	

Notes. + Denotes a positive relationship; - means a negative relationship; 0 indicates a non-significant relationship. *** Significant at 1%, ** significant at 5%, * significant at 10%.

Moreover, a positive and statistically significant impact of the size of the board on audit quality is found, confirming our third hypothesis of complementarities. Thus, the Belgian directors in a large board ask for a high quality of external audit by choosing a "Big four" firm and paying higher fees. This finding can be explained by the agency theory as a large board size can't work effectively and make difficult to find a consensus between members.

Concerning the dual structure of the board, the results reveal that the coefficient of *DUAL* variable is significant and positive with audit fees but not significant with auditor reputation variable. We can't conclude to the validation of our second hypothesis. This result corroborates those of Carcello et al. (2000) in the American

context, O'Sullivan (2000) in the British context, Salleh et al. (2006) in the Malaysian context and Adjaoud et al. (2008) in the Canadian one. This can be explained by the fact that, according to the descriptive statistics, only 24.46% of Belgian firms combine the functions of chairman and CEO.

Concerning diligence of board of directors, we find no statistically significant effect on audit quality. Our fourth hypothesis can't be validated. This result is consistent with those obtained by Yatim et al. (2006). They showed that the diligence of the board is not significantly associated with audit fees. The choice of the audit process results from the daily management of the company and therefore does not require an increase in the number of meetings of the board.

Coefficients related to *AGE* and *SEN* variables are positive and significant (at a 5% level) respectively in the model regressions (1) and (2). Age advancement or the seniority of the CFO may promote his positive entrenchment when asking for a high quality of external audit. CFO shows his willingness to properly manage the company in the interest of the shareholders. However, this result is not conclusive because of the lack of homogeneity of the effect of this variable in both regression models. The results for the control variables don't lead to any significant variable explaining the external audit quality.

Summary, Implications and Limitations

In this study, the relationship between the characteristics of the board of directors (independence, duality, size and diligence) and audit quality in Belgium (as measured by the audit fees and reputation of the firm Big/NBig) was examined.

Using a multiple regression model and a logistic regression model to analyze the various relationships, we found that the independence of the board is a significant indicator of audit fees and auditor reputation. As expected, a higher proportion of independent directors on board are associated with higher audit fees paid by Belgian companies and with the affiliation of audit firms to one of the "Big four". The results suggested also a positive relationship between the size of the board of directors and audit quality. However, we can't conclude to any significant relationship between external audit quality and the dual structure of the board, meetings frequency, the age of the CFO and his seniority because of the lack of homogeneity of the results between the two regression models.

The contribution of this research adds to the growing body of literature developing the relationship between corporate governance and the audit process. In addition, the results add to our current understanding of the impact of some characteristics of the board of directors on the audit quality in the Belgian context. While audit fees have been already the subject of several studies, to our knowledge, in Belgium, there is no study using governance mechanisms as explanatory variables of external audit quality. In addition, in this study, we expend previous researches that have mainly focused on the composition of the board of directors, including variables concerning its diligence and size.

However, this study has limitations. Our work considered two measures of audit quality. This research could be improved by providing a global index of external audit quality. In addition, other variables could be introduced, particularly those concerning firm activity sectors and its risk level. Finally, our study uses a quantitative approach without considering more qualitative factors, especially the level of real power of relations in the directors' board.

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