

The effect of social ties on audit fees



Radboud Universiteit Nijmegen

Master Thesis

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Date: 31-07-2017

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1. Introduction

The late 20th century was filled with accounting scandals; at least 58 large-scale accounting scandals have been confirmed since 1980 (Jones, 2011). This included the scandals that led to the two largest bankruptcies in U.S. history up to that point, namely those of WorldCom, Inc. and Enron Corporation. Both bankruptcies had widespread consequences, including the bankruptcy of Arthur Andersen, the certified public accounting firm once part of the 'Big Five', who were highly involved in the Enron scandal. They were accused and found guilty of lax application of accounting standards and assisting Enron in their off-balance sheet activities in order to blur actual results (Strohm, 2006), which rose questions concerning the independence of parties such as the external auditor and the audit committee.

Accounting scandals with the Enron scandal in particular led to the passing of the Sarbanes-Oxley Act (SOX) in 2002. This act includes legislation on the independence of the audit committee (U.S. Securities and Exchange Commission, 2002), with the purpose of improving oversight. An example of this is not allowing family or financial ties between independent audit committee members and senior management. A few years later, in 2006, the 8th Company Law Directive was passed in the European Union, which serves a similar purpose (Dagnew, 2008). However, independent audit committee members can still be connected to senior management in other ways. They may be connected through having attended the same university, having worked at the same company, through a non-professional network or they may serve on the same board of a different company. Such connections between audit committee members and senior management can affect the level of audit effort of the firm (Bruynseels & Cardinaels, 2014). This paper measures this level of audit effort through audit fees, as literature suggests that audit fees can be interpreted ambiguously; audit fees do not simply capture audit quality, but can also include other factors such as premia (DeFond & Zhang, 2014).

This paper explores the effect of different types of social ties on the audit fees that corporations pay. This effect is explored in order to determine whether and how different types of relationships between key members in the audit process affect audit fees, which could raise the question whether regulation on

this territory would be desirable. Therefore, the research question of this paper is:

What is the effect of social ties on audit fees?

Through answering the research question, this paper contributes to literature in economics and to society in multiple ways. In terms of academic contributions and scientific relevance, this paper provides empirical evidence on the relationship between social ties and audit fees. Audit fees is a widely used proxy when measuring audit quality as a whole, however, literature on the effect of social ties on audit fees contains ambiguity; weak monitoring suggests that the presence of social ties leads to lower audit fees due to lower levels of audit effort (Bruynseels & Cardinaels, 2014) whilst collusion theory suggests that the presence of social ties leads to higher audit fees as a result of premia (Hwang & Kim, 2009). This research provides empirical evidence on this relationship, which contributes to the understanding of the relationship between social ties and audit fees.

This research also contributes in terms of practical relevance. Firstly, empirical evidence on the relationship between social ties and audit fees can be useful for policy makers concerned with audit independence. Policy makers can consider the evidence presented in this paper in the debate on implementing stricter rules or guidelines concerning the permitting of certain ties between key members in the audit process. This can in turn improve audit independence, which should have a positive effect on audit quality, *ceteris paribus*. Secondly, the evidence presented in this paper can be useful to investors. Investors depend on the decision usefulness and reliability of financial information (Hodge, 2003), and the responsibility of the quality of financial information lies largely with the audit process. Evidence showing that ties between audit committee members and the CEO affects the audit process and thus audit quality can lead to legislation that controls for certain ties, improving the quality of financial information used by investors.

The rest of the paper is structured in the following manner. The first chapter contains a literature review covering the relevant literature on the

measurement of audit quality as well as the types of social ties and how these can possibly affect audit fees. Based on the literature review, hypotheses are formulated which assist in answering the research question. The second chapter covers the research method that was used to test the hypotheses. In the third chapter, the results of the research and the hypotheses are discussed. In the last chapter, the conclusion is given, in which an answer on the research question is formulated based on the results. Based on the findings, the scientific and societal relevance and contribution of this research are discussed and limitations of the research are mentioned. Moreover, recommendations for future research are also given.

2. Literature Review

The factors that influence audit quality is one of the most widely studied topics in accounting research. As audit quality is an intangible measure, quantitative studies tend to use proxies for the measurement of audit quality. One of these measures are the auditor-client contracting fees, better known as audit fees (DeFond & Zhang, 2014). Audit fees are a popular measure for audit quality for multiple reasons. Firstly, audit fees supposedly measure the effort level of the auditor, or time spent on the audit process, and should thus directly contribute to the quality of the overall audit (DeFond & Zhang, 2014). Secondly, because audit fees are continuous, small variations can more easily be captured, thus increasing the precision with which it captures the effect of external factors, such as social ties. Lastly, audit fees are also a relatively flexible proxy, as they can be measured in multiple ways: previous studies have investigated audit fees by cross comparing them directly or measuring the changes in fees over time (DeFond & Zhang, 2014).

A downside of using audit fees is that they might also reflect the presence of a risk premium, due to the risk of for example audit failure, which can possibly distort the price. Measuring the actual audit hours spent rather than the fees can solve this; however, this information has limited availability, making audit fees the best alternative proxy (Caramanis & Lennox, 2008; DeFond & Zhang, 2014).

Audit fees are thus assumed to measure the quality of the audit process. The audit committee plays a key role in the audit process, as members are expected to be impartial and thus ensure higher levels of integrity in the financial reporting process. The late 20th century showed multiple cases of accounting scandals that were partially a product of oversight failure (Jones, 2011). As a result, legislation such as the wide-encompassing SOX and the audit directives in Europe aim to improve oversight quality. One aspect of the legislation is that audit committees members have to be 'independent' from the company; this means that they are not allowed to have family ties with senior management nor any financial interest in the company (Bruynseels & Cardinaels, 2014; The European Parliament & The Council of the European Union, 2014). However, this legislation leaves ample room for audit committee members and senior management to be connected through other types of ties, for example through

previous education, work experience, non-professional activities and serving on the same board of a different company.

Post-SOX research has shown that excluding family-related and financial ties does not prevent top management from recruiting those with whom they share different types of ties. Research of Beasley et al. (2009) covers the interview-based selection procedure of audit committees amongst other things. Findings of this study are that a majority of interviewees were appointed on the basis of their financial and/or accounting background and expertise. However, approximately 40% of the audit committee nominees also stated that they have had, in their own view, 'significant' contact with senior management prior to being approached with the question whether they were interested to sit on the audit committee. Additionally, approximately 33% defined this contact as a 'personal tie', again, in their own view. Additional reasons for the nomination of certain interviewees were the fact that they had a connection to other board members. Other studies support the claim that CEOs have much influence on the appointment of board members and use this to appoint people with whom they share social ties (Westphal & Graebner, 2010).

The presence of social ties raises the question whether the audit committee members face a conflict of interests, namely that of transparency and integrity versus maintaining the relationship with their acquaintance. The conflict of interests that audit committee members with social ties face can cause individual members to be willing to take a more passive role in the governance process (J. R. Cohen, Krishnamoorthy, & Wright, 2008). This is in line with managerial hegemony theory (Hung, 1998), which suggests that management prefers directors who are less involved with the company; in some cases audit committees might even be merely ceremonial (Beasley et al., 2009). From this theory it can be derived that audit committee independence might be affected by the presence of social ties; senior managers might install an audit committee with acquaintances that are less critical of policy making. Additional evidence shows the quality of oversight increases if an audit committee has at least one member that has a financial and/or accounting background. However, this effect is largely reduced or even annulled if the CEO was involved in the selection process of this audit committee member (Carcello, Neal, Palmrose, & Scholz,

2011). Other side effects of these ties are relatively higher CEO compensation (Subramanyam, 2008), a higher chance of “engaging in financial misconduct” for certain type of ties (Chidambaran, Kedia, & Prabhala, 2010), a higher chance of making “value-destroying investments” (Fracassi & Tate, 2012) and an increased engagement in earnings management (Krishnan, Raman, Yang, & Yu, 2011).

Whilst much research suggests the negative influence of social ties on audit committee independence, some research highlights certain positive effects; these include higher returns announcement during mergers and acquisitions due to a higher demand for the advisory service of the whole board (Schmidt, 2015), and perhaps a more important factor, better information flows between actors (Gibbons, 2004). However, these positive effects are largely offset due to weakened monitoring of the firm (Schmidt, 2015), and thus still negatively affect independence. Therefore, this study will operate under the assumption of a negative relationship on independence.

Assuming that social ties negatively affect independence, how does this translate itself to affected audit fees? The first possibility is that the presence of social ties leads to lower audit fees. This would be the case if social ties lead to weaker monitoring by the audit committee. The audit committee might be more lenient and/or might overly trust the integrity of senior management, unconsciously or deliberately. This could result in a faster audit, which directly decreases the audit fees, and consequently negatively affects the audit quality; internal control is weakened (Bruynseels & Cardinaels, 2014). Multiple studies support this theory with empirical evidence, and audit fees is acclaimed as a relatively robust proxy for audit quality (Basioudis, 2007; Bruynseels & Cardinaels, 2014; DeFond & Zhang, 2014).

Alternatively, the presence of social ties can theoretically also lead to higher audit fees. As argued by DeFond & Zhang (2014), the downside of audit fees as a proxy is its multi-interpretability. Following collusion theory, audit fees can also increase based on social ties (Hwang & Kim, 2009); this can be the result of a premium to stimulate lenient reporting. This theory is also supported by empirical evidence, mostly using Asian markets as the sample (He, Pittman, Rui, & Wu, 2017; Kwon & Yi, 2012). Additionally, firms can also benefit from a higher audit fee directly by using it as a tax avoidance measure, where the external

auditor can play a large role in setting up a tax saving strategy, as can be the case when a social tie is present (Bianchi, Falsetta, Minutti-Meza, & Weisbrod, 2016). Despite these studies, most research still finds an inverse relationship between audit fees and social ties. This is especially considering the fact that a 'collusion premium' mostly benefits the external auditor and not the audit committee. Therefore, the expected effect of the social ties on audit fees will be an inverse relationship, which forms the basis of the first hypothesis:

H1: Social ties between members of the audit committee and the CEO are expected to negatively affect the fees paid for auditing services.

Past literature and empirical studies suggest that social ties and audit fees are inversely connected. However, different type of ties can still be distinguished. The type of network might directly influence the magnitude of its effect, as network connections are often used differently, depending on the goal (Saint-Charles & Mongeau, 2009).

Following Saint-Charles & Mongeau (2009) and Gibbons (2004), a first distinction can be made based on whether a member of senior management has ties based on a professional relationship or based on a non-professional relationship, i.e. an 'advice network' and an 'friendship network'. A friendship network is formed through a membership in clubs and societies (Carroll & Teo, 1996). An advice network is based on a professional level, with ties being based on expertise, i.e. based on work-related relationships and educational background (Bruynseels & Cardinaels, 2014), including the interlocking directorate relationship, following Johansen & Pettersson (2013), defined as overlapping board memberships.

Previous research suggests that the strength and intimacy of ties plays a large role in the capability of the CEO to exploit these ties, and the strength of the tie is partially based on the type. Firstly, the 'birds of a feather flock together' principle applies more to friendship networks than to advice networks; the ties created through a friendship network rather than through an advice network tend to be stronger, as friendship ties tend to be formed between people with similar demographic characteristics, which increases the strength of the tie

(Mcpherson, Smith-Lovin, & Cook, 2001). Another aspect that Gibbons (2004) finds is that sensitive issues are more easily discussed amongst friendship networks than amongst advice networks, because contacts from friendship networks will be more inclined to agree with the potentially controversial policies of senior management. Bruynseels & Cardinaels (2014) stated that senior managers tend to use their influence on the audit committee nomination process in order to ensure individuals from their own network are nominated, and preferably from their friendship network. In turn, this will increase their influence on the audit process through the committee. Lastly, the duration of the connections also suggests that friendship networks create stronger ties; communities which build a friendship network tend to be more long-lasting than a shared educational or work background (Mcpherson et al., 2001). This paper expects ties from a friendship network to have more influence on audit fees than ties from an advice network, as shown in the second hypothesis:

H2: The fees paid for auditing services are expected to decrease more for social ties based on friendship networks than for social ties based on advice networks.

However, another distinction is made within the ties based on advice networks, namely between professional/educational ties (based on past employment and schooling) and current interlocking directorates. Saint-Charles & Mongeau (2009) argue that advice networks are largely used when a lack of expertise or knowledge causes a problem, and 'experts' from the advice network are consulted, whereas a network based on interlocking directorates is used mostly for information flows and sharing thoughts that can impact decisions (Horton, Yuval, & Serafeim, 2009). This is in line with the notion of Carpenter & Westphal (2001), who argue that board colleagues consider one another trustworthy. This portrays the difference in the nature of contact between experts and fellow board members. The strength of the tie is also of importance; ties through interlocking directorates are based on regular contact between the connected individuals, whereas contact is usually only deliberately sought out in case of professional/educational ties. This builds on the same logic as Bruynseels

& Cardinaels (2014), where the strength of the tie is positively associated to the ease with which sensitive issues are discussed. Therefore, it is expected that advice ties based on interlocking directorates affect audit fees more strongly than advice ties based on previous professional/educational ties, which forms the third hypothesis:

H3: The fees paid for auditing services are expected to decrease more for advice ties based on current interlocking directorates than based on previous professional and educational ties.

3. Research method

The design that has been used to analyse the data is based on a standard OLS regression, following previous research that studied the effects of audit fee determinants (Chaney, Jeter, & Shivakumar, 2004; Craswell, Francis, & Taylor, 1995; Whisenant, Sankaraguruswamy, & Raghunandan, 2003). The model has the following estimation:

$$\begin{aligned} LOGFEE = & \beta_0 + \beta_1 * TIES_t + \beta_2 * LOGSIZE_t + \beta_3 * FOREIGN_t + \beta_4 \\ & * FAMILIAR_t + \beta_5 * LOSS_{t-1} + \beta_6 * TENURE_t + \beta_7 * CHAIR_t \\ & + \beta_8 * ACSIZE_t + \beta_9 * SIC_D_t + \varepsilon \end{aligned}$$

Where:

LOGFEE = the natural log of the audit fees at time t;

TIES = a categorical variable equal to 1 in case of the presence of a social tie and 0 otherwise; either all ties, friendship ties, advice ties, professional ties or interlock ties at time t;

LOGSIZE = the natural log of the total assets at time t;

FOREIGN = the ratio of foreign to total sales at time t;

FAMILIAR = a categorical variable equal to 0 if it is the first year the firm is audited by a specific firm, and 1 otherwise at time t;

LOSS = a categorical variable equal to 1 if the firm had a negative net income in the measured year, and 0 otherwise at time t-1;

TENURE = the number of years that the CEO has held their current position at time t;

CHAIR = a categorical variable equal to 1 if the CEO is the chairman of the board, and 0 otherwise at time t;

ACSIZE = the number of individuals in the audit committee at time t; and

SIC_D = dummy variables controlling for industry based on Standard Industrial Classification (SIC) codes at time t.

To test each hypothesis, the dependent variable is explained by different independent variables, namely the extent of different types of social ties between the CEO and the audit committee members. These five types all ties, which can be

divided into friendship ties and advice ties, where advice ties can be divided into professional ties and interlock ties.

Each independent variable will be measured using a categorical variable that determines whether at least one audit committee member has a certain type of tie to the CEO. Based on the literature and the hypotheses, it is expected that all dependent variables will negatively influence audit fees. This effect is expected to be stronger for friendship networks than for advice networks and stronger for interlocking directorate ties than for previous educational and company ties within advice networks.

The hypotheses all look at the effect of different independent variables, namely types of network ties, on the same dependent variable, namely audit fees. Therefore, only one dependent variable will be used for all hypotheses. Audit fees will be measured as a continuous variable, namely as the natural log of audit fees, following Chaney, Jeter & Shivakumar (2004), Craswell, Francis & Taylor (1995) and Whisenant, Sankaraguruswamy & Raghunandan (2003).

The control variables included in the regression are based on the findings of Chaney, Jeter & Shivakumar (2004), Craswell, Francis & Taylor (1995), Whisenant, Sankaraguruswamy, & Raghunandan (2003) and Bruynseels & Cardinaels (2014). These are variables based on company size, foreign activity, auditor familiarity, profitability, audit committee effectiveness and CEO power. In terms of measurement, company size is measured as the natural log of total assets. Foreign operations is measured as a continuous variable, namely as a ratio of foreign sales to total sales. Both the total assets and the ratio of foreign sales respectively are measures of size and complexity, hence should increase the time required for the audit, which in turn increases the audit fees. Size and complexity are widely-used measures in audit-fee studies (Hay, Knechel, & Wong, 2006; Simunic, 1980).

Auditor familiarity is measured as categorical variable indicating whether it is the auditor his first year of dealings with the firm (1 if longer than one year, 0 if first year). If the audit company is unfamiliar with the firm, the audit process is assumed to be more time consuming, thus increasing the audit fees in the first years compared to subsequent years. However, conflicting evidence from Bedard & Johnstone (2010) suggests that an increasing audit tenure also increases fees,

which they attributed to the building of an auditor-client relationship. However, they also do find a higher audit effort in the first year. Therefore, it is assumed that audit fees will be higher in the first year of engagement.

A lack of profitability of the company is measured by determining whether the firm made a loss in the previous year using a categorical variable (0 if the firm made a profit or evened out, 1 if the firm made a loss). It is assumed that profitable firms pay more audit fees; Joshi And Al-Bastaki (2000) argue that profitable firms require more accurate testing of revenues and expenses, which results in an increase in audit time.

The industry of the firm is also controlled for; different industries can require different specialisations from the auditor because different accounting policies apply, and thus require special audit work (Kikhia, 2015). Adding dummy variables for each industry based on SIC codes controls for the industry.

Audit committee effectiveness is measured using a continuous variable of the size of the audit committee and CEO power is measured using two variables, namely CEO tenure (the number of years the CEO has held his current position) and whether the CEO is the chairman of the board (Fredrickson, Hambrick, & Baumrin, 1988). These measures respectively control for the strength of the board, where stronger boards are assumed to demand higher audit standards and thus more time spent and higher audit fees, and for the influence that the CEO has on the audit process, where a CEO with more influence affects the quality of the audit process. However, whether an influential CEO tends to increase or decrease the audit fees is as of yet inconclusive.

Sample

The sample that is used to test the hypotheses is a set of companies listed on the London Stock Exchange. More specifically, this set consists of all companies who make up the Financial Times Stock Exchange 100 Index, also known as the FTSE 100, measured at company level. This study uses a sample from one of the European stock markets as many similar studies have already successfully applied similar models on audit fees and audit quality in different markets, such as the U.S. and the Australian market (Beasley et al., 2009; Bruynseels & Cardinaels, 2014; Craswell et al., 1995). This does add a limitation

to the study in terms of generalizability, although narrowing the sample to a country-level study also has the advantage of not having to control for the country of the firm.

In terms of the year that will be studied, it is important to take one of the most recent years for which the data is available. Therefore, this research will study data from the year 2015. This is in order to ensure that the data reflects the most recent corporate governance standards, especially considering the fact that corporate governance went through major improvements in the early 21st century. Additionally, this year will also minimally be affected by adverse macroeconomic circumstances, such as a higher influence of the financial crisis of 2008 (Office for National Statistics, 2017) if more dated data is studied and the impact of the Brexit vote if more recent data is studied (Dhingra, Ottaviano, Sampson, & Van Reenen, 2016).

	Mean	Variance	Std. Dev.	Min	Max
ALLTIES	0.1847826	0.1522934	0.3902478	0	1
FRIEND	0.0869565	0.0802676	0.2833153	0	1
ADVICE	0.1086957	0.0979455	0.3129625	0	1
PROFESSIONAL	0.0978261	0.089226	0.2987072	0	1
INTERLOCK	0.0108696	0.0108696	0.1042572	0	1
LOGFEE	15.06944	1.849469	1.359952	12.29683	18.17988
LOGSIZE	16.60137	2.817078	1.678415	13.38057	21.21163
FOREIGN	0.5349433	0.1434322	0.3787244	0	1
LOSS	0.1521739	0.1304348	0.3611576	0	1
TENURE	4.923913	37.58755	6.130869	0	32
CHAIR	0.119562	0.1064262	0.3262303	0	1
ACSIZE	5.163043	2.269828	1.506595	3	10
FAMILIAR	0.8804348	0.1064262	0.3262303	0	1

Table 1: Mean, variance, standard deviation and minimum and maximum values

The following tables provide descriptive statistics on the sample. These statistics are based on the 89 firms used in the cross-section analysis, the number of firms that remained after the elimination of certain firms due to the

lack of availability of information. Table 1 above shows the mean values, the variance, the standard deviation and minimum and maximum values. Table 2 below shows the correlation values between all independent / control variables. The correlations of interest are those under the control variables heading; correlation between independent variables is irrelevant, as two independent variables are never used in a single analysis.

	<i>ALLTIES</i>	<i>FRIEND</i>	<i>ADVICE</i>	<i>PROFESSIONAL</i>	<i>INTERLOCK</i>	<i>LOGSIZE</i>
<i>Indep. variables</i>						
ALLTIES	1					
FRIEND	0.6717	1				
ADVICE	0.7169	0.26	1			
PROFESSIONAL	0.6717	0.396	0.937	1		
INTERLOCK	0.228	-0.0331	0.318	-0.0331	1	
<i>Control variables</i>						
LOGSIZE	-0.0104	-0.1132	0.0811	0.0068	0.2136	1
FOREIGN	-0.056	-0.0376	-0.0883	-0.0797	-0.0364	-0.0298
LOSS	0.041	-0.0263	0.0613	0.0814	-0.0455	0.2493
TENURE	0.2171	0.3304	-0.0489	-0.0578	0.0171	-0.1808
CHAIR	0.0039	0.0026	-0.0113	0.0026	-0.0396	0.0277
ACSIZE	-0.0163	-0.0885	0.0589	0.0667	-0.0125	0.0964
FAMILIAR	0.0719	-0.0138	0.1179	0.1104	0.0375	-0.0269
	<i>FOREIGN</i>	<i>LOSS</i>	<i>TENURE</i>	<i>CHAIR</i>	<i>ACSIZE</i>	<i>FAMILIAR</i>
FOREIGN	1					
LOSS	0.0582	1				
TENURE	0.0144	-0.0857	1			
CHAIR	-0.013	0.027	-0.0726	1		
ACSIZE	0.1307	-0.0099	-0.0314	-0.1113	1	
FAMILIAR	0.0345	0.0542	0.0583	-0.084	0.065	1

Table 2: Correlation between independent and control variables

Lastly, Table 3 below shows the industry distribution. It shows the amount and percentage of firms in the sample that belong to a certain industry. They were categorised based on the SIC division structure¹.

<u>SIC Code</u>	<u>Frequency</u>	<u>Percentage</u>
A: Agriculture, Forestry, And Fishing	0	0%
B: Mining	7	7.61%
C: Construction	3	3.26%
D: Manufacturing	26	28.26%
E: Transportation, Communications, Electric, Gas, And Sanitary Services	12	13.04%
F: Wholesale Trade	1	1.09%
G: Retail Trade	11	11.96%
H: Finance, Insurance, And Real Estate	23	25%
I: Services	9	9.78%
J: Public Administration	0	0%

Table 3: Distribution of sample by industry based on SIC codes.

The data on CEO-audit committee ties originates from the BoardEx database. The BoardEx database includes a wide array of data, which observes connections based on whole companies, individual directors, previous and current ties and the basis for the connection, such as previous employment, education and non-professional activities. For data on audit fees, the database Thomson Reuters Eikon is used, a database with mostly financial information on a wide range of companies and thus also on audit fees. Data for the control variables originates from both databases as well.

¹ Retrieved on 06-07-2017 from https://www.osha.gov/pls/imis/sic_manual.html

4. Empirical Results

Table 4 below shows the results of the regression model used to test the first hypothesis, namely whether the presence of any type of social tie between members of the audit committee and the CEO result in lower audit fees. The results of the regression show a coefficient that is consistent with H1; however, the standard error is too high for the coefficient to be a reliable estimate. As for the control variables, most signs are in line with what is expected based on previous similar research; the log assets of the company (LOGSIZE), the ratio of foreign sales (FOREIGN) and the size of the audit committee (ACSIZE) positively affect log audit fees as expected, whereas whether it is the first year of the audit firm (FAMILIAR) negatively affects audit fees. The profitability of the company

	Expected Sign	Coefficient²	Standard Error
ALLTIES	-	-0.238	0.186
LOGSIZE	+	0.637***	0.050
FOREIGN	+	1.041***	0.263
LOSS	-	0.056	0.260
TENURE	?	0.006	0.012
CHAIR	?	0.074	0.209
ACSIZE	+	0.066	0.046
FAMILIAR	-	-0.091	0.218
CONSTANT		3.498***	0.892
R-SQ		0.826	
Adj. R-SQ		0.791	

Number of observations: 89

Industry Controls: Yes

Table 4: Regression model for all ties (Dependent Variable = LOGFEE)

(LOSS) has an unexpected positive coefficient, but has a high standard error. As the discussed literature does not suggest any theoretical reason as to why low profitability would lead to higher audit fees, this coefficient is inconclusive in

² For all regression tables: *= $p < 0.10$, **= $p < 0.05$, ***= $p < 0.01$

showing any relationship. As for CEO power (TENURE and CHAIR), a positive effect is found. However, the low coefficient of TENURE might indicate either an overestimation of CEO power on audit fees or, as literature suggests, that CEO power can both be used for positively and negatively influencing audit fees.

	<u>Expected Sign</u>	<u>Coefficient</u>	<u>Standard Error</u>
FRIEND	-	0.391	0.258
LOGSIZE	+	0.647***	0.051
FOREIGN	+	1.074***	0.262
LOSS	-	0.113	0.257
TENURE	?	-0.003	0.012
CHAIR	?	0.041	0.208
ACSIZE	+	0.072	0.046
FAMILIAR	-	-0.102	0.216
CONSTANT		3.321***	0.896
R-SQ		0.828	
Adj. R-SQ		0.792	

Number of observations: 89

Industry Controls: Yes

Table 5: Regression model for friendship ties (Dependent Variable = LOGFEE)

Tables 5 and 6 show the results of the regression models used to test the second hypothesis, namely whether the presence of friendship ties between members of the audit committee and the CEO negatively affect audit fees more strongly than advice ties. The results of the regressions show that advice ties negatively affect audit fees (ADVICE, $p < 0.05$), which is line with expectations, whereas friendship ties go against expectations, as the results show friendship ties positively affect audit fees. However, results for friendship ties are not significant and thus inconclusive. In terms of the hypothesis, this result is inconsistent with H2; advice ties have a stronger effect on audit fees than friendship ties, and friendship ties have a *positive* effect on audit fees. There are different possible explanations of this unexpected effect. Firstly, the presence of

	<u>Expected Sign</u>	<u>Coefficient</u>	<u>Standard Error</u>
ADVICE	-	-0.518**	0.221
LOGSIZE	+	0.643***	0.049
FOREIGN	+	1.026***	0.257
LOSS	-	0.039	0.253
TENURE	?	0.002	0.011
CHAIR	?	0.068	0.204
ACSIZE	+	0.072	0.045
FAMILIAR	-	-0.046	0.213
CONSTANT		3.379***	0.871
R-SQ		0.835	
Adj. R-SQ		0.801	

Number of observations: 89

Industry Controls: Yes

Table 6: Regression model for advice ties (Dependent variable = LOGFEE)

friendship ties improve communication between parties (L. Cohen, Frazzini, & Malloy, 2010). This might result in the demand for higher audit standards by the audit committee to which the CEO is more inclined to agree due to the friendship tie. Secondly, audit committee members who have a friendship tie with the CEO might be more inclined to demand higher audit standards in order to prevent that he/she personally or the committee is viewed as lax or lenient. This compensating effect might also be applied to auditor-client disputes; the audit committee might be more inclined to side with the auditor in order to protect their personal integrity or that of the committee.

The results of the regression analysis that concerns advice ties tell us that the average firm with an advice tie between an audit committee member and the CEO present will pay -.51 log audit fees less than an average firm without an advice tie present. Referring back to table 1, the mean log fees in the sample and thus average firm log fees are 15.06944; this means that an average firm with an advice tie would have log fees of 14.5510362, which effectively is an average difference of £1,417,506.54 as a result of the tie.

In terms of the control variables, the profitability of the firm (LOSS) again shows positive coefficients in both regressions, yet still inconclusive. Moreover, the variable TENURE measuring CEO power is a negative coefficient in the regression measuring friendship ties. This supports the notion that CEO power might not exclusively positively or negatively influence on audit fees.

	Expected Sign	Coefficient	Standard Error
PROFESSIONAL	-	-0.284	0.237
LOGSIZE	+	0.637***	0.050
FOREIGN	+	1.035***	0.264
LOSS	-	0.070	0.259
TENURE	?	0.002	0.012
CHAIR	?	0.067	0.209
ACSIZE	+	0.070	0.046
FAMILIAR	-	-0.081	0.219
CONSTANT		3.497***	0.894
R-SQ		0.826	
Adj. R-SQ		0.790	

Number of observations: 89

Industry Controls: Yes

Table 7: Regression model for professional ties (Dependent variable = LOGFEE)

Tables 7 and 8 show the results of the regression models used to test the third and last hypothesis, namely whether the presence of interlock ties between members of the audit committee and the CEO negatively affect audit fees more strongly than professional ties. The results of the regression show that the coefficients for both PROFESSIONAL and INTERLOCK ties are negative, which is the expected effect. The results are consistent with H3; the effect of interlock ties on audit fees is higher than the effect of professional ties. However, the coefficient of professional ties is not statistically significant.

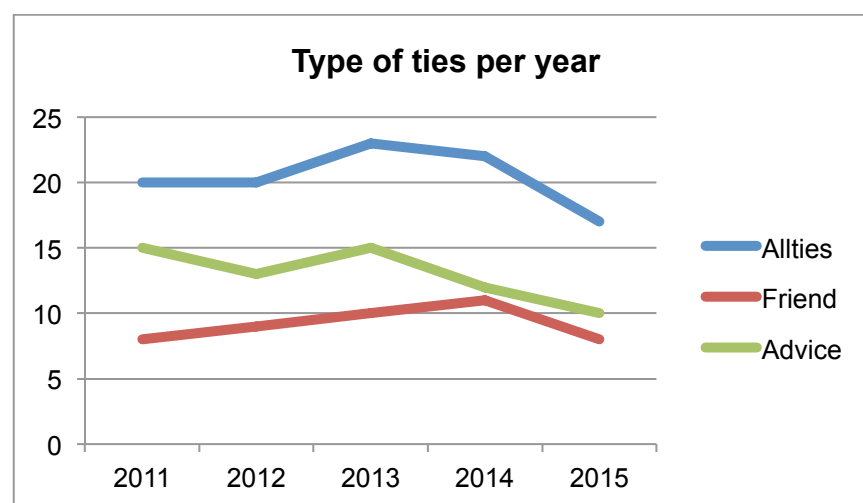
	Expected Sign	Coefficient	Standard Error
INTERLOCK	-	-2.126***	0.608
LOGSIZE	+	0.668***	0.048
FOREIGN	+	1.089***	0.246
LOSS	-	0.036	0.242
TENURE	?	0.005	0.011
CHAIR	?	0.030	0.196
ACSIZE	+	0.061	0.043
FAMILIAR	-	-0.083	0.203
CONSTANT		2.998***	0.847
R-SQ		0.848	
Adj. R-SQ		0.817	

Number of observations: 89

Industry Controls: Yes

Table 8: Regression model for interlock ties (Dependent variable = LOGFEE)

Based on the findings using this sample, only consistent significant results are found for H3. In order to increase the robustness of the results, a secondary analysis using a broadened sample can be found below. This analysis is a panel analysis using the same firms but over a period of five years (2011-2015). The choice for a panel analysis is because of the movement of the ties per year, as is shown in Graph 1 below. Given that certain firms thus do not have the same



Graph 1: Type of ties per year

amount of ties in each of these years, the effect of these ties on the audit fees will be better captured by not only cross-comparing firms but also comparing the same firm over time. The model used for this analysis is a pooled OLS model; each regression passes the F-test at $p < 0.01$ indicating equal variances, and industry and year dummies are included to capture any heterogeneity. The estimation can be found in Appendix 1. Two tables providing the descriptive statistics on the second sample can be found in Appendix 2. These statistics are based on the same firms used in the cross section analysis, but broadened to a panel analysis for the years 2011-2015. Comparing these statistics to the initial shows little difference; the values make little movements at most and all relevant correlations are < 0.3 .

	<u>Expected Sign</u>	<u>Coefficient</u>	<u>Standard Error</u>
ALLTIES	-	-0.018	0.083
LOGSIZE	+	0.662***	0.025
FOREIGN	+	1.012***	0.125
LOSS	-	0.192	0.134
TENURE	?	0.008	0.006
CHAIR	?	0.053	0.097
ACSIZE	+	0.024	0.022
FAMILIAR	-	0.088	0.153
CONSTANT		3.041***	0.436
R-SQ		0.828	
Adj. R-SQ		0.819	

Number of observations: 355

Industry Controls: Yes

Year Controls: Yes

Table 9: Regression model for all ties (Dependent variable = LOGFEE)

Table 9 above shows the results of the regression model used to test the first hypothesis, namely whether the presence of any type of social tie between members of the audit committee and the CEO result in lower audit fees. The results are similar to those of the cross section analysis; the coefficient

measuring social ties is barely negative and largely insignificant. A possible explanation for this can be found in Tables 10 and 11 and by using the findings in the cross section analysis. As shown in Table 10, a positive coefficient for friendship ties on audit fees is found also in the second sample, only this time it is largely significant, whereas the effect of advice ties is negative, as shown in Table 11.

	<u>Expected Sign</u>	<u>Coefficient</u>	<u>Standard Error</u>
FRIEND	+	0.364***	0.113
LOGSIZE	+	0.667***	0.024
FOREIGN	+	1.021***	0.124
LOSS	-	0.212	0.131
TENURE	?	0.004	0.006
CHAIR	?	0.020	0.094
ACSIZE	+	0.020	0.021
FAMILIAR	-	0.066	0.150
CONSTANT		3.006***	0.429
R-SQ		0.833	
Adj. R-SQ		0.825	

Number of observations: 355

Industry Controls: Yes

Year Controls: Yes

Table 10: Regression model for friendship ties (Dependent variable = LOGFEE)

The independent variable ALLTIES is based on the variables FRIEND and ADVICE, which have opposite coefficients. This could explain the insignificant results for ALLTIES; since the two ties do not have the same effect, the model cannot reliably estimate a single coefficient for all ties. This means that H1 has to be rejected; it cannot be said with enough confidence that ties generally have a negative effect on audit fees. These results also affect H2; given that the results indicate a positive effect of friendship ties on audit fees, the hypothesis has to be rejected.

	<u>Expected Sign</u>	<u>Coefficient</u>	<u>Standard Error</u>
ADVICE	-	-0.212**	0.097
LOGSIZE	+	0.663***	0.024
FOREIGN	+	1.013***	0.125
LOSS	-	0.168	0.133
TENURE	?	0.007	0.006
CHAIR	?	0.071	0.095
ACSIZE	+	0.024	0.021
FAMILIAR	-	0.102	0.152
CONSTANT		3.031***	0.433
R-SQ		0.831	
Adj. R-SQ		0.822	

Number of observations: 355

Industry Controls: Yes

Year Controls: Yes

Table 11: Regression model for advice ties (Dependent variable = LOGFEE)

For the last hypothesis, the cross section analysis found evidence in favour of H3, namely that ties based on interlocking directorates inversely affect audit fees more strongly than ties based on previous work or education. Evidence from the panel analysis further supports this notion as can be seen in Table 12 and 13; the coefficient for INTERLOCK is larger and significant when compared to the coefficient of PROFESSIONAL. It is worth noting however that the coefficient size for interlock has shrunk with approximately 34% when compared to the cross section analysis.

As for the control variables, the coefficients for the variable LOSS remain positive contrary to the theoretical expectation; while the literature suggests that a loss would result in lower audit fees, this paper finds that a weaker financial performance by the firm measured in terms of losses results in higher audit fees. However, since the coefficients for LOSS are all not significant and no theoretical explanation can be found, no hard conclusions can be drawn on the basis of these findings. As for CEO power measured through TENURE and CHAIR, the coefficients hover around zero which can be the result of CEO power being

	<u>Expected Sign</u>	<u>Coefficient</u>	<u>Standard Error</u>
PROFESSIONAL	-	-0.084	0.101
LOGSIZE	+	0.662***	0.025
FOREIGN	+	1.011***	0.125
LOSS	-	0.187	0.134
TENURE	?	0.007	0.006
CHAIR	?	0.058	0.096
ACSIZE	+	0.024	0.022
FAMILIAR	-	0.096	0.153
CONSTANT		3.045***	0.435
R-SQ		0.829	
Adj. R-SQ		0.820	

Number of observations: 355

Industry Controls: Yes

Year Controls: Yes

Table 12: Regression model for professional ties (Dependent variable = LOGFEE)

	<u>Expected Sign</u>	<u>Coefficient</u>	<u>Standard Error</u>
INTERLOCK	-	-1.396***	0.307
LOGSIZE	+	0.674***	0.024
FOREIGN	+	1.038***	0.122
LOSS	-	0.143	0.130
TENURE	?	0.008	0.006
CHAIR	?	0.059	0.093
ACSIZE	+	0.020	0.021
FAMILIAR	-	0.023	0.149
CONSTANT		2.926***	0.424
R-SQ		0.838	
Adj. R-SQ		0.830	

Number of observations: 355

Industry Controls: Yes

Year Controls: Yes

Table 13: Regression model for interlock ties (Dependent variable = LOGFEE)

used both for positive and negative influence on audit fees in different cases. Lastly, the familiarity of the audit firm with the company measured through FAMILIAR also shows positive coefficients contrary to the results in the cross-section analysis. The non-significance of this variable can be the result of the fact that theoretically, familiarity can both positively and negatively affect audit fees, and thus cannot be captured through the estimation of a linear model.

5. Conclusion

In the early 21st century, regulation was introduced to ensure an increase in audit quality. This was partly achieved by setting a higher independence standard for the audit committee by not allowing certain types of ties. However, current legislation does allow audit committee members to be connected to the CEO, such as through non-professional activities, previous education, work experience and interlocking directorate networks. Literature and previous research argues that the ties between CEOs and audit committee members can affect the independence of the committee and consequently the quality of the audit process. This paper builds on this topic by offering empirical evidence on the effect of different types of social ties on audit fees using cross section and panel analyses on a sample of firms operating in the United Kingdom.

Firstly, the findings show that the presence of social ties may affect the independence of the audit committee, which consequently affects the audit quality. Secondly, to what extent the audit quality is affected depends on the type of social tie; the findings suggest that friendship-based ties affect audit quality positively whereas advice-based ties affect audit quality negatively. A possible explanation for the positive effect of friendship ties on audit quality may come from stronger communication between the CEO and the connected member or a stronger commitment from the member to ensure that audit quality is high in order to protect the integrity of the board. Thirdly, the opposite effects of friendship and advice ties may also be the reason no effect is observed for ties in general. Lastly, when further breaking down advice ties, a negative effect of ties based on interlocking directorates is observed whereas no significant effect is found for ties based on previous education or employment. The strong effect of ties based on interlocking directorates may indicate that connections based on current contact increase the strength and thus effect of the tie.

The results illustrate that audit committees can have members that are independent by definition, but may still affect audit quality as a result of a social tie with the CEO. Evidence that different types of social ties affect audit quality is useful to legislators and investors as both rely on audit quality for decision- and policy-making. An important scientific finding of this paper is empirical evidence that supports the notion of a positive effect of friendship ties on audit fees,

especially given the fact that other papers have presented contrary evidence (Bruynseels & Cardinaels, 2014). Moreover, this paper successfully includes interlocking directorates as a category. Its results can be seen as a further illustration of the importance of the type of tie when considering the effect of the presence of social ties on audit fees.

This paper focuses on specific aspects that leave room for potential further research in this area. The social ties discussed in this paper are between CEOs and audit committee members. Other roles that can be researched are different members of senior management and the audit committee or between senior management and the external auditor. The inclusion of the external auditor can be of particular interest as risk premia may play a larger role than in case of the audit committee (Hwang & Kim, 2009). Furthermore, this paper only uses audit fees to measure audit quality; future studies can use other proxies as well to see if the results hold. Other examples of proxies for audit quality are discretionary accruals, earnings restatements, going concern opinions and whether the auditor is a “Big N auditor” (DeFond & Zhang, 2014). In terms of the sample, this study aims to differentiate itself by focusing on a European country; many audit fee studies use samples with U.S. firms. Future research can possibly expand by doing a cross-country analysis. Future research can play an important role in finding more evidence on how different types of social ties between key actors in the audit process affects its effectiveness.

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7. Appendix

Appendix 1: Estimation of model second sample

$$\begin{aligned} LOGFEE = & \beta_0 + \beta_1 * TIES_{i,t} + \beta_2 * LOGSIZE_{i,t} + \beta_3 * FOREIGN_{i,t} + \beta_4 \\ & * FAMILIAR_{i,t} + \beta_5 * LOSS_{i,t-1} + \beta_6 * TENURE_{i,t} + \beta_7 \\ & * CHAIR_{i,t} + \beta_8 * ACSIZE_{i,t} + \beta_9 * SIC_{D,i,t} + \beta_{10} * YEAR_{i,t} + \varepsilon_{i,t} \end{aligned}$$

Where:

LOGFEE = the natural log of the audit fees at time t;

TIES = a dummy variable equal to 1 in case of the presence of a social tie and 0 otherwise; either all ties, friendship ties, advice ties, professional ties or interlock ties at time t;

LOGSIZE = the natural log of the total assets at time t;

FOREIGN = the ratio of foreign to total sales at time t;

FAMILIAR = a dummy variable equal to 0 if it is the first year the firm is audited by a specific firm, and 1 otherwise at time t;

LOSS = a dummy variable equal to 1 if the firm had a negative net income in the measured year, and 0 otherwise at time t-1;

TENURE = the number of years that the CEO has held their current position at time t;

CHAIR = a dummy variable equal to 1 if the CEO is the chairman of the board, and 0 otherwise at time t;

ACSIZE = the number of individuals in the audit committee at time t;

SIC_D = dummy variables controlling for industry based on Standard Industrial Classification (SIC) codes at time t; and

YEAR = dummy variables controlling for year.

Appendix 2: Descriptive statistics second sample

	Mean	Variance	Std. Dev.	Min	Max
ALLTIES	0.2256637	0.1751271	0.4184818	0	1
FRIEND	0.1017699	0.0916155	0.3026805	0	1
ADVICE	0.1438053	0.1233983	0.351281	0	1
PROFESSIONAL	0.1327434	0.1153778	0.3396731	0	1
INTERLOCK	0.0110619	0.0109638	0.1047083	0	1
LOGFEE	14.93019	2.10951	1.452415	11.51293	18.17988
LOGSIZE	16.4823	3.029353	1.740504	12.64106	21.24595
FOREIGN	0.5305383	0.1406206	0.3749942	0	1
LOSS	0.0884956	0.080843	0.284329	0	1
TENURE	5.037611	32.90102	5.735941	0	32
CHAIR	0.1526549	0.1296382	0.360053	0	1
ACSIZE	5.247788	2.528266	1.590052	2	11
FAMILIAR	0.9557522	0.0423837	0.205873	0	1

	<i>ALLTIES</i>	<i>FRIEND</i>	<i>ADVICE</i>	<i>PROFESSIONAL</i>	<i>INTERLOCK</i>	<i>LOGSIZE</i>
<i>Indep. variables</i>						
ALLTIES	1					
FRIEND	0.6312	1				
ADVICE	0.7547	0.0538	1			
PROFESSIONAL	0.7195	0.0670	0.9533	1		
INTERLOCK	0.1982	-0.0359	0.2627	-0.0409	1	
<i>Control variables</i>						
LOGSIZE	0.0683	0.0078	0.0464	0.0036	0.1420	1
FOREIGN	-0.0053	-0.0362	0.0137	0.0011	0.0421	0.0642
LOSS	0.0017	-0.0541	0.0312	0.0194	0.0413	0.2773
TENURE	0.1059	0.2010	-0.0358	-0.0356	-0.0049	-0.2098
CHAIR	0.1430	0.0393	0.1301	0.1121	0.0725	0.1018
ACSIZE	0.0346	0.0629	-0.0225	-0.0098	-0.0432	0.2096
FAMILIAR	0.0327	0.0345	0.0212	0.0480	-0.0831	-0.0216
		LOSS	TENURE	CHAIR	ACSIZE	FAMILIAR

	FOREIGN						
FOREIGN	1						
LOSS	0.0388	1					
TENURE	0.0078	-0.0853	1				
CHAIR	-0.0093	0.0835	-0.0758	1			
ACSIZE	0.0718	0.0595	0.0266	0.0114	1		
FAMILIAR	0.0462	-0.0508	0.0197	0.0282	0.0396	1	