

Master thesis

The impact of social ties and gender diversity on earnings
quality



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Abstract:

This research investigates the influence of social ties between the CEOs and board members and the gender of these CEOs on the quality of the earnings, measured by earnings management. Several accounting scandals in the last years have increased the scrutiny on financial reporting and have highlighted the importance of good corporate governance. In order to reduce agency conflicts, the board should be independent and diversified. Social ties could impair the independence, although the prior literature fails to deliver conclusive results. This study expects a negative relation between socially connected CEOs and earnings quality. Gender diversity is also a heavily discussed topic in a business setting. The general belief is that women are more ethical at the workplace, suggesting that they engage in less earnings management and therefore higher earnings quality. A sample of 99 UK listed firms, comprising 198 observations covering the period of two years (2015 and 2016) is used to test the hypothesis. Although no significant results were found, which indicates no relation between social connectedness, gender and quality of the reported earnings, the study is important in advancing the knowledge about social ties and gender in earnings management.

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1. Introduction

In the last years the world experienced a bunch of scandals due to financial frauds and accounts manipulation. Managers fooled financial information users and legislators through improper earnings representation. In this regard, investors and shareholders lost trust in the credibility of financial reports. In the aftermath of the scandals, regulators have shown an increased interest towards the CEO due to their primary responsibility of financial reporting and final oversight authority of the company. However, flexibility in accounting standards allows managers to exercise discretion over reported earnings. In attempt to maximize firm's value they may deceive investors, which leads to too optimistic expectations about future returns. Managers' interests might be not in line with the interests of the shareholders. New regulations, such as Sarbanes-Oxley Act (SOX), were introduced to improve reporting quality and to restrain the management from behaving opportunistically.

SOX required separation between ownership and control and greater independence between the parties of a company. The boards of directors play an important role in corporate governance and are considered as the main mechanisms within firms to reduce agency conflicts. Many countries adopted similar guidelines regarding board independence. Major entities, for instance, the Securities Exchange Commission (SEC) in the USA or Cadbury Committee in UK, define the strength of governance by the degree of independence and view it as effective and desirable. The board chooses the CEOs, and quite often they are even hired as chairmen. However, board members and managers can be connected in various ways. They could have graduated from the same university (educational ties), shared previous work experience (employment ties) or shared activities outside of the professional network (friendship ties). Top managers are not allowed to have formal ties. Indeed, in the corporate governance codes nothing is mentioned about friendship ties. They may, therefore, undermine the ability of a director to control and question the CEO's attempt to manage earnings. Literature fails to deliver conclusive results on the topic. On the one hand, studies cannot find any significant relationship between social ties and firm performance (Bhagat & Black, 2001; Beasley et al. 2009). On the other hand, from an agency perspective the board should be independent from management in order to exercise control more effectively. The study of Bruynseels and Cardinaels (2013) shows a negative relation between social ties and oversight quality for US-listed companies. They claim that better monitoring and lower information asymmetry facilitate better earnings quality.

Another determinant of good corporate governance is board diversity. A board, which aims to be effective in its tasks should be composed of people from different race, gender, experience and age. The focus of this study is on gender, as the enhanced social and economic status of women has generated significant interest about their role in the upper teams within an organization. Numerous researchers have been attracted by the issue of gender equality. I explore gender diversity, the presence of women and how their connections influence earnings quality. Multiple variables affect individual behavior and gender is thereby one of the most fundamental ways that people have been categorized. The gender perspective is important because it enables an explanation of potential psychological differences between male and female top managers in their business connections. A number of studies have reported different results. A general belief is that women are more principled at the workplace and less likely to engage in unethical behavior to gain financial rewards. Since earnings management is seen as an “ethical issue” according to Bruns and Merchant (1990), the expectation is less manipulation of earnings when women are involved. Gender diversity is increasingly approached as a value-driver in organizational strategy and corporate governance, because women have a “feeling cognitive style” (Krishnan & Park, 2005). On the contrary, researches conducted in Indonesia, China, France, the Netherlands and Denmark show no significant relation between gender and quality or firm performance.

In light of all differing perspectives, the aim of this article is to *assess the effect of social ties between CEO and board of directors on earnings quality of the firm by examining how social connections between males and females differ.*

This study contributes to the literature in several ways. First, prior research (Krishnan & Raman, 2011) investigates the effect of social ties on earnings management, but does not focus on how ties between men and women differ. Other studies (Arun & Almahrog, 2015; Krishnan & Parsons, 2008) deal with the effect of gender on earnings quality. Our paper is related to an emerging literature that examines how personal characteristics of CEOs affect financial reporting practices. It will be the matching point, incorporating gender in social ties setting. The UK was chosen, because it claims to have a relative higher score in the gender equality scale. Firms can use the results to improve their financial reporting quality. Second, the findings are important for investors, shareholders, legislators and publicity. It is relevant for investors to be aware of the management’s possible practices to report earnings. Regulators, standard setters, investors, and other users of accounting information are interested in

mechanisms which managers use to manage and report earnings. The general public shows great interest whether the gender equality on the top levels of an organization is kept. Moreover, users should also enhance their knowledge in how the people within the company are connected with each other. Lastly, due to the increased scrutiny regulators should take into account social ties, when defining an independent director and designing reforms for corporate governance.

In order to contribute to the scientific debate on determinants of earnings quality, the study considers the interaction effect between interlock ties and gender. Using a sample of 99 UK listed firms, comprising 198 observations covering the period of two years - 2015 and 2016, the results show no significant relationship between CEO-board ties, the gender of the CEO and earnings quality.

The remainder of this paper is structured as follows. Chapter 2 elaborates on the related literature and develops the hypotheses on the link between social ties, gender and earnings quality. Chapter 3 is concerned with the data, the research method and the explanation of the variables. Chapter 4 presents the empirical results. Finally, in Chapter 5 I draw conclusions, discuss the limitations of the study and give ideas and suggestions for further research.

2. Literature review and hypotheses development

2.1 Agency theory and earnings quality

The literature in economics has acknowledged that managers' interests might not be in line with those of the shareholders, so that a conflict of interest exists, which has subsequently given rise to agency theory (Jensen & Meckling, 1976). The managers ought to serve the interests of all stakeholders and represent all financial and non-financial information correctly. However, they may behave opportunistically to maximize firm's value by misleading investors about the real financial situation of the company (Hill & Jones, 1992). Managers use their knowledge and experience to select the reporting methods or policies. They might exercise discretion of reported earnings to gain some private benefits at the expense of the shareholders (Healy & Wahlen, 1999).

If financial information users are "fooled" by reported earnings and the shareholders are misled about the current underlying economic performance, resource allocation is affected and less optimal (Healy and Wahlen, 1999). Managers should have a professional and ethical responsibility to report high quality earnings to the stakeholders in a timely matter. Higher quality earnings can be defined as earnings which provide more information about the current firm's financial performance and are useful and relevant for decision-makers (Dechow & Schrand, 2010).

A solution offered by the agency theory is the separation between the board of directors and top management for better protection of shareholders' rights. Regulators have put emphasis on different matters regarding the board characteristics, stressing on the importance of independence and diversity (Green Book, EU, 2011). Because the main role of the board of directors is to reduce the information asymmetries, its independence is a cherished goal. This can be achieved by selecting directors who lack social or other ties to the CEO or the CFO (Westphal, 1998). Another way to increase the ability to exercise control is ensuring diversity within the board. Diversity can have different dimensions - for example, factors like gender, age, educational and professional background give the board a wide range of values, expertise and sets of competencies. All these different characteristics are urged to make the board composition more heterogeneous. This study will focus namely on independence and gender diversity and explore their importance for earnings quality.

2.2 Board independence and social ties

The directors monitor and control managers and pledge for the credibility of the released information. Brickley & Coles (1994) suggest that effective governance and firm performance increase with board independence by insuring against managerial self-dealing and controlling their behavior. Boards that are structurally more independent from management are better able to control management decision making on behalf of shareholders. Moreover, the board of directors is considered as a central point, which is responsible for ensuring the transparency of the company's financial statement and hence, useful to the stakeholders (Mansor et al., 2013).

Consistent with these ideas Gonzales & Garcia-Meca (2014) found that poor corporate governance might provide an opportunity for managers to engage in more earnings management and subsequently downgrade the quality of the reported earnings. Good and effective corporate governance, on the contrary, is able to gain and restore trust of shareholders. The proportion of board independence is a crucial part to reduce the tendency of earnings manipulation (Busirin, 2015). Bhojraj and Sengupta (2003) argue that firms with stronger outside control of the board of directors have higher ratings and lower bond yields.

The board hires the CEOs and independence could be underlined if the CEO and the board members are socially connected or related in some way. There are three different types of social ties - educational, professional and friendship. The first two are captured in the term "advice networks" and consist of people, who have studied in the same university or share same previous employment. Friendship ties are developed over time through shared experiences and growing affection to similar others (Gibbons, 2004).

Literature shows ambiguous findings about the effect of social connectedness. On the one hand, studies show that firms with more independent directors do not necessary have better performance (Bhagat & Black, 2001; Beasley et al. 2009). Beasley interviewed 43 audit committee members and the findings reveal that CEOs indeed tend to appoint directors from their "informal social network". Bruynseels and Cardinaels (2013) found no significant results for the effect of "advice networks" formed through previous education or employment on audit quality and the accuracy of financial reporting. Friendship ties, on the contrary, reduce oversight quality, because auditors of such companies are less likely to issue going-concern opinions and pre-approve lower level of audit effort. Similarly, Chidambaran & Prabhala (2011) find positive effects of professional relationships on fraud, while nonprofessional connectedness due to shared educational and non-business antecedents increases fraud probability. The positive effects of professional connectedness, however, are pronounced only when individuals are executives of the company.

Westphal & Graebner (2010), on the contrary, support the hypothesis that ties outside the professional network can improve earnings quality and discuss a new type of management, namely impression management. They argue that leaders hire new board members, who do not have any formal ties, but have friendship ties, which gives an impression of increasing boards' capacity. Moreover, the study offers a new perspective, because the results show that analysts issue more positive stock recommendations and forecasts even though the actual board behavior is not enhanced.

Nevertheless, there are opponents of social connectedness within top management teams in an organization. The negative effects overweight the positive for several reasons. First, the theory about impression management is a topic of the behavioral finance and still needs to be investigated in detail. In the presence of social ties, the compensation of the CEO increases and subsequently the board monitoring is negatively influenced (Hwang & Kim, 2009). The directors are less incentivized to truthfully report financial misstatements and they relate more on the managerial judgment. They are more willing to give favorable evaluation and opinions, regardless of the actual performance, because they personally know the CEO. Krishnan and Raman (2011) conducted a study comparing the effect of social ties before and after SOX. Their findings show increased board independence in the post-SOX period and a decreased level of earnings management. The effect of social ties is however unambiguous - weaker financial reporting systems and lower information quality of the reported earnings. Friendship ties between the CEO and board members can impair the directors' independence and objectivity, because the relationship is based more on "trust". The disclosure of the relationships can worsen this effect (Rose, Rose & Norman, 2014). Through a couple of experiments they argue that friendship ties make directors more easily convicted to reduce the expenses for research and development and disclosing these ties results in even greater reduction.

Due to the mixed results that the literature offers and assuming that more ties lead to less independent members of the board, I first explore whether an increase in social ties will influence earnings quality:

H1A: More social ties between the CEO and board members will decrease the quality of earnings.

Further, McPherson, Smith-Lovin & Cook (2001) discuss homophily in relationships. The principle of homophily says that a contact between similar people occurs more often than between dissimilar. They find that the effect of multiplex ties (friendship ties) is stronger than simplex ties (formed through work). Related to this, the observations of Beasley et al. (2009)

support the hegemony theory, which states that managers would hire people from their circle of friends, who help and won't criticize them. Therefore, the next hypothesis is:

H1B: The quality of earnings will decrease more for social ties between the CEO and board members formed through friendship or other activities.

2.3 Gender board diversity

One of the heavily discussed ways to increase board independence, besides no socially connected managers, is to assure enough diversity within the board. Diversity is argued to be an important part of corporate governance (Srinidhi, 2011). Each type of diversity broadens the scope of action and brings more perspectives to the board's attention. Gender is increasingly approached as a value-driver and being one of the fundamental individual characteristics that influence behavior, has also been investigated in terms of earnings quality.

Prior literature shows contradicting results about the effect of gender on reporting quality and firm financial performance. Some studies have failed to find a significant association. The study of Ye & Zhang (2010) examines the relationship between gender and earnings quality in emerging markets, an example of which is China. They do not find any significant differences for firms with male and female executives. Evidence from Indonesia suggests that female representation does not necessary mean greater firm performance (Darmadi, 2013). Further, they find that higher proportion of women is employed by smaller firms. Both studies argue that the gender issue has a different effect in a developing economy that has a different environment. However, similar research conducted for French listed firms also shows no significant results (Hili & Affess, 2012). Marinova et al. (2010) used Danish and Dutch companies and also do not provide evidence about the relation between gender diversity and firm performance.

On the other hand, gender diversity is believed to bring advantages to the organizations, because women have a "feeling cognitive style" (Krishnan & Park, 2005). Proponents suggest in this respect that women are more risk averse and conservative than men when it comes to financial decisions. Generally speaking, men and women behave differently in the area of money and finance. Arun & Almahrog (2015) find that in the presence of women as top managers, companies in UK are adopting restrained earnings management practices. According to Huang & Kisgen (2012) firms with female top managers grow more slowly and are less likely to issue debt. Moreover, they engage in fewer acquisitions, but these acquisitions have higher announcement returns. Their main findings are consistent with the hypothesis that male executives are more overconfident compared to their female colleagues. A similar study of

Barua, Davision & Rama (2010) also shows that women are more cautious and less aggressive in a variety of business settings. The authors examine the relationship between the gender of the chief financial officer and the quality of the accruals. They report that firms with female CFOs have lower absolute abnormal returns and lower accrual estimation errors. Women are also more obedient in tax reporting decisions. In an experimental study Baldry (1987) finds that males tend to evade more than females. Kirshnan & Parsons (2008) find out that the quality of earnings management is higher from firms with more female directors, because they enrich the discussions and improve the decisions made by the board. Due to their multitasking ability, female participation promotes more effective board communication and improve board monitoring (Joy, 2008). This is supported by a study conducted again in France. The results differ from these of Hili & Affess (2012), who show no significant effects. Lakhal et al. (2015) prove that women are effective corporate “device” to reduce earnings management.

Finally, women in the upper teams of an organization are considered “tough”, because they have to “fight” in a male-dominating environment. Therefore I propose the following hypothesis:

H2A: More women in the top management (CEOs) will lead to a higher quality of the earnings.

H2B: More women in the board of directors will lead to a higher quality of the earnings.

However, no study is dealing with the role of gender in a social-ties-setting. Women have a learning approach and seek connections to other women in order to overcome together the obstacles while climbing the corporate ladder. Referring to the fact that they are considered more risk averse I expect that they will exercise more caution in the presence of social ties:

H3: The magnitude of the negative relation between CEO-board social ties and earnings quality is lower if CEOs are females.

3. Research Method and Data

3.1. Data

To test the hypotheses, I used data from 99 publicly traded firms from all possible industries, including the financial industry, in the UK for the years 2015 and 2016. In attempt to extend the study of Arun and Almahrog (2015) about the relation between female directors and earnings management only UK listed firms are used. Moreover, the European Commission adopted in 2010 a new strategy for equality between women and men. As a result the number of women in the boardroom in the member countries is gradually increasing. Although an improving gender balance on board is observed, not many women are chairs and CEOs. The United Kingdom has one of the highest scores in this section (EU Commission, 2012).

The firms are selected randomly, however organizations are removed when not all the data is available. The data sample will be retrieved from two different sources - BoardEx and Eikon. Since information about social ties and gender is obtained from BoardEx, which contains data on current and previous employment, education and non-professional memberships the sample consists only of firms which are covered by this database. Information only for 34 firms with women as CEOs was available and in order not to have big discrepancies I took 65 firms with male CEOs. Financial information is obtained from Eikon database and for some missing values companies' websites and annual reports are checked. Subsequently, those data were merged to yield a complete data set for this particular study. I excluded companies for which I cannot identify the CEO for the fiscal year and companies with two or less directors. Further, I require firms with the data necessary to calculate the discretionary accruals metrics and if this financial information cannot be found, the companies are not considered in the analysis.

An advantage of using companies of a single country is that they meet the same institutional requirements and face the same business environmental conditions. Table 1 presents a descriptive statistics for the sample firms by industry and gender of the CEO for the years 2015 and 2016. The firms are divided into 3 industry groups with at least 15 observations in each group (Zang, 2007; Fama & French, 1997). The sample consists of 99 firms for each year, 34 with female and 65 with male CEOs distributed in 3 different industry classes in the United Kingdom. For the years included in the study, no changes in the CEOs are observed, that is why the numbers remain the same.

Table 1: Industry distribution

Industry	CEO Gender 2015		CEO Gender 2016		Total
	Male	Female	Male	Female	
Trade	15	13	15	13	56
Industrial	18	7	18	7	50
Services	32	14	32	14	92
Total	65	34	65	34	198

3.2 Measurement of variables

3.2.1 Dependent variable – Earnings quality

This study investigates the influence of social ties and gender on earnings quality. The quality of the reported earnings is a comprehensive concept and a couple of different measures exist. Following prior literature, the most widely used model for measurement is the modified Jones model (Dechow et al., 1995). The method uses the amount of discretionary accruals as a proxy for accrual-based earnings management and earnings quality. The discretionary accruals are results from manipulations in the company, while the non-discretionary accruals cannot be controlled by the CEO. The first step is the calculation of total accruals using the cash flow statement approach (Hribar & Collins, 2002; Cohen & Zarowin, 2010). They are estimated using the following model:

$$TA_{i,t} = IEXI - CFO$$

Where:

$TA_{i,t}$ = total accruals of firm i in year t ; $IEXI$ = income before extraordinary items and discontinued operations; CFO = cash flows from operations.

Subsequently, total accruals, change in sales and property, plant and equipment are scaled by total assets to reduce heteroscedasticity (Peasnell, 2000). The companies are grouped by industry according to the SIC number and ordinary least squares are used to estimate industry-specific characteristics, such as intercept and coefficients for sales and PPE. The accruals are estimated by using industry coefficients, assuming that the model is stationary and changes in the determinants are the same across an industry. In the sample there are 3 industry groups. The following model is used to calculate the normal accruals:

$$\frac{TA_{i,t}}{A_{i,t-1}} = \alpha_0 + \beta_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_2 \left(\frac{\Delta Sales_{i,t}}{A_{i,t-1}} \right) + \beta_3 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right) + \varepsilon$$

This allows us to calculate the non-discretionary accruals for each company of a given sector:

$$NDAC_{i,t} = \alpha_0 + \beta_1 \left(\frac{1}{A_{i,t-1}} \right) + \beta_2 \left(\frac{\Delta Sales_{i,t} - \Delta Rec_{i,t}}{A_{i,t-1}} \right) + \beta_3 \left(\frac{PPE_{i,t}}{A_{i,t-1}} \right)$$

Where:

$TA_{i,t}$ = total accruals of firm i in year t , measured by the difference between income before extraordinary items and operating cash flow; $A_{i,t-1}$ = total assets for firm i in year $t-1$; $\Delta Sales$ = the change in revenues for firm i in fiscal year t ; $PPE_{i,t}$ = the net value of property, plant and equipment of firm i in year t .

As a final step, the discretionary accruals are calculated as the difference between total accruals and normal accruals:

$$DAC_{i,t} = TA_{i,t} - NDAC_{i,t}$$

To avoid problems with extreme outliers, I winsorized the discretionary accruals (WDAC) at the 1% and 99% percentile of their distribution (Zang, 2011). As a result the residuals are normally distributed and their winsorized and not transformed values are used for the regression model.

3.2.2 Independent variables

The independent variables of the study are two - the existence of ties and the gender of the CEO of the firms. Therefore they are both dummy variables. For gender, the variable has the value of 1 for female CEOs and 0 for their male colleagues. For ties it takes the value of 1 if the CEO has social ties with some of the board members and 0 if not. The literature distinguishes between 2 types of social ties, namely employment/educational, summarized under the term “advice network” and friendship ties. This distinction is also made in the analysis. A member of the board of directors is socially tied to the CEO, when at least one tie is formed by employment, education or other activities. However, for the purpose of this research is important if the ties are between males, females or both genders. Therefore, the interaction effect between gender and existence of social ties is analyzed and I create a dummy variable for each of the possible cases. For example, the dummy variable P_MM_Dummy captures the professional ties between a male CEO and a male director. F_WM_Dummy is for a friendship tie between a female CEO and a male member. Table 2 explains in detail all dependent, independent and control variables.

3.2.3 Control variables

In the analysis, I control for several factors that may impact the quality of the reported earnings. To be more specific, only control variables on a firm level are included, because the research is restricted to one single country. Consistent with prior literature, firm's leverage (LEVERAGE) and market-to-book ratio (MARKET-TO-BOOK) are considered (Arun & Almahrog, 2015, Braam et al, 2015). Leverage is calculated as total debt as a percentage of total assets and market-to-book ratio is directly taken from Eikon. Research shows that leveraged firms have lower level of earnings management, so a negative sign is expected (Jelinek, 2007).

A further control variable is the size of the company. The literature does not come up with conclusive results about the effect of size on earnings management. The political cost hypothesis argues that larger firms are more likely to use accounting standards to reduce the reported profits (Watts and Zimmerman, 1990). On the other hand, these companies are under greater public scrutiny and may engage in income-increasing practices and adopt aggressive accounting approaches, because they have to meet higher targets (Richardson, 2000). A natural logarithm of the number of employees is calculated. Moreover, the size of the board itself is also included to control, again as a natural log of number of directors. The last variable for firm's characteristics is return on assets (ROA), directly retrieved from Eikon. The expected sign is negative, supported by the research of Cohen& Zarowin (2010). They found out that ROA is more negative for firms with extreme abnormal discretionary accruals.

On an industry level I control for industry differences based on the two-digit SIC codes for categorization (10-17: Mining and construction; 20-39: Manufacturing, 40-49: Transportation & pub. utilities, 50-59: Trade; 60-67: Finance, insurance & real estate; 70-89: Services; 91-98: Public administration). However, for the purpose of this study, because there were less than 15 observations in 7 industries, I categorize them further in 3 main categories – Industrial, Trade and Services. Each one of the classes meets the requirement for more than 15 observations (Zang, 2007; Fama & French, 1997).

3.3 Econometric model

The data consists of observations of the same companies for the years 2015 and 2016. Therefore an OLS regression analysis with 2016 as a base year is used to examine the relationship. The general model used in this thesis is as follows:

$$EQ = \beta_0 + \beta_1 SOCIAL\ TIES + \beta_2 GENDER + \beta_3 SOCIAL\ TIES \times GENDER + \beta_4 FIRM_{CONTROL} + \beta_5 INDUSTRY_{CONTROL} + \beta_6 YEAR_{CONTROL} + \varepsilon_{it}$$

where EQ is earnings quality, measured by discretionary accruals (WDAC). The dependent, independent and control variables are explained in the previous section and in Table 2. To test how the effect of social ties on earnings quality may differ depending on gender, I included the interaction term between both, captured as multiple dummies for all possible scenarios. In addition, I control for firm characteristics and dummies for industry and year-specific effects are considered.

Table 2: Variable definitions

Variable name	Definition
DAC	Discretionary accruals computed using the Modified Jones Model (Dechow et al., 1995, Cohen & Zarowin, 2010)
WDAC	Winsorized values of discretionary accruals
Gender CEO	A dummy variable taking the value of 1 if the CEO is a woman, and 0 otherwise
Gender Board	A dummy variable taking the value of 1 if the connected director is a woman and in case of no social ties, taking the value of 1 if there is at least one woman in the boardroom, and 0 otherwise
SOCIAL TIES	A dummy variable taking the value of 1 when the CEO is socially tied to the board of directors, and 0 when not
MM_Dummy	Male CEO and male directors having social ties
WM_Dummy	Female CEO and male directors having social ties
WW_Dummy	Female CEO and female directors having social ties
P_MM_Dummy	Male CEO and male directors having advisory social ties (from employment or education)
P_WM_Dummy	Female CEO and male directors having advisory social ties (from employment or education)
P_WW_Dummy	Female CEO and female directors having advisory social ties (from employment or education)
F_MM_Dummy	Male CEO and male directors having social ties outside the professional network (from friendship or other activities)

F_WM_Dummy	Female CEO and male directors having social ties outside the professional network (from friendship or other activities)
F_WW_Dummy	Female CEO and female directors having social ties outside the professional network (from friendship or other activities)
ROA	Return on assets (Cohen & Zarowin, 2010)
LEVERAGE	Total debt as a percentage of total assets (Arun & Almahrog, 2015)
MARKET-TO-BOOK	Common equity to market capitalization (Bruynseels & Cardinaels, 2013)
BOARDSIZE	The natural log of number of directors
COMPANYSIZE	The natural log of the number of employees

All models are checked for multicollinearity and heteroscedasticity. There is no evidence of existence of measurement or specification errors. The residuals are winsorized in order to avoid extreme outliers. All variables are normally distributed and their absolute values are used, except for company and board size, where the log transformations delivered better results. No influential cases are found. Due to high correlation between ROA and MARKET-TO-BOOK ratio, the latter one is removed from the analysis.

4. Results

4.1 Descriptive statistics

Table 3 presents the descriptive statistics for all variables. The mean value of SOCIALTIES shows that 38% of the CEOs have some kind of social ties with the members of the board of directors. In 62% of the cases social ties do not exist. About 34% of all social ties are due to a professional or educational connectedness and only 5% are formed through other activities. The female chief executive officers represent only 34% of all and around 25% of the board members are women. The board of directors consists on average of 7 members ($\ln=1.93$), the minimum number of directors is 4 and the maximum 15. The companies have approximately 578 employees ($\ln=6.36$). The mean of discretionary accruals is 1.6% of total assets at the beginning of the financial year. However, after winsorizing the mean has fallen down to 1.4% and the minimum and the maximum values decreased to -3.30 and 3.66 respectively. The financial leverage is around 17%.

Table 3: Descriptive statistics Accruals

Variable	N	Mean	Str. Dev.	Min	Max
DAC	198	0.016025	1.158350	-5.371902	5.943821
WDAC	198	0.014965	1.067611	-3.306335	3.668436
Gender CEO	198	0.343434	0.476059	0.000000	1.000000
Gender Board	198	0.247475	0.043264	0.000000	1.000000
SOCIALTIES	198	0.383838	0.4875521	0.000000	1.000000
Professional ties	198	0.343434	0.476059	0.000000	1.000000
Friendship and other social ties	198	0.050505	0.302901	0.000000	1.000000
BOARDSIZE (\ln)	198	1.937561	0.295561	1.386294	2.70805
LEVERAGE	198	0.170835	0.311066	-2.329372	1.570772
COMPANYSIZE (\ln)	198	6.369945	2.288193	1.098612	13.0444

Table 4 shows the distributions of the levels of discretionary accruals to provide a rough indication of the effects on quality. Panel A focuses on the distinction between the companies with and without social ties. On average the firms which are formally or socially tied report lower levels of discretionary accruals, which simultaneously means higher quality of the

earnings (Healy & Wahlen, 1999). The coefficient in this case is negative, indicating that these companies engage in income-decreasing earnings management. For the purpose of this study, the direction of the earnings is of less of a concern and I concentrate on the absolute discretionary accruals. The results are in contradiction with prior literature. A possible explanation is that in this case I tabulated all ties in general, without separating friendship from advisory ties. However, companies without connections reveal a higher maximum value of discretionary accruals.

Panel B of Table 4 presents the proportion of earnings management for female and male CEOs. Contrary to the expectations, women have higher positive discretionary accruals, while the mean value for men measured by the modified Jones model is -0.033253. This indicates that men tend to be more conservative and engage in negative earnings management. The minimum and the maximum values for men are also lower than for women. The results are in line with the paper of Ye & Zhang (2010). Panel C indicates that the industrial companies tend to have higher levels of discretionary earnings and the firms in the other two industry classes - trade and service - examine negative and overall lower levels of earnings management -0.007185 and -0.006135, respectively.

Table 4: Levels of discretionary accruals

Panel A: with and without social ties

Variable	N	Mean	Str.Dev.	Min	Max
WDAC (Ties)	76	-0.057784	0.844496	-3.306335	2.706937
WDAC (No ties)	122	0.060284	1.186698	-3.306335	3.668436

Panel B: for women and men

Variable	N	Mean	Str.Dev.	Min	Max
WDAC (Women)	68	0.107146	1.425418	-3.306335	3.668436
WDAC (Men)	130	-0.033253	0.823716	-3.222989	2.706937

Panel C: across industries

Variable	N	Mean	Str.Dev.	Min	Max
WDAC (Industrial)	50	0.078598	1.009639	-3.306335	2.988171
WDAC (Trade)	56	-0.007185	1.042560	-2.648158	3.142042
WDAC (Service)	92	-0.006135	1.211956	-3.306442	-3.668436

Panel A of Table 5 exposes the distributions for all social ties in general. In the sample are 8 social ties between women, 18 between men and 6 altogether between male and a female. Panel B summarizes professional ties – 6 ties between women formed through previous employment or education. The last part of Table 4 is about all other social ties. The reason why Panel B and C do not sum up together is because some CEOs are both, through advice networks and friendship, connected.

Table 5: Distribution of social ties and gender of CEO/Board members

Panel A: All social ties

<i>Social ties</i>	<i>Board</i>	
<i>Top management</i>	W	M
W	8	4
M	2	18

Panel B: Professional/educational social ties

<i>Professional social ties</i>	<i>Board</i>	
<i>Top management</i>	W	M
W	6	4
M	2	17

Panel C: Friendship social ties

<i>Friendship Social ties</i>	<i>Board</i>	
<i>Top management</i>	W	M
W	2	2
M	2	4

The correlation matrices are displayed in Table 6. The variables MARKET-TO-BOOK and F_WW_Dummy are removed from the models since they indicate correlation above the value of 0.7. All other variables do not show high and significant correlation, therefore they are included in the analysis.

Table 6: Pearson correlations

Panel A: All social ties

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.WDAC	1.00											
2.Gender CEO	0.06	1.00										
3. Gender Board	0.11	0.35*	1.00									
4.SOCIALTIES	-0.05	0.04	0.22*	1.00								
5.MM_Dummy	0.04	-0.34*	-0.27*	0.59*	1.00							
6.WM_Dummy	-0.09	0.35*	-0.15*	0.32*	-0.12	1.00						
7.WW_Dummy	-0.03	0.41*	0.52*	0.38*	-0.14*	-0.08	1.00					
8.ROA	-0.01	-0.07	-0.06	0.12	0.21*	-0.03	-0.03	1.00				
9.BOARDSIZE	-0.05	0.09	0.13	0.03	-0.07	0.01	0.03	-0.05	1.00			
10.LEVERAGE	-0.04	-0.06	-0.03	-0.04	0.13	-0.21*	-0.04	-0.05	0.07	1.00		
11.COMPANYSIZE	-0.15*	0.17*	0.07	-0.19*	-0.32*	0.16*	-0.09	-0.09	0.47	-0.03	1.00	
12.INDUSTRY	-0.03	0.00	-0.03	-0.18*	-0.22*	0.04	-0.08	-0.15	-0.18	0.00	0	1.00

**Indicates significance at 1% level*

Panel B: Professional/educational social ties

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.WDAC	1.00									
2.Gender CEO	0.06	1.00								
3. P_MM_Dummy	0.04	-0.33*	1.00							
4.P_WM_Dummy	-0.09	0.35*	-0.12	1.00						
5.P_MM_Dummy	-0.05	-0.35*	-0.12	-0.06*	1.00					
6.ROA	0.00	-0.07	0.22*	-0.03	-0.03	1.00				
7.BOARDSIZE	-0.05	0.09	-0.06	0.01	-0.03	-0.05	1.00			
8.LEVERAGE	-0.04	-0.06	0.13	-0.21*	0.00	0.00	0.07	1.00		
9.COMPANYSIZE	-0.15*	0.17*	-0.35*	0.16*	-0.08	-0.09	0.47*	-0.03	1.00	
10.INDUSTRY	-0.03	0.00	-0.23*	0.04	-0.07	-0.15*	-0.18*	0.00	0.00	1.00

**Indicates significance at 1% level*

Panel C: Friendship social ties

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1.WDAC	1.00								
2.Gender CEO	0.06	1.00							
3. F_MM_Dummy	0.07	-0.15*	1.00						
4.F_WM_Dummy	-0.01	-0.10	0.69*	1.00					
5.ROA	0.00	-0.07	0.02	-0.01	1.00				
6.BOARDSIZE	-0.05	0.10	-0.10	-0.07	-0.05	1.00			
7.LEVERAGE	-0.04	-0.06	-0.02	-0.03	0.00	0.07	1.00		
8.COMPANYSIZE	-0.15*	0.17*	0.00	0.02	-0.09	0.47*	-0.03	1.00	
9.INDUSTRY	-0.03	0.00	-0.05	0.05	-0.15*	-0.18*	0.00	0.00	1.00

**Indicates significance at 1% level*

4.2 Test the hypotheses

To test the hypothesis simple OLS regressions for 3 different models are used. The first model captures gender of the CEO as well as the gender of the board members and all social ties. In the second and the third model analyses are done for professional and friendship ties, respectively. In all regressions the control variable MARKET-TO-BOOK is removed because of correlation higher than 0.95.

Table 7 summarizes the results for all three models for the hypothesized relationship between earnings quality and social ties of women and men. The findings of the regression are inconsistent with the bigger part of the previous literature, which states that women are more conservative in a financial setting. Hence, my expectation is a negative effect on accrual levels which leads to a positive effect on earnings quality. Gender is a significant variable only for the second model. For the first and the third model, gender is in no association with quality. This finding is not consistent with the formulated hypothesis, therefore H2A is rejected. These results are also not in line with the previous findings, indicating that firms with female directors tend to be more conservative and more likely to practice income-decreasing earnings management. However, gender of the board is statistically significant, but also in the unexpected direction, so hypothesis H2B is proved in the opposite direction. This means that the more women are in the boardroom, the higher the accruals.

None of the coefficients for social ties in general are significant, indicating that there is no relation between social ties and quality of the reported earnings. This is in contradiction with hypotheses H1A and H1B, therefore they are rejected. The size of the company indicates a

significant negative relationship on the discretionary accruals and simultaneously a positive effect on quality.

According to the results from the regression for professional ties, the female CEOs will engage in earnings management 44% more than their male colleagues. The coefficient for professional ties between males is positive, although it does not reveal any significant relationship with earnings manipulation. For women there is as expected a positive and significant effect on quality. Indicating that hypothesis H3 is partly proved. Only in a situation with professional ties, ties between women have a stronger positive effect on reporting quality.

In the last model, the directions of the effect of the friendship ties are as expected, however none of the coefficients show statistically significant values. In this particular case *F_WW_Dummy* is also dropped because of perfect correlation. Prior literature did not come up with conclusive results about the effect of company size on earnings management. The main theory here is that larger firms face greater pressure to conform to societal expectations (DiMaggio & Powell, 2000). In this study, it is in a negative and significant relationship with earnings quality for all three models at all levels, which is consistent with the mentioned theory. Moreover, Patten (2003) argues that variables such as firm size and industry classification, which put public pressure on the company, are significant, while profitability variables like ROA are not. This is also the case here.

The explanatory power of each of the models is also low - between 10.12% for the first one and 5.2% for the last one. This means that 10.12% of the variance of the dependent variable can be explained by the independent. However, the F-statistics for all cases are significant, which is an indication that the model is a good fit.

Although the findings are not consistent with the hypotheses and seem contradicting, because they show no significant relation between gender, social ties and earnings management and respectively to earnings quality, several explanations are possible. First, Arun and Almahrog (2015) also deal only with UK companies and prove that female directors have a positive effect on quality, however their dataset covers the years from 2005 until 2011. In this study I concentrate on the last year only and this may cause problems. In 2016 the people in the United Kingdom voted to leave the European Union, which led to financial distress. Due to the possible consequences for the economy many trade agreements were broken and some banks decided to move abroad. Earnings and cash flows are volatile as a result of these economic conditions, thereby causing volatility in accruals as well as change in the accounting practices.

Table 7: OLS regression results (Dependent variable= WDAC)

	Expected sign	Model 1 All Ties	Model 2 Prof. Ties	Model 3 Other Ties
Intercept		0.4976 (0.83)	0.6085 (1.00)	0.3734 (0.62)
Gender CEO	-	0.2784 (1.27)	0.4422*** (2.28)	0.2256 (1.37)
Gender Board	-	0.6664*** (2.47)		
SOCIALTIES	-	-0.6445 (-1.57)		
MM_Dummy	+	0.7295 (1.61)		
WM_Dummy	-	0.1533 (0.26)		
WW_Dummy	-	-0.3745 (-0.81)		
P_MM_Dummy	+		0.0574 (0.24)	
P_WM_Dummy	-		-0.7063*** (-1.99)	
P_WW_Dummy	-		-0.6229 (-1.79)	
F_MM_Dummy	+			0.9369 (1.37)
F_WM_Dummy	-			-0.7576 (1.53)
ROA	-	-0.0034 (-0.30)	-0.0033 (-0.31)	-0.0018 (-0.18)
BOARDSIZE	?	0.0726 (0.25)	0.0263 (0.09)	0.1250 (0.42)
LEVERAGE	-	-0.2365 (-0.95)	-0.2245 (-0.90)	-0.1288 (-0.52)
COMPANYSIZE	?	-0.0891*** (-0.29)	-0.0399** (-0.41)	-0.0878*** (-0.17)
Industry		Yes	Yes	Yes
Year_Dummy		Yes	Yes	Yes
Observations		198	198	198
R ²		0.1012	0.0703	0.0520

***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively (two-tailed, t-values below the coefficients in parentheses)

Second, the dataset consists of 198 companies, which are not enough to deliver convincing results. Although the UK was one of the first countries to adopt the new strategy of the European Commission for gender equality and has the highest score, only 34 female CEOs for a fiscal year were found in the BoardEx database. A research with possible significant and more convincing results could be conducted when a high number of women as top managers is achieved.

Another explanation can be the model itself. The R-squared is approximately 10.12% (5.2%) for model 1 (model 3). Hence the independent variables can only explain around 10% of the variation of the discretionary accruals. The low levels of R-squared are in line with previous papers this type of accrual regression models (Srinidhi, Gul& Tsui, 2011; Sun et al., 2011). VIF tests are conducted after every regression to check for multicollinearity and there is no indication of it. The VIF scores are not higher than 3.69.

5. Conclusion and discussion

The study investigates the relationship between gender of the CEO, interlock ties of the CEOs with the board members and earnings quality. In the investigation, the aim was to contribute to the literature by exploring the influence of gender in social ties setting. A unique dataset containing information for 198 UK listed companies for 2015 and 2016 is used. Earnings quality is measured by the levels of discretionary accruals, which are calculated with the modified Jones model. High levels of accruals are associated with more earnings management, which reflects in a lower quality of the reported earnings (Healy & Wahlen, 1999).

Prior research on social ties is not able to provide a conclusive answer whether social ties are harmful for quality. This paper has argued that socially tied executives lower the quality of the reported earnings, because the independence of the board is impaired. In this case, the directors' objectivity and their ability to monitor managers' actions are decreased. Further, I suggest that connections formed through friendship and other activities are more detrimental for earnings quality than advisory ties. This statement is based on the hegemony theory, which states that managers would hire people from their circle of friends, who won't criticize them. The regressions failed to deliver any statistically significant results, therefore the hypotheses are rejected. The evidence from this study suggests that social connectedness between CEO and the directors do not play a role and have no effect on earnings quality.

The next hypotheses are regarding women in the top management teams. Claiming that women are more ethical at the workplace than men, I expect an increased quality with a higher number of females as executives in the boardroom. According to the results, the first hypothesis is rejected, indicating that gender of the CEO is not associated with quality. Unexpectedly, the second claim is proved in the other direction. The reason may be the too broad definition of the dummy variable for gender of the board members.

Finally, I expect that the magnitude of the negative relation between CEO-board social ties and earnings quality would be lower for female CEOs. Multiple regression analyses have revealed this is partly true - only for professional social ties. The coefficient for the ties between woman and man is negatively significant, which means a positive effect on quality. Nevertheless, a conclusive answer cannot be given, because the other coefficients are insignificant.

The research extends our knowledge of social ties and gender in regard of reported earnings quality. The study has implications for the career development of women and their role in the corporate latter. The findings are important for the general public. Governments

should also take note and try to enforce gender quota, because even in the United Kingdom, which is one of the leading scores in number of women as top managers, only 34 female CEOs could be found in BoardEx. Moreover, it is relevant for policy makers and legislators, when considering the corporate governance codes about diversity.

Several limitations of this pilot study need to be acknowledged. First, it deals only with the UK for a restricted period. Because 2016 was a year of financial and political distress in the United Kingdom the results may be biased. The advantage of using only one country is that all firms face the same requirements and restrictions, but the results are probably not generalizable to other countries. Moreover, UK is an example of the Anglo-Saxon model with one-tier board structure, which also could affect the findings. This problem is simultaneously a suggestion for further research. A cross-national analysis involving longer time frame is needed. Second, the CFOs are not considered, because of two reasons. They are hired by the CEO of the firm and the CEO, on the contrary, is hired by the board. Moreover, some of the companies in the dataset are small and do not have a CFO and use outside accounting firms. Further research can incorporate CFOs in the analysis. A third limitation of the thesis is the broad definition of the industries. The sample size is too small, which leads to difficulties to show significant results and derive conclusions. Due to the lack of information on female CEOs, there were not enough observations per industry. The simplification of using only 3 industry classes may cause problems. Virtually all industries are regulated to some degree; however some such as banking and insurance face regulatory monitoring which is explicitly tied to accounting data (Healy & Wahlen, 1999). Future research may take into account that difference. Last of all, earnings quality can be measured in several ways and in this study the modified Jones method is used. Maybe some of the other measurements will provide statistically significant results. In this regard, “Meet and Beat Analyst Forecast” could be considered (Bruynseels & Cardinaels, 2013). It would be interesting to assess the effect of some other variables, for instance age of the CEO or years of tenure.

In conclusion, the results of this thesis show that there is no association between social ties, gender and quality of the reported earnings. However, considerable more work will need to be done to determine the role of women in a business setting.

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