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BOARD CHARACTERISTICS AND EARNINGS MANAGEMENT: EMPIRICAL ANALYSIS OF UK LISTED COMPANIES

Jessie Luo, M.Sc, [ACCOUNTING AND FINANCE]
Executive, Project I Department,
2nd Floor, South Block, Wisma Golden Eagle Realty,
142 – A Jalan Ampang, 50450 Kualalumpur, Malaysia,
H/P + 601 73420670,
+86 1807740 9662,

Dr.S.S.Jeyaraj, M.Com. M.Phil., Ph.D., HDCM. DNCC. ASA (CPA),
Lecturer in Accounting and Finance,
Sino-British College (Partnership Program with Staffordshire University, UK),
Guangxi University for Nationalities,Guangxi Province, P.R.China,
+86 18378832252,

ABSTRACT: *Present study investigates to find out the associations between characteristics of the boards and the level of earnings management. For the investigation, level of the earnings management has taken from UK listed companies during 2012 to 2016. Moreover, the abnormal accruals are considered as the proxy of the level of earnings management, and which show the level of earnings management for the companies. The study uses Modified-Jones model to measure the abnormal accruals, and uses Random effects model to find out whether the characteristics of the boards are related with the level of earnings management. By running the regression, it finds out that the CEO duality and board size are negatively related the level of earnings management at the significant level. However, the study fails to find out the board meetings, percentage of independent directors and the percentage of female directors in the board is significantly associated with the level of earnings management.*

KEYWORDS: corporate governance, earnings management, accruals, dependent variables, independent variables,

INTRODUCTION

Recently, the modern business environment has been generally acknowledged that it is becoming riskier, more competitive and more uncertain and also it is more difficult to control or predict the

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factors that will influence the performance of companies (Kuratko and Morris, 2003). As the competitive force increases among companies, some managers may commit frauds for a higher company's earnings performance; hence financial scandals frequently occur due to managers' own interests. Moreover, the financial scandals and frauds cast a doubt on the reliability of the financial statements.Earnings quality has been measured by different researchers and there are many different measures to indicate the earnings quality, such as, investor responsiveness, timeliness, persistence, smoothness, restatements and accruals (Dechow, Ge, and Schrand, 2010).Corporate governance structures are frequently seen as a major mechanism to guarantee the quality of financial statements, such as the board of directors (Cohen, Krishnamoorthy and Wright, 2002). In order to minimize the number of financial scandals and improve the earnings quality, the board seems more important function its role in organization. Roberts, McNulty and Stiles (2005) stated that the effectiveness and independence of the boards reduce the agency cost by exercising control of decision, which involves monitoring the performance of the management team. The boards should not only control or monitor the management team but also play the role in strategies that include scanning the business environment, developing the business mission, selecting and implementing the choices of the strategies (Hendry and Kiel, 2004). As the boards are increasingly important, it is necessary to classify the characteristics of the boards, and identify the characteristics which make the role of boards in controlling and monitoring more effective. This study seeks to examine the characteristics which can make the boards more effective and contribute a better financial performance for the company.

Statement of the Problem

Enron's bankruptcy, which is the most serious case in US, happened in 2001. In addition to Enron, there are some accounting scandals in the UK too, such as the scandal of the Royal Bank of Scotland in 2008 and the recent Tesco scandal in 2015. Tesco increased profit by postponing accrued expenses and recognized the earning early for earnings management. These scandals raise concerns about the efficiency of the board of directors in providing reliable financial report to shareholders and external investors (Larcker and Tayan, 2016). In the past few decades, Enron, Lehman Brothers, WorldCom and many other fraud cases are even permanently closed. All of these scandals and frauds cases are directly or indirectly associated with earnings management. Hence, earnings management is one of the frontiers of modern accounting and corporate governance research.

Research Objectives and questions

The purpose of this study is going to reach the following objectives:

[1] To find out the UK listed companies' level of the earnings management during the year from 2012 to 2016.

[2] To find out whether the boards of directors' characteristics are related with UK listed companies' level of earnings management from 2012 to 2016

Moreover, this study is conducted based on the direction of the following problems:

Do the boards of directors' characteristics have the relationships with the level of earnings management of the UK listed companies?

What are the associations between the boards of directors' characteristics and the level of earnings management of UK listed companies?

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Significance of the study

This study will empirically examine the effects of board characteristics in terms of board size, the number of meetings held by the boards in a year, board independence, gender diversity, and CEO duality on earnings quality in firms which are listed in the Financial Times and Stock Exchange 350 during the 2012-2016 period. The focus of this study is to observe whether different board characteristics of UK firms will have effects on their earnings qualities. To be specific, *first*, this study will examine whether a larger board size will have better earnings quality compared with smaller board size. *Second*, this study will investigate whether companies that hold board meetings frequently will have a better earnings quality compared with those that rarely have board meeting. *Third*, this study will test whether high percentage of independent directors will bring a higher earnings quality. In addition, this study aims to find out whether high percentage of female directors will bring a higher earnings quality. *Finally*, this aims to find out whether the companies' level of earnings management is higher when the CEO is also the member of the board.

Hopefully, the results of this study could shed some light on UK's corporate governance, particularly for board composition. And the results of this study would provide some valuable ideas of giving feedback which can enhance the assessment of recent implementation of UK Corporate Governance Code, and the findings may also help to offer some ideas for those companies who should enhance their corporate governance and company's performance.

II STRUCTURE OF THE STUDY: LITERATURE REVIEW

Earnings quality Dechow, Ge and Schrand (2010) defined that the higher quality of earnings provides more evidences about the companies' financial performance, which is helpful for the specific decision made by the specific decision-maker. Therefore, higher-quality financial statements not only help inside management but also help stakeholders to make better financial decisions. For inside management, the higher quality of the financial statement can deliver more relevant information for managers or CEO to control and supervise the company's financial activities (Chen and Jaggi, 2000). For stakeholders including investors, lenders or policy makers of the state government, the higher quality of the financial statements can provide investors accurate financial information, which can help them to predict company's further financial performance and make the financial decisions (Leuz, Nanda and Wysocki, 2003). Moreover, the higher quality of financial statement can help lenders to evaluate inside management team and ensure that the company have ability to pay back the money (Ahn and Choi, 2009), and help policy makers to publish more accurate financial policies for all listed companies (Dechow and Skinner, 2000). Dechow (2010) outlined three features of high level of earnings quality. *First* of all, the earnings quality should provide relevant information for making the decisions. *Secondly*, high quality of the reported earnings should be informative about the financial performance of the companies. *Finally*, the quality of earnings is not only based on the ability of basic financial performance which should be correlated with decisions making, but also determined by the ability to measure performance by accounting systems.

Earnings management recently, managers commonly exercise the judgments in financial reporting by using accounting accruals, and they would like to make sure that the reported earnings are the best

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measurement of the firm's performance. Bergstresser and Philippon, (2006) stated that the opportunity to "manage" the revenue is partly due to the reported revenue including cash flows and changes in corporate value. There are many factors that affect and restrict the earnings management of the company. However, there are two aspects in terms of system level: the ***first one*** is the accounting standard; the ***second one*** is to ensure the effective implementation of accounting standards, including corporate governance structure, CPA audit and market Supervision and so on (Jaggi, 1975; Saudagaran and Diga, 1997). Accounting standards give the firm a certain number of accounting options, whose purpose is to make the company more real and appropriate to reflect its financial situation and operating results, but the premise is to ensure the effective implementation of accounting standards and arrangements (Holthausen, and Watts, 2001).

The incentives for managers to manage earnings including three aspects: capital market motives, contract motives, and regulatory motives (Healy and Wahlen, 1999). *Firstly*, the capital market motivation means that the listed companies' incentives for earnings management are mainly reflected in two aspects: first, to obtain the listing of earnings management margin financial report; the second is to meet the requirements of the listing after the listing, through the earnings management to adjust the important indicators (Healy and Wahlen, 1999). *Secondly*, contact motivations. The motivations for earnings management in the contractual relationship comes mainly from two aspects: one is from the agency relationship between the enterprise management and the shareholders; the other one is the debt contract. *Thirdly*, the regulatory motivations (ibid). The government regulates the listed companies with the help of accounting surpluses, which motivate the regulatory authorities to respond to regulatory incentives through earnings management (ibid).

Accrual accounting system provides managers with the opportunities to use discretion to determine the firm's reported earnings in any period (Gunny, 2010). Moreover, (Xie, Davidson and DaDalt, (2003) stated that earnings management is the one that managers change the financial statements to mislead the shareholders or stakeholders about the current financial performance of the companies, or to alter the contractual results which determined by the reported financial performance. Some of the studies investigate the earnings managements by putting the efforts on the evidences of private or public firms. Compared with public firm, private companies commonly will have higher level of earnings management, but for both private and public firms which have stronger legal systems will have less earnings management (Burgstahler, Hail and Leuz, 2006).

Corporate governance in UK in a company, the separation exists between the company's ownership and its management, and some self-interested managers will take the opportunities to benefit themselves while hurting shareholders' wealth. The interest conflicts from shareholders and managers is called agency problem, and the cost is called agency cost (Davison, Jiraporn and Kim, 2004). Corporate governance is the mechanism adopted by the organizations to prevent potential agency problems which exist between self-interested managers and shareholder (Hart, 1995). In UK, all companies which are listed on London Stock Exchange must comply with the Code which was initialized by a publication of the Cadbury report in 1992 (Cadbury, 1992), and the Code provides basic rules of good corporate governance. In addition, the Code 2010 describes how corporate governance involves board activities and how to determine the company's values and is different from

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the day-to-day operations management of the full-time executive (Financial Reporting Council, 2010). It can be concluded that the board is a significant player in the operation of companies that must balance the interests of the stakeholders. Moreover, Lacker and Tayan (2011) stated that the monitoring system of the corporate governance is to oversee management team by board of directors and to report the reliability of the financial statement by the external auditors.

The role of boards of directors Characteristics of board of directors and financial reporting: The board of directors, as a kind of institutional arrangement to solve the company's agency problem, is included in the structure of the corporate governance, and which is an important part (Hermalin and Weisbach, 2003). However, the effects of the earnings management are subject to the characteristics of the board itself (Peasnell, Pope and Young, 2000). Because of different board characteristics such as holdings, meeting frequency, structure, and independence of the board, etc., the direction and extent of earnings management are not the same. Seamer and Psaros (2000) stated that the companies which have lower number of fraudulent activities is significantly related to the higher number of independent directors on the boards, and the company will commit more fraudulent activities when there is lower percentage of independent on the boards. In addition, Uzun Szewczyk and Varma (2004) used the sample of US during the period from 1978 – 2001, and found that the likelihood of company's fraudulent activities will decrease when the auditing board members increase. Moreover, on average, if the company has larger percentage of inside directors, there is higher possibility that the company will commit frauds whereas the company will less commit frauds when there is higher percentage of independent outside directors Uzun et al. (2004). Dunn (2004) investigated the relationship between duality of executive management and the fraudulent financial statement. It shows that when the members of the top management hold more power, there is more likely that the company will issue fraudulent financial statement. In this type of companies, the members of top management hold the important management position within the company, and at the same time, they are acting as the board of directors through their ownership of the company's owners.

The role of boards in monitoring: The incorrect financial statement is a clear sample for the situation where the interest conflicts exist among managers and shareholders, and the accurate financial statements are very important information for shareholders or investors to make the investment decisions. Accounting numbers are commonly used by manager to manipulate earnings, and Weisbach (1988) reported that the financial performance and composition of the boards are negatively correlated. Therefore, for boards of directors, monitoring and evaluating the management's behaviors in the company is one of their important duties. The boards of directors take the responsibility for controlling the system in the large company disciplining and monitoring the management, and they are responsible to all shareholders (Jensen and Meckling, 1976).

To alleviate managers and shareholders' conflicts, some countries regulated the composition of the board of directors to improve companies' governance mechanism (Vafeas and Theodorou, 1998). However, for insider directors, such as CEO, they cannot fully fulfill the duty as monitor and evaluate activities of management, and the outside board members are taking the most responsibilities to monitor management. Thus, Brickley et al (1994) stated that the outside directors are mainly responsible to solve the agency problem between shareholders and managers, and they are the

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important players in protecting shareholders' interest in the situation where shareholders and managers' interest is separate. In order to restrict the opportunistic earnings management, it requires that the outside directors need to satisfy some conditions before they can monitor effectively, for example, the outside directors should have some expertise background, and they need to understand the financial reporting system, especially the process of creating accruals by manipulating the earnings.

Hypotheses Development

Board size and earnings management: For each company, it is important for them to measure the number of board members (Jamaludin, Sanusi and Kamaluddin, 2015), as the number of board members can affect whether the board can work efficiently or not (Chtourou, Bedard and Courteau, 2001). The impact of the board size can be negative or positive, and which is mainly depend on the number of board size is small or large. There are disadvantages for both smaller size of boards and larger size of boards. According to Jamaludin, Sanusi and Kamaluddin (2015), smaller board may have the problem in having fewer independent directors and which will decrease the effectiveness for them in detecting earnings management while larger size of boards may have the problem in bureaucracy and conflicting interest, and which will prevent independent directors to fulfill their duties in monitoring. Some previous studies investigated the associations between board size and the level of earnings management, found that they are positively related with each other (Rahman and Ali, 2006), and Kiel and Nicholson, (2003) stated that the larger size of the board, there is more likely that the larger board will prevent the agency problem with more experienced directors. Jensen (1993) found that if the board size is larger, the board is weaker to monitor the management for the reason that the board members will have problems to communicate with each other efficiently, and it is more likely that the management will engage in earnings management. Hence, from the above perspectives, this study assumes that the more members in boards, the board is less efficient to monitor the behaviors of managers, and earning management is more likely to happen. Thus, the first hypothesis is:

Hypothesis 1: The larger the board size, the higher level of earnings management.

Board meetings and earnings management: Board meetings are an effective way for board members to communicate, form decision-making and supervise managers (Minichilli, Zattoni and Zona, 2009). Therefore, the number of board meetings is an important factor for measuring the board's behaviors and determining the efficiency of the board (Vafeas, 1999). The more meetings that the boards have, the more positive of the directors will be, and the directors will perform their duties better, while the rare meetings of the board will reduce the efficiency of the directors (Berghe and Levrau, 2004). Considering the impact of the number of board meetings on earnings management, Abbott, Park, and Parker (2000) and Anderson, Mansi and Reeb (2004) found that the number of board meetings and the likelihood of occurrence of earnings management or accounting fraud there is negatively correlated. Thus, the hypothesis for board meetings and earnings management is:

Hypothesis 2: There is a negative correlation between the frequency of board meetings and the degree of earnings management.

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Independence of board and earnings management: Peasnell, Pope, and Young (2000) found the result from the sample of UK companies shows that larger number of outside directors in the board will decrease the abnormal accruals. The compositions of the board are important components for efficiently monitoring. Appointing the managers as the directors can help shareholders have more information about the organization performance, but, if the inside directors take the most of the positions in the board, it will lead to the problem that the stockholders' wealth will be decreased as the managers have their own interests (Beasley 1996; Fama 1980). Thus, appointing the outside directors in the board is mainly to obtain the independence of the monitoring over the board, to reduce the agency problem and to improve company's performance (Craven and Wallace 2001). In addition, Larcker and Tayan (2016) stated that the nonexecutives who take the position in the board do not rely on the firms to live and they can easily play their role in monitoring management team without any excessive effects from the top managers. However, not all of the outside directors or non-executives are independent directors. Prior studies found it very difficult to examine or compare the aspect of the definition on director independence from one company to others. For example, some studies used outside directors in place of independence to define the directors who are independent from the management team (Ajinkya, Bhojraj and Senguapta, 2005), and some researchers only take the differences between executive directors and non-executives' directors into account when they did the researches. Thus, previous literature acknowledges that the directors are independent when they are independent from the management team (Anderson, Mansi and Reeb, 2004; Dulewicz and Herbert, 2004; Hooghiemstra and van Manen, 2004), and which also means that they are not the employees in the companies or have no business relationship with the them. According to Corporate Governance Code of UK (Financial Reporting Council, 2014), it reported that the independent directors of this company should not have been employed during last 5 years, or they have no business relationship with this company. In addition, they should have not received any fees from the company except for the director fees, or are not the family members with any managers or employees in the company.

Many studies found it difficult to examine the differences of directors' independence when one company is compared with others. Ajinkya, Bhojraj and Senguapta (2005) reported that in order to present the dependence of the directors, some researchers will not use the word 'independence' but the words 'outside directors', or simply examine the difference between non-executive directors and executives' directors. Dulewicz and Herbert (2004) stated that the director is independent when the director is not employed by the company as the senior manager. Even though the lack of consistent definition of the independence of the directors, it is still the useful signal for a good corporate governance in a company where the majority of the outside directors will enhance the effectiveness of the board. Anderson, Mansi and Reeb (2004) assumed that the independent directors could contribute the responsibility to monitor the board and subsequently lead to a better corporate performance. Dunn (2004) showed the evidence that the independent board and fraudulent financial reporting is negatively related. Fama and Jensen (1983) stated that it is more efficient for directors to monitor the management when they are independent, and Beasly (1996) also found that when the board has outside directors, the possibility of the financial frauds that happen in the company will reduce. Thus, it argues that the directors can fulfill their function in monitoring the management when

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they are independent, and the outside directors can monitor more efficiently to the management. Therefore, the hypothesis is following:

Hypothesis 3: The higher the percentage of independence directors, the lower the level of earnings management.

CEO duality and earnings management: Since 2003, the Code has recommended UK companies that one person cannot take the position on CEO and the Chairman of the board at the same time, and the duties between the Chairman of the board and the CEO shall be separated explicitly by providing in writing and agreed by the board (Financial Reporting Council, 2003). The purpose of this separation is to prevent the superpower of the chairperson or chief executive who can reduce the quality of corporate governance. Xie et al. (2003) stated that CEO duality is that when the person occupies both positions of CEO and the boards. In addition, when CEO with the title of chairman of the board, they will have more power to control the board (Ronen and Yaari, 2011), and it will reduce the independence of the board (Fama and Jensen, 1983). If the board is less independent, the board will be less effective in performing its duties in monitoring and making financial decision (Chtourou, Bedard and Courteau, 2001). On the contrary, the CEO non-duality can improve the function of monitoring and controlling exercised by the board (Benkel et al. 2006). CEO duality will increase the power for CEO, and the more concentrated power will lead to more management discretion (Cornett, et al. 2008). Brickley et al. (1997) use the samples in US, and they also find the result that the level of earnings management is higher when the CEO is also the member of board. The CEO duality decrease the power of monitoring by the boards, and which will be associated with greater number of discretionary accruals (Cornett, et al. 2008). From the above contribution for CEO duality, this study assumes that the association between CEO duality and the level of earnings management is also significantly negative related with earnings management for the UK listed companies during the year 2012 to 2016.

Hypothesis 4: There is higher level of earnings management if the CEO of the company also take the position in the board.

Gender and earnings management: Gender is said to be the most controversial issue of diversity, not only considering the diversity of the board, but also in legislations and in terms of other usual social circumstances (Milliken and Martins, 1996). In recent years, as women play more important role in each area, many countries, such as France and Sweden, published various policies to increase the representation of women in government (Caul, 1999). Except for the government, some European companies, such as Greece, France and Spain, increase the number of women in the board, and the gender issues in the board of directors are particularly timely (Terjesen, Sealy and Singh, 2009). In addition, in Norway, the companies will voluntarily to increase the number of female directors to make the company composed by female board of directors, which accounts for 40% in the company (Ripley, 2003). In addition, a recent study also found that if the company has the female senior executives involved for the initial public offering, the IPO will be more significantly successful, and the stock value and earnings will also increase (Kang, Cheng and Gray, 2007). That is to say, senior women of management can get higher income and increase the wealth for shareholders (Ripley, 2003).

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The increasing the number of female directors in the board can improve companies' corporate governance, and currently employing more female directors in the board can also be transformed into a competitive advantage (Bernardi, Bean and Weippert, 2002). In the United States, the value of women has been widely recognized by the fact that there is at least one woman at the position of board of directors in Fortune 500 companies (Hyland and Marcellino, 2002).

Hypothesis 5: The larger percentage of the female directors on the board means the lower level of earnings management in the company.

METHODOLOGY

Sample

Sample selection in order to find out the associations between the board characteristics and earnings quality, this study collects the initial sample of the Financial Times and Stock Exchange (FTSE) 350 from 2012 to 2016. The total number of the firms of FTSE 350 is 351 since the Royal Dutch has separate shares A and B. The final number company out of 351 is 203. The final sample is shown in Table 1, and it is estimated by modified Jones model to calculate the abnormal accrual. The final sample is based on the SIC Code 60-69 (Kiel and Nicholson, 2003) which excludes the financial firms (e.g. Banks, Financial Service, Investment, Insurance and Real Estate companies) because of the differences in using financial reporting system.

Table 1 Sample Selection

	Firm-years
Initial sample of FTSE 350	1,755
(-) Financial Firms (SIC 60-69)	(320)
(-) Missing data in board characteristics	(420)
Final Sample	1,015

Table 1 Sample Used in Analysis

Data Collection

Some board characteristics data are from the Datastream, such as board meeting, board size, the percentage of the independent directors, the percentage of female directors on the boards, CEO duality, firm size, leverage, market to book value and cash flow from operation. There are some missing data for board characteristics. Thus, the study only contains the sample with complete data for financial and board characteristics data. In addition, in this study, the companies will only use the non-financial companies, such as retail companies, food industry, travel and leisure companies, mining companies, and media and so on.

Models

For the present study, in order to find out the quality of earnings for a company, the abnormal accruals are considered as the proxy to measure the level of the earnings management (Klein, 2002). Abnormal and normal accruals are two important components for total accruals. The normal accruals are generated by the business activities which are not easy to control or manipulate. However, using different financial accounting methods is more likely to control abnormal accruals. Managers can use

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abnormal earnings to present financial statements for their own interests. The normal accruals are generated from the fundamental financial performance, while the abnormal accruals arise when the accounting rules are distorted, and due to the imperfect accounting measurement system, managers use accounting information to manage earnings (DeFound and Jiambalvo, 1994). The general idea is that the normal accruals represent the corporate governance of a company is modeled properly, while the abnormal accruals represent the lower quality of earnings (Dechow, Ge and Schrand, 2010).

There are some different ways to calculate the abnormal accruals, such as the DeAngelo Model, Jones Model, Performance Matched Model of Kothari et al, Dechow and Dichev Model and Modified-Jones Model (Dechow, Ge and Schrand, 2010). To measure the abnormal accruals, the total accruals should minus normal accruals. In this study, it is going to use Modified-Jones Model, and this model is easier to detect earnings management (Peasnell, Pope and Young, 2005). According to Jones (1991), abnormal accruals as the proxy of the earnings management are estimated by running the regression of total assets, changes in revenues, and property, plant and equipment. However, Dechow, Sloan and Sweeney (1995) indicated that the type II errors exist in the Jones model, and it is not suitable to use this model as type II errors classify accruals as normal when they are not. Moreover, Dechow, et al. (2010) reduced the type II errors in the Jones model by adjusting the growth in credit sales, which are usually manipulated by the managers, and this adjustment improve Jones model to detect a residual that is correlated with unexpected revenue accruals and better reflects the manipulation of earnings.

Thus, this study uses the Modified-Jones Model regression to find out each company's residual value (Ahmed, et al., 2006), and which is the abnormal accruals for each company during 2012 - 2016. Firstly, according to Larcker, Richardson and Tuna (2007), the total accruals equal the net income before extra items minus the net cash flow from operating activity.

Total Accruals = net income before extra items – net cash flow operating activity (1)
Secondly, total accruals include normal accruals and abnormal accruals, and normal accruals are the value from the business activities while abnormal accruals exist when the earnings management happens.

Total Accruals = normal accruals + abnormal accruals (2)
As Dechow, et al. (1995) described, this study will use Modified-Jones model as follow:
$$TAit / Ait\text{-}1 = \alpha i\ (1 / Ait\text{-}1)\ it + \beta 1i\ (\Delta Sales - \Delta Rev)\ it / Ait\text{-}1 + \beta 2i\ PPEit / Ait\text{-}1 + \varepsilon it \quad (3)$$

Where:
TAit = total accruals in year t for firm i:
ΔSalesit = sales in year t minus revenue in year t - 1 for firm i;
ΔRevit = revenues in year t minus revenues in year t – 1 for firm i;
PPEit = the net property, plant and equipment in year t for firm i;
Ait-1 = total assets in t – 1 for firm i;
εit = error term in year t for firm i and which is abnormal accruals;

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In order to reduce the problem of heteroscedasticity, all variables are scaled by lagged total asset (Jones, 1991). The estimation of a regression equation which has a heteroscedastic disturbance term can be divided by the variance of the disturbance for both side of the regression equation (Kmenta, 1986), and lagged assets (Ait-1) are assumed to be positively related with the variance of the disturbance term (Jones, 1991).

From the equation (2) and (3), the abnormal accruals can be calculated as the residual value from the equation (3) by using Modified-Jones model. When the abnormal accruals are calculated, the multiple regression will exam the relationship between board characteristics and abnormal accruals, and which can present a level of earnings management of a company.

The dependent variable has been mentioned before which is abnormal accruals. The independent variables are characteristics of board, which are board's size, number of board meeting, the percentage of independent board members, percentage of female directors, and CEO duality. Table 3.3.2 shows the definition of each variable for the equation. In addition to the variables of board characteristics, the study also controls other factors, which will affect earnings quality. Firstly, this study controls the size of the firm and which is measured as the firm's log of market capitalization (Siregar and Utama, 2008), and the firm size is a variable which can affect the probability of a company to manage earnings (Lee and Choi, 2002). Based on previous researches, this study uses log total asset to measure the size of companies. As Boone et al. (2007) found that the firm's size and the board size are positively related, and the board size is increasing when the firm is larger and more diverse. Albrecth and Richardson (1990) found that the larger firms will have less incentives to smooth earnings than the smaller firms, and smaller firms are more likely to management earnings for avoiding reporting losses than a larger firm (Lee and Choi, 2002). However, Moses (1987); Michaelson, James and Charles (1995) found that larger firms have bigger incentive to manage earnings than smaller firms. Thus, it presumes that the coefficient of the firm size will be positive.

Secondly, this study controls the variable of leverage, and the leverage is measure by the ratio of the debt and total asset. The studies by Dhaliwal, Gleason and Mills (2004) and Core and Schrand (1999) found that the leverage is associated with company's earning quality, and Becker, DeFond, Jiambalvo, and Subramanyam (1998) stated that this association is mainly found between leverage and abnormal accruals. High amount of leverage is correlated with closeness to the violation of debt covenants (Press and Weintrop, 1990), and violation of the debt covenant is associated with the choice of abnormal accruals (DeFound and Jiambalvo, 1994). Manager in the firm which has higher leverage will have more motivations to create income-increasing abnormal accruals to avoid debt covenant violation (Press and Weintrop, 1990). Thus, it presumes that the coefficient of leverage will be negative.

Then, the control variable of book-to-market ratio is also included in this study, and the book to-market ratio is defined as the value by dividing the balance sheet value of the ordinary equity in the company from the market value of the ordinary equity (Barber and Lyon, 1997). Smith and Watts (1992) stated that the market to book ratio represents the growth rate of a company, and the book-to-market ratio is a positively related with company's performance. In addition, it is probable that the

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book-to-market ratio is related with the incentives of firms to manage earnings, and the book-to-market ratio is negatively related with earnings management (Louis, 2004). The firms with low book-to-market ratio will be more likely to manage earnings as they are more sensitive to the fluctuations of the earnings, and they can benefit more from managing the earnings (Skinner and Sloan, 2002). Thus, there is higher level of the earnings management with low book-to-market ratio.

Finally, cash flow is also considered as the control variable in this study, and this variable is scaled by lagged asset. As Dechow (1994) stated that cash flows are predicted to suffer more severely from the problems of timing and matching, and which will reduce the ability of cash flows to reflect companies' performance. Burgstahler and Dichev (1997) found the evidence that the cash flow from operation is manipulated to achieve increases in earnings, and Leuz et al. (2003) found that the managers of the company will use the operating cash flow to manipulate the earnings by accelerating the reporting of future revenue or delaying the reporting of current costs to hide poor current financial performance. Thus, it is presuming that the coefficient of the cash flow from operation will be negative.

From the above contributions, the regression would be as follow:
$AACit = \alpha + \beta 1BdSizeit + \beta 2BdMeetit + \beta 3\%IndDireit + \beta 4\%FemaleDireit + \beta 5CEODUALit + \beta 6FirmSizeit + \beta 7Levit + \beta 8BMit + \beta 9CFOit + \varepsilon it$

Table 2 - Definitions of the dependent variable (Jones, 1991) and independent variables

Variables	Definitions
TAit	Total accruals
ΔRevit	The change in revenues for firm i between t-1 and t.
ΔRecit	The change in receivables for firm i between year t-1 and t.
ΔSalesit – ΔRecit	The difference between the change of revenues and change of receivables in the year t for firm i.
PPEit	The net value of property, plant and equipment in year t for firm i.
AACit	Abnormal accruals in year t for firm i, and it is estimated by using modified-Jones model.
BdSizeit	The numbers of directors on the board in year t for firm i.
BdMeetit	The number of meeting held by board of directors in year t for firm i.
IndDireit	The percentage of independent directors in the board in year t for firm i.
FemaleDireit	The percentage of the female directors on the board in year t for firm i.
CEODUALit	A dummy variable. "1" equals to the CEO also the board member and "0" otherwise.
FirmSizeit	The amount of total assets in year t for firm i.
Levit	The amount of debt to total asset in year t for firm i.
BMit	The ratio of book value to market value in year t for firm i.
CFOit	The net cash flow from operating activity in year t for firm i.

EMPIRICAL RESULTS / FINDINGS

Descriptive Statistics Table 3 shows the descriptive statistics for characteristics of board, and the Table 4 shows the descriptive statistics for the variables of Modified-Jones model regression. For

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table 3, the descriptive statistics are ranked by the dependent variables, namely, abnormal accruals, independent variables, such as board size, board meeting, percentage of independent board directors, and percentage of female board directors, CEO duality, and control variables which are leverage, firm size, book-to-market ratio and cash flow from operation.

First, from the table 3, it can be seen that the minimum and maximum number of board of directors in all companies from 2012 to 2016 are 4 and 12. In addition, the mean value and standard deviation is about 7.9 and 3.35. It shows that the number of directors in the board is not widely dispersed, and it means that there is about 4 to 10 directors in the board in each company from 2012 to 2016. Consistent with UK corporate governance code, the company should have suitable number of board members, and which can improve the efficiency of the board performance to monitor managers' behavior (Financial Reporting Council, 2016).

Secondly, the minimum and maximum number of meetings that have been held by the companies from 2012 to 2016 are 6 and 11. Moreover, on average, the number of meetings that the companies held are 8 and which spreads from 7 to 10. The difference between minimum and maximum number of meetings is not too wide. As followed the UK corporate governance code, the number of meeting is not restricted, but the board should hold the meetings regularly every year with the attendance of the directors (Financial Reporting Council, 2016).

Then, the minimum number of the independent directors in the board is 6.7% and the maximum number of the independent directors in the board is 66.7% from the year 2012 to 2016. In general, the percentage of the independent directors in the board is 49% and which spreads from 36% to 52%. The data shows a big differentiation for the percentage of the independent directors in the companies from 2012 to 2016. According to Financial Reporting Council (2016), the UK corporate governance code made the policy that the listed companies should have more than half of independent board members in the companies. The descriptive statistics for percentage of independent board of directors shows that some companies did not complied with the Code while other companies comply the code well.

In addition, for the number of the female directors in the board, the minimum percentage is 4.01% and the maximum percentage is 30%. There is also the wide difference for the companies to have female directors in the board, and on average, the number of female directors in the board is about 19.8%. In addition, the descriptive statistics shows the value of standard deviation for the female directors in the board is from 26
% to 13%.

For the control variables, there is big difference for the leverage, firm size, book-to-market and cash flow from operation. The minimum and maximum number of the leverage is 0.0002 and 0.47, and as leverage is measured by the debt to total asset ratio, the companies with the large number of the leverage means the companies have more debt than total asset. For the firm size, this value is after log value and its minimum and maximum number is 0.067 and 12.09. The wide difference between companies shows that some companies have less market capitalization while others have more market

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capitalization from year 2012 to 2016. The minimum and maximum number for the book-to-market ratio is 0.94 and 7.78, and it shows a big distinction between the companies for the year 2012 to 2016. For the cash flow from the operation, this variable is scaled by lagged asset and which the minimum and maximum number of is 0.0058 and 1.146. The wide difference between these variables shows that some companies have larger amount of cash flow while others have smaller amount of cash flow from year 2012 to 2016.

Table 3 - Descriptive Statistics for Board Characteristics

Descriptive statistics for Characteristics of Board and control variables					
Variables	Observation	Mean	Std. Dev.	Min	Max
Board size	1,015	7.939901	3.350253	4	12
Board meeting	1,015	8.302895	1.750812	6	11
% of Independent board directors	1,015	0.493435	0.1318006	0.0667	0.0667
% of Female board directors	1,015	0.1982145	0.0690605	0.0401	0.3
CEO duality	1,015	0.0906404	0.2872386	0	1
Leverage	1,015	0.2256365	0.1500309	0.0002	0.4703
Firm size	1,015	2.715766	3.745079	0.0677959	12.09995
Book-to-market ratio	1,015	3.318542	2.182202	0.94	7.78
Cash flow from operation	1,015	0.2491496	0.3591188	0.005881	1.146592

Source: Computation

Table 4 - Descriptive Statistics for Modified-Jones Model Regression

Descriptive statistics for Modified-Jones model regression					
Variables	Observation	Mean	Std. Dev.	Min	Max
Scaled total accruals	1,015	0.391677	0.1975455	-0.9808181	5.46463
Inverse lagged total asset	1,015	0.1579539	0.024295	0.1208467	0.2229261
Scaled ΔSales - ΔRev	1,015	0.3746976	2.400738	-26.71793	4.687143
Scaled PPE	1,015	2.346904	9.815047	6.40e-06	131.8412
Abnormal accruals	1,015	-0.0062884	0.0511792	-0.0973533	0.0725967

Source: Computation

The table 4 shows the variables that used in the Modified-Jones regression to calculate the abnormal accruals. In this table, the mean value of the abnormal accruals for the companies from 2012 to 2016 is -0.0062884, this means that on average, most of the companies apply the income-decreasing approach to manage earnings.

Multicollinearity

When there exists a strong linear relationship between two or more than two independent variables, the multicollinearity is existing in this model (Mansfield and Helms, 1982). If the model has the multicollinearity, it is difficult to measure the individual impact of a change in one independent variables on dependent variables, since the multicollinear independent variables move together (Vencappa, 2016). Thus, for assessing the effect of the independent variables on the dependent variables, it is important to assess whether there is multicollinearity among these independent variables.

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Pearson Test

In this study, Pearson test is employed to test the linear relationship among the independent variables (Vencappa, 2016), and the table 5 shows the results of the association among the independent variables. From the table 5, it shows a strong collinearity between cash flow from operation and book-to-market ratio, which is 0.9056 and at the significant level of 0.1%. In addition, the association between board size and board meeting, and board size and the percentage of independent directors is also larger than 0.5. The correlation for board size and board meeting is 0.6812 which is at the significant level of 0.1%, and the correlation for the percentage of independent directors and board size is 0.5736 which is at the significant level of 0.1%. Apart from these 3 variables, there is no strong correlation among the variables. Most of the correlation for the variable is smaller than 0.1 and which is at the significant level of 0.1%, for example the board meeting and leverage, CEO duality and firm size, leverage and firm size, and leverage and book-to-market ratio. The remaining correlation is above 0.1 or 0.2, and which is at the significant level of 0.1%, 0.5% or 1%. Thus, except the above 3 variables which have strong correlation, there are no other problematic relationship among the independent variables in this model.

Table 5 - Pearson Correlation

	Board size	Board meeting	% of independent directors	% of female directors	CEO duality	Leverage	Firm size	Book to market	CFO
Board size	1								
Board meeting	0.6812***	1							
% of independent directors	0.4606***	0.4489***	1						
% of female directors	0.5736***	0.4362***	0.3019***	1					
CEO duality	0.0682	0.1113***	0.0027	- 0.065**	1				
Leverage	0.0225	-0.0942***	-0.0291	0.05	-0.1121***	1			
Firm size	0.253***	0.0606*	0.0207	0.1942***	-0.0871***	0.0869***	1		
Book to market	0.2549***	0.0355	0.0348	0.1713***	-0.0153	0.0818***	0.2088***	1	
CFO	0.2549**	0.0495	0.0192	0.1694***	-0.0741**	0.1485***	0.9506***	0.1098	1

(*indicates the level of significant at 1%; **indicates the level of significant at 5%; ***indicates the level of significant at 0.1%)

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Multiple Regression:

Modified-Jones model regression: In order to measure the abnormal accruals, this study apply the Modified-Jones model to run the data and get the abnormal accruals. From the table 6, the R-square shows a low value which is around 4%, and the R-square means how much the independent variable (Inversed Total accrual, Scaled the change of revenue and receivables, and Scaled property plant and equipment) can explain the dependent variables (Scaled Total accruals). Thus, in this regression, it shows that the dependent variable can only be explained by the independent variable by 4%. However, this regression is significant at the level of 0.1%, and it means that the dependent variable and independent variables are related. In addition, the changes of independent variable can also affect the dependent variable. Therefore, table 6 shows the summarized result for the regression of Modified-Jones model. Based on the regression, the abnormal accruals which is used as the dependent variable for the next regression can be measured as the residuals value of this Modified-Jones model regression (Dechow, et al., 2010).

Table 6 - Modified- Jones Model Regression

Source	SS	Df	MS	Number of obs = 1,015
Model	1.66284797	3	0.554282656	F (13, 1012) = 14.21
Residual	39.4648152	1,012	0.038996853	Prob > F = 0.0000
Total	41.1276632	1,015	0.040519865	R-squared = 0.0404Adj R-squared = 0.0376
				Root MSE = 0.19748

Scaled_TACC	Coef.	Std. Err.	t	P > | t |	[95% Conf. Interval]
Inversed TACC	0.2591189	030423925	6.11	0.0000	0.1759316 0.3423061
Scaled_revrec	-0.0003788	0.0031688	-0.12	0.905	-0.006597 0.0058394
Scaled_ppe	-0.0003064	0.0007832	-0.39	0.696	-0.0018433 0.0012304

Random Effects Model

Pooled model and Random effects model: In panel data set, the ordinary least squared (OLS) regression can be simply replied in the pool model (Stimson, 1985). In addition, it assumes that there is no heterogeneity in the pooled model (Beck, Katz and Tucker, 1998). However, for the Random effects model, the individual effects are assumed to be randomly distributed across the whole population, and the individual effects are not correlated with the dependent variables (Vencappa. 2016). The pooled model assumes that the companies are similar and it ignores the unobserved heterogeneity, and ignores that each individual are different. For panel data, in order to know which model is suitable, the Breusch-Pagan LM test is used to find out which model is better for this study. Furthermore, if the p-value is very close to 0, then it means that this study should reject to use Pooled model, and it should use Random effects model.

Ordinary Least Squared regression:

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Table 7 - Ordinary Lease Square Regression

Source	SS	Df	MS	Number of obs = 1,015
Model	0.087179271	9	0.009686586	F (9, 1005) = 3.97
Residual	2.56880554	1,005	0.002556025	Prob > F = 0.0001
Total	2.65598482	1,014	0.002619314	R-squared = 0.0328
				Adj R-squared = 0.0242 Root MSE = 0.05056

AAC	Coef.	Std. Err.	t	P > | t |	[95% Conf. Interval]
BdSize	-0.0008456	0.0007607	-1.11	0.267	-0.0023384 0.0006471
BdMeet	-0.0018444	0.0007301	-2.53	0.012	-0.0032771 -0.0004117
IndDire	-0.0151212	0.007551	-2.00	0.045	-0.0299387 -0.0003037
FemaleDire	-0.0534134	0.0194561	2.75	0.006	0.152342 0.0915925
CEODUAL	0.006318	0.005675	1.11	0.266	-0.004813 0.0174542
FirmSize	-0.0002179	0.0014948	-0.15	0.884	-0.0031512 0.0027154
Lev	0.0122568	0.0111328	1.10	1.271	-0.0095894 0.034103
BM	-0.0005672	0.0007929	-0.72	0.475	-0.0021231 0.0009886
CFO	0.006709	0.0154847	0.43	0.665	-0.23677 0.0370951

Random Effects Model:

Table 8 - Random effects model

Random-effects GLS regression Group variable: company	Number of obs = 1,015 Number of groups = 203
R-sq: within = 0.0213 between = 0.0154 overall = 0.0177 corr (u_i, X) = 0	Obs per group: min = 5 avg = 5.0 max = 5 wald chi2 (13) = 20.66 Prob > chi2 = 0.0142

AAC	Coef.	Std. Err.	t	P > | t |	[95% Conf. Interval]
BdSize	-0.0012651	0.0007594	-1.67	0.096	-0.0027534 0.0002233
BdMeet	-0.0000998	0.0007061	-0.14	0.888	-0.0014838 0.0012841
IndDire	-0.0101052	0.0063361	-1.59	0.111	-0.225237 0.0023133
FemaleDire	0.493853	0.0184471	2.68	0.007	0.132297 0.855409
CEODUAL	0.0138889	0.0061248	2.27	0.023	0.0018845 0.0258933
FirmSize	0.0003067	0.0014508	0.21	0.833	-0.0025368 0.0031501
Lev	0.0203915	0.0148798	1.37	0.171	-0.0087724 0.0495553
BM	0.0004815	0.0009018	0.53	0.595	-0.0012918 0.0022549
CFO	-0.001341	0.0154136	-0.09	0.931	-0.0315512 0.0288692

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Breusch - Pagan test:

Table 9 - Breusch – Pagan Test (The Test for Identifying to Use OLS Or Random Effects Model)

Estimated results:

	Var	sd = sqrt (Var)
Abnormal	0.0026193	0.0511792
E	0.0011991	0.0346274
U	0.0013556	0.0368179
Test: Var (u) = 0		
chibar2 (01) = 537.48 Prob > chibar2 = 0.0000		

For this study, as the p-value for Breusch-Pagan test is zero. It shows that there is unobserved heterogeneity in the regression, and it means that the random effects model is more suitable. Thus, in this study, compared with pooled OLS regression, the random effects model will be employed.

Heteroscedasticity Test

After running the OLS regression, it is important to find out whether the regression exists heteroscedasticity. In order to find out whether the regression exists heteroscedasticity, the Breusch-Pagan/ Cook-Weisberg test aims to test the heteroscedasticity. In this study, as the pvalue of the Breusch-Pagan test is larger than zero and there is no significant evidence to reject the null hypothesis that there is no heteroscedasticity in the regression.

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity
Ho: Constant variance
Variables: fitted values of abnormal
chi2(1) = 2.25
Prob > chi2 = 0.1340

Fixed effects model and random effects model:

Fixed effects model: For panel data, random and fixed effects model are better than the pooled regression, as these two models control the heterogeneity across the companies (Vencappa. 2016). In the fixed effects model, the individual effects have the relationship with the dependent variables, and the fixed effects model aims to control the unobserved differences across companies (Vencappa. 2016). In addition, fixed effects model ensures that the dependent variables will give the unbiased estimation for their effects on independent variables (Allison, 2009). The fixed effects model can be measured by using within-estimator approach, and this approach aims to control for heterogeneity that is correlated with the dependent variables (Snijders, 2014). The fixed effects model assumes the individual effects are associated with the dependent variables, while the random effects model assumes, they are not correlated. Thus, the Hausman test can be used to find out whether the individual effects and the dependent variables are correlated or not (Vencappa. 2016). If the p-value is very close to zero, the study should use fixed effect model. However, if the p-value is larger than

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0.01, the study should use random effects model, as the insignificant evidence cannot reject the null hypothesis that the effects and dependent variables are not correlated.

Table 10 Fixed Effects Model

Fixed-effects (within) regression Group variable: company	Number of obs = 1,015 Number of groups = 203
R-sq: within = 0.0251 between = 0.0006 overall = 0.0051 corr (u_i, Xb) = -0.1214	Obs per group: min = 5 avg = 5.0 max = 5 F (13, 799) = 2.29 Prob > F = 0.0152

AAC	Coef.	Std. Err.	t	P > | t |	[95% Conf. Interval]
BdSize	-0.001526	0.0008472	-1.80	0.072	-0.0031891 0.000137
BdMeet	0.0006497	0.0007777	0.84	0.404	-0.0008769 0.0021763
IndDire	-0.008933	0.0066338	-1.35	0.178	-0.0219547 0.0040886
FemaleDire	0.0464956	0.0201103	2.31	0.021	0.0070206 0.0859706
CEODUAL	0.0464956	0.0071311	2.55	0.011	0.0042053 0.032201
FirmSize	0.004256	0.0016155	0.26	0.792	-0.0027455 0.0035967
Lev	0.0262927	0.0213472	1.23	0.218	-0.0153102 0.0681956
BM	0.0014236	0.0011024	1.29	0.197	-0.0007403 0.0035876
CFO	0.0014236	0.0183791	-0.53	0.594	-0.0458811 0.0262723

F test that all u_i=0: F (202, 803) = 6.63 Prob > F = 0.0000

Hausman test:

Table 11 - Hausman Test (The Test for Identifying to Use Fixed Effects Model or Random Effects Model)

	Coefficients			
	(b) Fe	(B) re	(b – B) Difference	Sqrt (diag (V_b – B_B) S. E.
BdSize	-0.001526	-0.0012651	-0.00261	0.003757
BdMeet	0.006497	-0.0000998	0.0007495	0.000326
IndDire	-0.008933	-0.0101052	0.0011722	0.0019651
FemaleDire	0.0464956	0.0493853	-0.0028897	0.0080081
CEODUAL	0.00182032	0.0138889	0.0043143	0.0036524
FirmSize	0.0004256	0.0003067	0.000119	0.0007108
Lev	0.0262927	0.0203915	0.0059012	0.153067
BM	0.0014236	0.0004815	0.0009421	0.0006298
CFO	-0.0098044	-0.001341	-0.0084634	0.0100105

Chi2 (13) = (b-B)' [(V_b – V_B) ^ (-1)] (b-B)
= 16.71
Prob > chi2 = 0.0535

As the table of Hausman test shows that the p-value is larger than 0.05 and it means that in this study, it is better to use Random effects model.

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Robustness Check

By changing the measurement of one explain variable, the study aims to find out the robustness of this random effect's regression model. In this study, it changes the measurement of the firm size, which used log total sales revenue to measure the firm size in this robustness check. Table 12 shows the results from the robustness check. From table 11, the main three variables which are significant before robustness check are still significant when the study uses different measurement of the variable.

Table 12 - Robustness Check

Random-effects GLS regression Group variable: company	Number of obs = 1,015 Number of groups = 203
R-sq: within = 0.0207 between = 0.0179 overall = 0.0189 corr (u_i, Xb) = 0	Obs per group: min = 5 avg = 5.0 max = 5 wald chi2 (13) = 20.68 Prob > chi2 = 0.0142

AAC	Coef.	Std. Err.	t	P > | t |	[95% Conf. Interval]	
BdSize	-0.0012691	0.0007592	-1.67	0.095	-0.0027534	0.0002233
BdMeet	-0.0000999	0.0007063	-0.14	0.888	-0.0014842	0.0012844
IndDire	-0.0100512	0.0063398	-1.59	0.113	-0.225237	0.0023133
FemaleDire	0.494124	0.018433	2.68	0.007	0.132843	0.855405
CEODUAL	0.013744	0.0060982	2.25	0.024	0.0017918	0.0256962
FirmSize(Revenue)	0.0003067	0.0014508	0.26	0.799	-0.0025368	0.0031501
Lev	0.0195466	0.0147973	1.32	0.187	-0.0094555	0.0485487
MB	0.0005149	0.0008747	0.59	0.556	-0.0011996	0.0022293
CFO	-0.0018717	0.0069753	0.27	0.788	-0.0117996	0.015543

FINDINGS AND DISCUSSION

Findings for board characteristics from the above test, the findings will follow the results from the random effects model. First, from the random effects model regression, the p-value is 0.096 and the coefficient is negative. It shows that the board size and the level of earnings management are negatively related at the significant level of 0.1. It provides the evidence to support the first hypothesis in this study. In addition, it shows that if the companies have smaller number of members in the board, the earnings management will be lower in these companies. On the contrary, if the companies have larger number of board member, the level of the earnings management in these companies will be higher. The smaller board with lower level of earnings management may also due to the board is more effective. This study has the same result with some previous studies that the companies with higher level of earnings management have smaller number of board members (Jensen, 1993; Beasley, 1996; Vafeas, 2000; Xie, Davidson and DaDalt, 2003; Ahmed, et al. 2006).

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Secondly, from the table of random effects regression, there is the result that the board meetings and earnings management have negative relationship. However, this negative relationship is not supported by high significant level, and which cannot support the second hypothesis in this study. From the table, it shows that the p-value of the number of meetings and abnormal accruals is higher than 0.1. Thus, it does not provide sufficient evidence for the relationships between number of board meetings and the level of earnings management in the companies. In addition, it shows that the number of meeting cannot affect the level of earnings management in the companies. From previous studies, there are also some studies cannot find efficient evident to support the relationship between board meetings and earnings management (Rahman and Ali, 2006)

Then, from the table of random effects regression, it shows that the percentage of independent directors and the level of earnings management in the companies is negative related. From previous studies, there also are some studies found the percentage of the independent directors and the level of earnings management is negatively related. It means that on the one hand, if the companies have more independent directors in the board, the companies will have less abnormal accruals. On the contrary, if the companies have fewer numbers of independent board members, the companies will have more abnormal accruals. However, in this study, the pvalue is 0.111 and the significant level is higher than 0.1. Thus, it cannot support this third hypothesis. The reason why this result from this study does not support the hypothesis may due to the collinearity of the independent variables. In addition, another reason might be the independent directors in these companies have no financial background or expert knowledge to support them to fulfill their role as the monitor. There are some previous studies, which find no significant relationship between independent directors and abnormal accruals (Rahman and Ali, 2006).

Next, from the random effects' regression, the p-value for this variable is 0.007. It shows that the relationship between the percentage of the female directors and the level of earnings management is highly significant at the level of 0.1 (10%). However, the coefficient of the percentage of female directors is positive related with the earnings management. The positive relationship between the percentage of the female directors and the level of earnings management is opposite from the fourth hypothesis in this study. The result from this study shows that the higher level of the earnings management is due to the larger percentage of the female directors. For the fourth hypothesis in this study, it hypothesizes that the percentage of the female directors is negatively related with the earnings management. Thus, in this study, the result from the random effects regression cannot support the hypothesis, and it cannot show the relationship between the percentage of the female directors and the level of the earnings management.

Finally, the relationship between CEO duality and the level of earnings management is at the significant level. The coefficient for the variable of CEO duality is 0.0138889, and it shows that the relationship between CEO duality and earnings management is positive. In addition, the pvalue is 0.023, which shows that the CEO duality and earnings management is positively related at the significant level of 0.1 (10%). The result from this study supports the final hypothesis in this study, and it shows that if the CEO in the companies is also the member of the board, the level of the earnings management in these companies will be higher. From previous studies, there are some studies that

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assert the view that CEO duality will increase the abnormal earnings and decrease the power of board to monitor the management behaviors (Rechner and Dalton, 1991; Lipton and Lorsch, 1993; Carlsson, 2001).

In this study, it finds out that the board size is negatively related with abnormal accruals at the significant level. In addition, the results present that the CEO duality is positively related with the abnormal accruals at the significant level. These two significant relationships show that for the companies, if there are more members in the board, the abnormal accruals in the companies will be smaller. Moreover, the companies will have more abnormal accruals if the CEO also the member of the board. Thus, these results show that if the companies want to reduce the abnormal accruals, they could mainly focus on these two aspects of the corporate governance, and which are increasing number of board members or reducing the problem of CEO duality. However, this study finds out an insignificant evidence that board meetings is related with the abnormal accruals. These two results show that for this study the companies' abnormal accruals are not affected by the percentage of the female directors and the board meetings during the year 2012 to 2016. In addition, this study finds the association between the percentage of the female directors and abnormal accruals at the significant level, but it finds the opposite relationship, which the association between these two variables are positive.

CONCLUSION

For the companies that want to improve the quality of earnings and the corporate governance, the composition of the board is very important. In this study, it analysis the consequences of the board characteristics on the abnormal accruals. For the companies with larger number of abnormal accruals, the earnings quality will be lower and in return, the level of the earnings management will be higher. In addition, if the companies have smaller amount of the abnormal accruals, these companies will have higher quality of earnings and in return, the level of the earnings management will be lower. This study investigates the associations of the board characteristics, such as number of members in board, the number of meetings held by the board, the percentage of the independent directors, the percentage of the female directors, and the CEO duality, with companies' abnormal accruals from 2012 to 2016. The abnormal accruals are measured by applying the Modified-Jones model, which represent the extent of the earnings that manipulated or managed by the companies' managers.

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