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Relationship between Characteristics of the Board Directors and Earning Management: Case Study in the Iraq Stock Exchange

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Abstract

The research problem the board of directors plays an important role in adjustment of earnings management plans, as a result, agency theory arises between managers and shareholders. The aim of this research is to investigate the effect of the key features of the board of directors on real and accrual earnings management in companies accepted in Iraq Stock Exchange during the period of 2011 to 2016. The statistical sample included 35 of companies accepted in Iraq Stock Exchange. In addition, the key features of the board of directors are include the independence of the board of directors, the size of the board of directors, the membership of the CEO on the board of directors; the results indicate that a negative and significant impact between the size of the board of directors with accruals earnings management and the independence of the board of directors with real earnings management and the CEO's membership in the board of directors with accrual earnings management. However, there was no significant relationship between the size of the board of directors with real earnings management, between the CEO's membership in the board of directors with real earnings management, and as well as the independence of the board of directors with accrual earnings management.

Keywords: Characteristics of the Board of Directors, Actual Earning Management, Real Earning Management, Stock Exchange, Iraq.

دراسة العلاقة بين خصائص مجلس الإدارة وإدارة الأرباح: دراسة حالة في سوق العراق للأوراق المالية

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الملخص

تمثلت مشكلة البحث في أن مجلس الإدارة يلعب دورًا مهمًا في تعديل خطط إدارة الأرباح، ونتيجة لذلك، نشأة نظرية الوكالة بين المدراء والمساهمين. الهدف من هذا البحث هو دراسة أثر الخصائص الرئيسية لمجلس الإدارة على إدارة الأرباح الحقيقية والمستحقات التقديرية في

الشركات المدرجة في سوق العراق للأوراق المالية خلال الفترة من 2011 إلى 2016. شملت عينة الدراسة 35 شركة مدرجة في سوق العراق للأوراق المالية. بالإضافة إلى ذلك، فإن الخصائص الرئيسية لمجلس الإدارة تشمل استقلالية مجلس الإدارة، وحجم مجلس الإدارة، وعضوية المدير التنفيذي في مجلس الإدارة؛ أظهرت النتائج إلى وجود تأثير سلبي ومهم بين حجم مجلس الإدارة مع إدارة أرباح المستحقات واستقلالية مجلس الإدارة مع إدارة الأرباح الحقيقية وعضوية المدير التنفيذي في مجلس الإدارة مع إدارة أرباح المستحقات. ومع ذلك، لم تكن هناك علاقة ذات دلالة إحصائية بين حجم مجلس الإدارة وإدارة الأرباح الحقيقية، وبين عضوية المدير التنفيذي في مجلس الإدارة مع إدارة الأرباح الحقيقية، وكذلك استقلالية مجلس الإدارة مع إدارة أرباح المستحقات.

الكلمات المفتاحية: الخصائص الرئيسية لمجلس الإدارة، إدارة الأرباح الحقيقية، إدارة أرباح المستحقات التقديرية، سوق العراق للأوراق المالية.

Introduction

Company's board of directors is important as a guiding organ that plays the role of caring of and supervising the executive directors' activities in order to keep the stockholders' ownership interests. From the agency theory point of view, presence of non-executive independent directors in companies' boards of directors and their regulatory function as independent individuals helps decreasing the conflict of the existing interests between stockholders and directors. However, it must be noted that executive directors of the company plan an important role in creating a proper combination of executive and non-executive directors among the members of the board of directors. Existence of such a combination of major elements of a board of directors is considered functional and efficient: while executive directors offer valuable data about company's activity, non-executive directors judge those other directors from an unprofessional and impartial point of view. Thus, being professional and independent and also holding the necessary legal power, is regarded as a potential high-powered corporate governance mechanism (Taleb-nia & Taftian, 2010) [1]. Matsuura (2008) [2] and Sanjaya and Saragih (2012) [3] stated accrual earnings management and actual earnings management to be the commonest methods of earnings management. Sanjaya and Saragih (2012) [3] explained in a research that the actual earnings management usually happens during the current period and culminates in the loss increase to the company. In order to avoid any loss, directors will manage the earnings through discretionary accruals. It is expected that directors' decisions to manipulate the actual activities during the period will be effective on accrual earnings management at the end of the period. Affecting the company's cash flow, the actual earnings management imposes some limitations and responsibilities for the managers. The directors seem to consider the manipulations exerted on the actual activities for deciding for accruals management and employ a mixture of these kinds of earnings management (Ansari et al, 2014) [4]. Therefore, in this research, we will survey the relationship between the features of the board of directors and those of the actual and accrual earnings management in the firms listed in stock exchange.

Expressing the issue and clarifying the matter

Reported earnings have an enormous and extent influence on all of commercial activities of a business enterprise and the act of deciding on financial matters by managers. The access to the financial analysts forecasts and fulfillment of the market's expectations is one of the most important matters which preoccupies directors during the financial period because declaring the reported earnings less than what has been expected causes decrease in company's stocks value and also threatens directors' positions. However, fulfillment of market's expectations is one of the factors affecting the directors and leading them to earnings management activities (Moqaddam, Bahar, 2007) [5]. By regarding the theory of conflict between directors and owners, business enterprises can possess essential incentive for earnings manipulation in order to maximize their wealth. It must be noted that the owners of business entities can also be incentives for managers in applying earnings management for their own benefits. In brief, the owners of business entities make effort to manipulate the accounting of earnings through application of various tools and methods so as to exhibit a desirable condition of the enterprise and a positive picture of the business enterprise's function (Mahmoud-zade-baqbani and Pour-qaffar-dastjerdi, 2015) [6].

Based on the general definition of Corporate Governance System that is considered to be a leading and controlling tool for companies, the position of board of directors becomes more important than ever as a leading organ that plays the role of caring and supervising on the activities of executive managers in order to look after the owners' interests. Thus, it seems that the key to success for a company depends on its being guided properly in a way that we can claim the secret of eternity of famous and creditable companies is their having effective and efficient boards of directors (Hassas Yegane, and Baqoumian, 2006) [7]. The Corporate Governance System along with the external and internal mechanisms conduces to the proper application of effective management, decrease in information asymmetry problems and developing the stockholders' trust. The companies' boards of directors are one of these mechanisms and have the key role in corporate governance (Lim, 2011) [8]. Therefore, the companies' boards of directors contain curbing the opportunistic earning manipulation (earnings management). That’s why several different aspects of Corporate Governance System have been researched in its board of directors’ matter (Yang et al, 2009) [9]. Efficacy rate can also be dependent on the composition of the board of directors. Today, one of the most important reasons of boards of directors' efficacy must be searched in their compositions and their attributed features including size, members' independence, the membership number of members in other teams, gender structures, the composition of board of directors, age average of the members and so on. The composition of the board of directors as a controlling tool in the company determines the board of directors' power. So, it's an important factor in explanation of members' abilities of accomplishing company's tasks and in helping the company's performance. Because while executive managers present valuable data about company's activity, non-executive managers judge mentioned managers' decisions from an unprofessional and impartial point of view. Thus, the board of directors being professional and independent and also having necessary power, is considered to be a potential potent mechanism of corporate governance (Dehdar and Qavi-andam, 2017) [10].

According to what mentioned, in this research we are to answer the question that is there any relation between the board of directors' features, and real and accrual earnings management in companies accepted in Iraq Stock Exchange or not?

Theoretical foundations and hypothesis expansion

Size of board of directors and earnings management (real and accrual)

By the size of board of directors, we mean the number of members and is an important factor in their efficacy. The analysis of literature review demonstrates that there are opposed attitudes about the relation of the size of a board of directors and its being efficient. From the delegation point of view, we can argue that a bigger board of directors is highly likely to be cautious about delegation problems, for a higher number of people will survey management tasks (Nicholson & Kiel, 2003) [11]. Considering that the main role of board of directors is supervising management, researches on the matter of size is studied only from supervision point of view. (Xie et al, 2003) [12] concluded that the higher number of board of directors is related to the lower level of earnings management. Although Beasley (1996) [13] found a positive relation between the size of board of directors and the probability of malversation, Abbot et al (2000) [14] didn't find any relationship between these two variables. Adams and Mehran (2005) [15] and Yermak (1996) [16] suggest that some companies require bigger boards of directors in order to experience more efficient supervision. Coulton et al (2001) [17] confirmed the assumption of negative relation between the size of board of directors and the probability of opportunistic earnings management. Kouki et al (2011) [18], however, stated that there is a positive relation between the size of board of directors and earnings management. Aqayi et al (2010) [19] also didn’t find a Significant relation between the size of board of directors and earnings management in companies accepted in Tehran Stock Exchange. The analysis of the review of literature in this matter indicates that different results have been observed in the relation between the size of board of directors and earnings management. Mollazade et al (2017) [20] studied the influence of the managing director's financial knowledge on earnings management in companies accepted in Tehran Stock Exchange. Results demonstrated that managing director's financial knowledge doesn’t affect the earnings management of the company on the basis of discretionary accrual and actual items. On the other hand, there's no Significant difference in discretionary-accrual-based earnings management and real-activities-based management between companies having managing directors who possess financial knowledge and other companies.

Most of researches show that a small board of directors is easier to control in comparison with a big board of directors. Klein (2002) [21] and Peasnell et al (1998) [22] claim that a small board of directors in generally more effective and improves earnings management. These writers suggested that there's an inverse relation between the size of board of directors and earnings management. Prity (2014) [23] assessed the influence of the board of directors' features on earnings management through 12 Indian samples. They indicated a Significant, positive relation between earnings management and the size of board of directors, and stated that the more a board of directors is, the more likely the level of earnings management is to be increased. Gulzar (2011) [24] assessed the efficiency of the board of directors' features in decreasing the earnings management through Chinese samples, and came to this conclusion that there's a close relation between a small board of directors and a low level of earnings management. Cheng and Warfield argue that a small board of director is bigger than a small size, and also some writers found no relation between the size of the board of directors and earnings management. Mahmoud zade-baqbani and Dastjerdi (2015) [6] argue that there isn't any relation between the size and the independence of the board of directors and earnings management. Thus, the first hypothesis is defining as follows:

First hypothesis: there is a Significant relation between the size of the board of directors and earnings management.

Membership of the managing director in the board of directors and earnings management (actual and accrual)

According to investors' belief that the managers outside the board of directors (non-executive managers) are the observers of managers' acts and operations, and that their observations controls managers acts, it seems that the membership of the managing director in the board of directors will causes to a less strict control on his/her act and operation. The combination of managers outside the board of directors, separation of board of directors' and managing director's roles can also affect the board of directors' independence. Therefore, the role of boss can influence the board of directors' efficiency that ensures the corporate governance. Jensen (1993) [25] describes the board of directors operation as follows:" holding the meetings f the board of directors. Supervision on the hiring procedure, firing, assessing and compensations are the managing director's duties. Thus, when the chairman of the board and the managing director is a same person, the company will be managed by only one person and doesn't leave the board of directors independent of management'. Therefore, Brickley et al (1997) [26] defines duality as the combination of the managing directors and chairman of the board' operations that confines the dualistic mission, like management and controlling, to one person. In France, the matter of the combination of boss's and managing director's operations has been one of the serious news of recent years. Cadbury (2002) [27] emphasized in his report that these two must be separated. Thus, Onto (1992-1995) believed that this matter makes an opportunity for companies to choose between separation or combination of boss's and managing director's operations with operational features. Agency theory suggests that the combination of managing directors and chairman of the board's operations is an obstacle against efficiency of control by the board of directors; therefore, recommends the separation of these two. Actually, Jensen and Mekling (1976) [28], and Jensen (1993) [25] pointed out that separation of management and controlling decisions reduces the expenses of the agency and earnings management. Gulzar (2011) [24] demonstrated that separation of managing director's role from that of the boss helps reducing earnings management. Thus, Cadbury (2002) [27] persisted in separation of these two duties. Onto (1995-1999) also, according to his own report, allowed these companies to choose one between separation and combination of boss's and managing director's operations, considering tasks that had been done. Previous studies talked about the duality of the managing director as a determinative role in earnings management. They showed that this combination may affect the efficiency of the board of directors in monitoring management. For instance, Dechow et al (1996) [29] realized that companies may claim accounting activities done by SEC to violate GAAP; if the company's managing director is also the chairman of the board at the same time, he/she can cover them. Similarly, Chtouro et al (2001) [30] indicated that there is a negative relation between earnings management and the separation of these two functions. Peasnell et al (2000) [31] surveyed the effect of the separation of managing director's function and that of the chairman of the board in earnings management, and found a Significant relation between these two variables. Mahmoud-zade-baqbani and Dastjerdi (2015) [6] studied the effect of the structure of the board of directors on earnings management in companies accepted in Tehran Stock Exchange. The tempered model of Jones (presented by Dechow et al) has been utilized in this research in order to determine the management of earnings. The results of regressive model show that there is a positive relation between the duality of managing director's function and earnings management.

According to what has already been said, two following hypotheses will be defined:

The second hypothesis: there is Significant relation between the membership of the managing director in the board of directors, and earnings management.

Independence of the board of directors and earnings management (actual and accrual)

Fame and Jensen (1983) [32] held this belief that companies' board of directors play a key role in Corporate Governance System. The main responsibility of the board of directors is to establish an efficient governance of company's affairs, to make an independent supervision on executive managers' acts and obligating managers to be accountable to stockholders, and to balance different beneficiaries' interests. It is generally believed that when the board of directors possesses more independence, monitors the executive managers more effectively (Beasley, 1996 [13]; Peasnell et al, 2000 [31]; Klein, 2002 [21]). Park and Shin (2004) [33] surveyed the relation between the structure of board of directors and earnings management in Canada. They also considered discretionary current accruals as the representatives of earnings management. The results have shown that there is no relation between the ratio of non-executive managers of the board of directors and the manipulation rate of accrual items in Canada; it means that non-executive managers do not contribute much in monitoring earnings management. But some evidences came to hand that showed the presence of financial intermediaries' managers in the combination of the board of directors' thwarts earnings management. Besides, the presence of representatives of active institutional investors decreases earnings management more. Also, the management span of non-executive members does not influence earnings management decrease much. Amongst control variables of the research, the size of company has a negative relationship with earnings management. Furthermore, the relation between financial leverage and earnings management was negative and Significant which means that lenders supervise the company.

Beasley (1996) [13] found out through a research that the presence of non-executive members of the board of directors has decreased the probability of deceit in presenting financial statements. Klein also gathered evidences related to independence of the members of the board of directors and earnings manipulation that indicated that companies possessing members of board of directors independent of executive managers reported less abnormal accrual items. In a research by and through sampling from English companies, Peasnell et al (2000) [31] concluded that by increasing the ratio of non-executive members of the board of directors, the probability of existence of accrual items, which boosts earnings, decreases. Chtouro et al (2001) [30] found out in a research that an independent board of directors limits the earnings management; Chang and Sun (2009) [34] also found the Significant negative relation between independence of the board of directors and abnormal accruals. In a research, Ahmadpour et al (2010) [35] came to this conclusion that when there is high a high incentive for manipulation of earnings, non-executive managers will have small roles in decreasing abnormal accruals; also, Aqayi and Co's studies showed that the relation between independence of the board of directors and information content of earnings is stronger in companies having high earnings management incentives than those in companies having low earnings management incentives. According to the review of literature it can be said about this matter that from the representation theory point of view, presence of non-executive and independent managers in companies' boards of directors, who are professional, independent and legally powerful enough to monitor companies' acts, can be considered to be powerful, potential mechanisms of Corporate Governance System. Supawadee et al (2013) [36] also, regarding companies registered in Thailand, found out that there is a positive, Significant relation between earnings management and independence of board of directors, and it indicates that increase in number of independent boards leads to increase in earnings management level. According to what has already been said, this research seeks clarifying these hypotheses:

The Third hypothesis: there is a Significant relation between independence rate of the board of directors and earnings management.

The type of research

Surveying the relation between features of board of directors and real and accrual earnings management about companies accepted in Iraq Stock Exchange in this research, it is practical in terms of goal and is correlation in terms of the method of performance.

Statistical population and sample

Statistical population is a complete set of possible measures or recorded data of the attribute we seek to construe. Population is the target of the research and the purpose of gathering data is producing results about the population. Sample is a part of population to be its reference, since the researcher has to generalize the data of the research to it. In other words, as the researcher is not able to perform the research on all of the population, limits the research to a small sample. Generally speaking, because statistical inference is to generalize sample parameters to the whole population, if a researcher surveys all of elements or objects (all of the population), implementation of statistical tests and inference will be absurd, (Nayeb-pour & Bariri, 2012) [37]. This matter is also true in financial and accounting researches, because all of companies' data may not be appropriate for the aim of the research. To determine the statistical population (not the statistical sample) in these researches, a method named "purposive elimination method" is usually used. In this method, according to the purposes of the research and required data to conduct it, some limitations will be applied in choosing the observations, and finally observations which include all conditions will be considered as the statistical population (Aflatouni, 2017) [38]. The statistical population being studied is companies accepted in Iraq Stock Exchange from the beginning of 2011 until the end of 2016. "General criteria" for choosing the sample are:

1. The date of their having been accepted in Iraq Stock Exchange should be before 1/1/2011
2. Their financial periods should end at 12/31
3. Their financial year shouldn’t change during the period (2011-2016) under analysis.
4. Their financial data must be accessible.
5. They should be among financial companies (for instance: banks or financial institutes) and investment companies or financial intermediation companies.
6. They should be going-concern during the research period.

Therefore, the research period includes 6 consecutive years which means 2011- 2016.

Information Collection Method

In every research, the researcher needs some tools to gather acquired data from the population (statistical sample) and then start testing the hypotheses by analyzing, processing and transforming them to information. Various tools are needed to gather data. In this research, acquired data are gathered by following strategies:

a) Library research: in this research, in order to clarify the theory of and review of literature, text-books, magazine sources, reliable websites and reliable, relevant, Latin, Arabic or Persian theses have been utilized.
b) Text mining: so as to gather acquired data to implement models, this strategy has been used. Information of companies accepted in Iraq Stock Exchange has been used from different sources including information website of Iraq Stock Exchange and member corporations.

Analysis strategy

Data analysis is a multi-step procedure through which has been made available by utilizing gathering tools in statistical sample. In brief, they are coded, classified and finally processed to make preparations of making relation and analysis between these data in order to test the hypotheses. In this procedure, data is refined conceptually and empirically, and various statistical techniques have had key roles in inferring and generalizing (Sarmad et al, 2014) [39]. in order to study the accuracy of hypotheses, data analysis is of great importance in every kind of research. Todays, in most of researches based on gathered information about the matter being researched, data analysis is one of foremost parts of the research. Raw data is analyzed by statistical methods, and is purveyed as information to users after being processed. In this research, the relation between the board of directors' features, and real and accrual earnings management have been studied in companies accepted in Iraq Stock Exchange. Gathered data will be organized through Excel; and after necessary corrections and classifications based on variables under analysis, will be inserted in Stata 14. Before testing hypotheses and processing the final model, descriptive statistics of (central tendency, dispersion index: average, mean, standard deviation of range, etc.) variables will be surveyed.

Models utilized in hypotheses testing

In order to test the hypotheses of the research, the following model has is used:

$$DAC_{it} / REM_{it} = \beta_0 + \beta_1 BRDSZE_{it} + \beta_2 CEOM_{it} + \beta_3 BRDIND_{it} + \beta_4 SIZE_{it} + \beta_5 LEV_{it} + \beta_6 ROA_{it} + \beta_7 OBINQ_{it} + \beta_8 STDCASH_{it} + \beta_9 STDSALE_{it} + \beta_{10} STDGROWTH_{it} + \beta_{11} AQ_{it} + \varepsilon_i$$

Variables of the research

Every concept that can be of two or more values or states is called a variable. The main job of the research is to measure variables and discover the relation between them.

Dependent variables

A dependent variable is a variable that its alterations are affected by independent variable, and the researcher can't interfere with them. The dependent variable in this research is earnings management. Earnings management is possible in two ways: earning management through real items, and earnings management through accrual items. Therefore, every two kinds of earnings management have been used.

1) Earnings management through real items (REM): The criterion of earnings based on real activities includes: abnormal cash flow, abnormal production and abnormal discretionary expenses. Similar to the researches of Roychowd hury (2006) [40], Zhang (2008) [41] and Fakhari and Adili (2013) [42], following models are to estimate abnormal cash flows, abnormal production and abnormal discretionary expenses in a way that the total of standardized quantities remained in these models are considered as a main criterion of earnings management through real items:

$$CFO_{i,t} / A_{i,t-1} = \alpha_0 + \alpha_1(1 / A_{i,t-1}) + \alpha_2(S_{i,t} / A_{i,t-1}) + \alpha_3(\Delta S_{i,t} / A_{i,t-1}) + \gamma_{i,t} \quad (1)$$

$$PROD_{i,t} / A_{i,t-1} = \alpha_0 + \alpha_1(1 / A_{i,t-1}) + \alpha_2(S_{i,t} / A_{i,t-1}) + \alpha_3(\Delta S_{i,t} / A_{i,t-1}) + \alpha_3(\Delta S_{i,t-1}/A_{i,t-1}) + \delta_{i,t} \quad (2)$$

$$EXP_{i,t} / A_{i,t-1} = \alpha_0 + \alpha_1(1 / A_{i,t-1}) + \alpha_2(S_{i,t-1}/ A_{i,t-1}) + \lambda_{i,t} \quad (3)$$

A: total assets S: sale ΔS: changes in sale CFO: cash flow from operating activities $\gamma_{i,t}$: residual of model PROD: the prime cost of goods sold, and the change in assets $\delta_{i,t}$: residual of model EXP: operating expenses $\lambda_{i,t}$: residual of model

2) Earnings management through accruals (DAC): In order to asses accrual-based earnings management, Jones's modifies model (presented by Dechow et al, 1995 [43]) is used in this research. This model is estimated severally for each year and each industry. The mentioned model is as follows:

$$TACC/A_{i,t-1} = \beta_0 + \beta_1(1/A_{i,t-1}) + \beta_2(\Delta REV - \Delta REC)_{it}/A_{i,t-1} + \beta_3 PPE/A_{i,t-1} + +\varepsilon_{it}$$

In this model, ACC is the total of accruals earned from the margin of net profit and operating cash flow.

A: the total assets ΔREV: the change in sale revenue ΔREC: the change in accounts receivable PPE: the total of properties, machineries and equipment ΔCFO: the change in operating cash flows.

Independent variables

An independent variable is one that the researcher can interfere with them and observe its effect on the other variable (dependent variable).

The size of board of directors (BRDSZE): The number of present members in the board directors. This variable is extracted from the board of directors' report to annual general meetings.

Membership of manager executive in the board of directors (CEOM): It means that if a manager executive is a member of the board of directors take one, otherwise it will be zero. This variable is also extracted from the report of the board of directors to the annual general meetings.

Independence of the board of directors (BRDIND): It is the percentage of non-executive members of the board of directors that is calculated by dividing the number of non-executive members of the board of directors by the number of the board of directors. This variable is also extracted from the report of the board of directors to the annual general meetings. Debt.

Control Variables

All of the variables cannot be studied simultaneously in a research. Therefore, a researcher must control and neutralize the effects of some variables.

The size of the company (SIZE): the natural logarithm of the total sales of the company

Financial leverage (LEV): the total Debt divided by the total assets of the company.

Rate of return on assets (ROA): the net profit before interest and tax divided by the total assets of the company.

Firm growth (Tobin's Q): Tobin's Q criterion is measured through the equation below:

$$TOBINQ_{it} = (TL_{it} + MVE_{it})/TA_{it}$$

TL: total loss MVE: marketing value of equity holders (the multiplication of the number equities and the cost of each equity at the end of the year). TA: the total assets of the company.

The standard deviation of operational cash flow (STD CASH): This variable is attained through the standard deviation of the cash flow arose from the operational activities in the current year and two years before that. In order to standardize this variable, the attained standard deviation is divided by the total assets of the current year.

Standard deviation of the sale (STD SALE): This variable is attained via the standard deviation of company sales in the current year and the preceding two years. So as to standardize this variable, the attained standard deviation is divided by the total assets of the current year.

The standard deviation of the sale growth (STD GROWTH): This variable is attainable via the standard deviation of the company's sale growth in the current year and the preceding two years. Company's sale growth can be measured through the equation below:

$$GROWTH_{it} = (S_{it} - S_{it-1}) / S_{it-1}$$

S: the total sale in the year.

Auditing quality (AQ): This variable is a dummy (two state) variable that is assumed as one if the auditor is the supreme audit court, otherwise, it will be zero.

This section is allocated to presenting the results of the research. The gathered data are numbers and specifications that although bring about abstract concepts, these concepts are enriched by qualities that are appeared in the language of statistics and probabilities, and gives more significant and more clear informative nessto the data resulted from empirical tests. In other words, in order to turn the empirical data from an amorphous set to a systematic organized one, we need to summarize, regulate and classify the data through specific ways, and present them as statistical tables. In this chapter, the gathered descriptive statistical data from the companies which are members of Iraq Stock Exchange, including 35 companies from 2011 to 2016, will be presented first. Then, models related to the hypotheses of the research will be analyzed through proper statistical tests in Stata 14.

Descriptive statistics of the research variables

The first step is to analyze the data, describe or summarize them via descriptive statistics. In descriptive analysis, data is utilized just in order to study the state of a group; for instance: age status, job type, description of educations and career satisfaction. But analyzing relations and changes in variables and analysis of the set of variables in order to clarify the reason is not something that descriptive statistics are capable of. Descriptive results of this research, including average, media, standard deviation, maximum, minimum and normality, are presented in the table no. 1 (quantitative variables) and table no. 2 (qualitative variables). Regarding the table no.1 results, it can be said about the quantitative variables of the research that the average of real and accrual earnings management is respectively -0.001 and 0.009. The size of the board of directors' average is 7.05. This result shows that the most of companies which are members of Iraq Stock Exchange have 7 people in their boards of director. Furthermore, the results indicate that the average of the board of directors' independence is 0.926. The average of the size of the company, financial leverage and return of assets are respectively 8.991, 0.368 and 0.005. The ratio of Tobin's Q average is 3.206. The return of assets is of the average of 0.146 and almost 8 percent of observations reported loss. In the end, the data of the table no.1 evidence that the averages of the standard deviation of the operational cash flow, the standard deviation of sale and the standard deviation of sale growth are respectively 0.089, 0.147 and 0.184.

Table 1: Descriptive statistics of quantitative variables of the research

Variable	Symbol	Average	Median	Standard deviation	Maximum	Minimum	Normality Shapiro-Wilk
Real earnings management	REM	-0.001	0.045	0.419	1.04	-0.78	0.0109
Accrual earnings management	DAC	0.009	0	0.203	0.610	-0.380	0.0111
Size of the board of directors	BRDSIZE	7.05	7	1.122	9	5	1.000
Independence of the board of directors	BRDIND	0.926	1	0.095	1	0.710	0.0005
The size of the company	SIZE	8.991	8.990	0.874	11.360	5.560	0.0000
Financial leverage	LEV	0.368	0.255	0.362	1.360	0.010	0.0000
Return of assets	ROA	0.005	0.020	0.148	0.290	-0.32	0.0000
Company growth	TOBINSQ	3.206	2.175	2.528	9.480	0.270	0.0000
Standard deviation of operational cash flow	STDCASH	0.089	0.060	0.111	0	0.610	0.0000
Standard deviation of sale	STDSALE	0.147	0.080	0.185	0.840	0	0.0000
Standard deviation of sale growth	STDGROWTH	0.184	0.010	0.226	0.880	0	0.0000

About the qualitative variables of the research, the data of table no.2 indicates that almost 60 percent of managing directors are members of the board of directors, and the auditing quality average is 0.628. in other words, auditing of about 62 percent of Iraqi companies is the responsibility of financial tribunal. On the other hand, the results of normality test of descriptive tables (quantitative and qualitative) of the variables of the research indicate that the size of the board of directors, membership of managing director in the board of directors and the auditing quality are normal, and the normality of the rest of variables has been less than 5 percent, and they are not of a normal distribution. But, due to the variables' not being scattered much, and because of the fact that the number of observations (210 observations) is more than 30, based on the central limit theorem, we can claim that variables are following an almost normal distribution (Greene, 2011) [44].

Table 2 : Descriptive statistics of qualitative variables of the research

Variable	Symbol	Observation	Frequency (percentage)	Normality Shapiro-Wilk
Membership of managing director in the board of directors	CEOM	210	(0.604) 127	0.9990
Auditing quality	AQ	210	(0.628) 132	0.9785

Testing the hypotheses of the research through real earnings management

In table no.3, the results of estimating the model related to the hypotheses of the research through real earnings management are presented.

Table 3 : Results of testing the research hypotheses through the criteria of "real earnings management"

Variable	Symbol	Coefficient	Standard deviation	Statistic of Z	Probability value of Z
Constant	C	0/095	0/396	0/24	0/810
The size of the board of directors	BRDSIZE	0/031	0/033	0/96	0/335
Membership of managing director in the board of directors	CEOM	-0/009	0/040	-0/24	0/810
Independence of the board of directors	BRDIND	-0/752	0/341	-2/12	**0/034
The size of the company	SIZE	0/033	0/035	0/95	0/343
Financial leverage	LEV	0/256	0/083	3/07	***0/002

Continued

Return of assets	ROA	-0/090	0/185	-0/49	0/625
Company growth	TOBINSQ	0/012	0/010	1/24	0/215
The standard deviation of the operational cash flow	STDCASH	0/067	0/258	0/26	0/793
The standard deviation of sale	STDSALE	0/048	0/209	0/23	0/817
The standard deviation of sale growth	STDGROWTH	-0/064	0/189	-0/34	0/731
Auditing quality	AQ	-0/175	0/060	-2/91	***0/004
Wald statistics	**23/61**				
Significance of Wald statistics	***** 0.014**				
Observations	**210**				

*** Significant at the 0.01level. ** Significant at the 0.05 level. * Significant at the 0.10 level.

The significance of Wald statistics (23/61) indicates the total significance of the fitted model. According to the statistics of Z in the level of significance of coefficient and regression coefficient symbols of each of variables, it can be concluded that the size of the board of directors and membership of managing director in the board of directors has no Significant relation with real earnings management. Therefore, the first and second hypotheses of the research are not confirmed through the "real earnings management". Furthermore, the results evidence that the independence of the board of directors has a negative, Significant relation with real earnings management. as a result, through the "real earnings Management", the third hypothesis of the research is confirmed at the confidence level of 95 percent. So, it can be said that the independence of the board of directors leads to increase of real earnings management. In the following, data show that there is a positive, Significant relation between the financial leverage and real earnings management, and there is a negative, Significant relation between auditing quality and real earnings management. However, no other Significant relation is seen between other variables in this model and real earnings management.

Testing research hypotheses through the "accrual earnings management"

In table no.4, the results of estimating the model related to the hypotheses of the research through accrual earnings management are presented.

Table 4 : The results of testing the hypotheses of the research through accrual earnings management

Variable	Symbol	Coefficient	Standard deviation	Statistics of Z	Probability value of Z
Constant	C	-0.116	-0.152	-0.76	0.444
The size of the board of directors	BRDSIZE	-0/042	0.011	-3.61	***0/000
Membership of the managing director in the board of directors	CEOM	-0/032	0.013	-2.40	**0/016
Independence of the board of directors	BRDIND	-0/145	0.144	1.01	0.315
The size of the company	SIZE	0/034	0.013	2.62	***0/009
Financial leverage	LEV	-0/030	0.029	-1.04	0.298
Return of the assets	ROA	0/644	0/070	9.13	***0/000
Company growth	TOBINSQ	-0/005	0/003	-1/60	0/109
The standard deviation of operational cash flow	STDCASH	-0/024	0/090	-0/27	0/789
The standard deviation of sale	STDSALE	-0/003	0/058	-0/06	0/953
The standard deviation of sale growth	STDGROWTH	0/144	0/052	2.76	***0/006
Auditing quality	AQ	0/014	0/026	0.54	0.592
Wald statistics	**176/23**				
The significance of Wald statistics	*****0/000**				
Observations	**210**				

*** Significant at the 0.01level. ** Significant at the 0.05 level. * Significant at the 0.10 level.

The significance of Wald statistics indicates the total significance of fitted model. In the following and according to the statistics of Z at the Significantness level of coefficients and symbols of regression coefficients of each variable, it can be concluded that the size of the board of directors has a negative, Significant relation with accrual earnings management. Therefore, the first hypothesis of the research is accepted through accrual earrings management at the confidence level of 99 percent. In other words, independence of the board of directors leads to decrease in accrual earnings management. Data also indicate that there is a negative, Significant relation between the membership of the managing director and accrual earnings management. Hence, the second hypothesis of the research is accepted through accrual earnings management t at the confidence level of 95 percent. In other words, the membership of the managing director in the board of directors decreases accrual earnings management. On the other hand, the results of the table above evidences that there is no Significant relation between the independence of the board of directors and accrual earnings management. Therefore, the third hypothesis of the research is not accepted through accrual earnings management. In the following, data indicate that the size of the company, the return of the assets and the standard deviation of the sale growth has a positive, Significant relation with accrual earnings management. Yet, no Significant relation is seen between other variables in this model and accrual earnings management.

Conclusions

In this part, it is first attempted to bring brief, descriptive results of the research, including average, median, the standard deviation, maximum, minimum and normality, and then to present the results obtained from hypotheses tests and to compare them with the literature available in this matter.

Totally, the results of the research have shown that amongst the features of the board of directors, the independence of the board of directors has a negative, Significant relation with real earnings management, and the relation of the membership of the managing director in the board of directors and the size of the board of directors with real earnings management is not Significant. Besides, data indicated that the size of the board of directors and the membership of the managing director has a negative, Significant relation with accrual earnings management, and the relation between the independence of the board of directors and accrual earnings management was not Significant.

The results of testing the hypotheses of the research have been negotiated and in addition to comparing the results with previous studies, previous results have been negotiated.

By the size of the board of directors we mean the number of members of the board of directors and that is an important element in its efficacy. According to the results of analyzing the data, we observed that the size of the board of directors has no relation with real earnings management and has a negative, Significant relation with real earnings management at the same time. The study of review of literature in this case shows that distinct results have been observed between the size of the board of directors and earnings management. Most of researches show that a small board of directors is easier to control than a big one. Xie et al (2003) [12] came to this conclusion that the higher number or members of the board of directors has a relation with lower levels of earnings management. Kouki et al (2011) [18] stated that there is a positive relation between the size of the board of directors and earnings management. In Tehran Stock Exchange, Aqayi et al (2010) [19] also found no Significant relation between the size of the board of directors and earnings management. in this matter, Klein (2002) [21] and Peasnell et al (1998) [22] claimed that a small board of directors is generally more efficient and causes the improvement of earnings management. These writers declared that there is a negative relation between the size of the board of directors and earnings management.

Representation theory states that the combination of the managing directors' and chairman of the board's functions is an obstacle against the efficacy of control by the board of directors. Therefore, the separation of these two functions is suggested and the research data indicated that although the membership of the managing director in the board of directors has no Significant relation with real earnings management, it has a negative, Significant relation with accrual earnings management. The results of this research is in contrary with the data presented by Jensen and Mekling (1976) [28], Jensen (1993) [25], Gulzar (2011) [24], Chtouro et al (2011) [30], Peasnell et al (2000) [31]. In fact, Jensen and Mekling (1976) [28], Jensen (1993) [25] pointed out that the separation of managing from controlling decisions decreases the expenses of agency and earnings management. Gulzar (2011) [24] also indicated that the separation of managing director's role from that of the boss help decreasing the earnings management. Chtouro et al (2001) [30] evidenced that there is a negative relation between earnings management and the separation of these two functions. Peasnell et al (2000) [31] assessed the effect of separation of managing directors and the chairman of the board's function I earnings management which led them to the discovery of a negative, Significant relation between these two variables.

Also, the data of the current research showed that the independence of the board of directors has a negative, Significant relation with real earnings management. However, the independence of the board of directors has no Significant relation with accrual earnings management. The general belief is that when the board of directors possesses more of independence, applies more efficient observation on executive managers (Beasley, 1996 [13]; Peasnell et al, 2000 [31]; Klein, 2002 [21]). Klein gathered evidences about the independence of the board of directors and earnings manipulation which indicated thatthe companies possessing members of board of directors, who are independent from executive managers, reported less abnormal accrual items. Chtouro et al (2001) [30] found out in a research that an independent board of directors' limits earnings management; besides, Chang and Sun (2009) [34] discovered the Significant, negative relation between the independence of the board of directors and abnormal accrual items. Supawadee et al (2013) [36], according to the companies registered in Thailand, found out that there is a Significant, positive relation between earnings management and independence of the board of directors which shows that the increase in number of independent board of directors leads to an increase in earnings management level.

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