



The Effect of the Characteristics of Board of Directors on Real Earnings Management

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ABSTRACT

The purpose of this study is to evaluate the effect of the characteristics of board of directors (Chief Executive Officer Duality, CEO tenure duration, size and independence of the board of directors) on earnings management. In this study, data from 62 companies listed in the Tehran Stock Exchange during the years of 2011 to 2015 were used. The statistical method used in this research

is panel data and the multiple linear regression models were used to test the hypotheses. In this study, three models of real earnings management (real earnings management based on abnormal cash flows, real earnings management based on abnormal discretionary expenditure and real earnings management based on abnormal production costs) were considered. The results of the hypotheses test using panel data showed that from the four characteristics taken into consideration for the board of directors, duration of tenure of Chief Executive Officer on the board of directors (in all three models of real earnings management), the size of the board of directors (in real earnings management model based on abnormal discretionary expenditure), the independence of the board of directors and CEO-duality (in real earnings management models based on abnormal production costs), have a significant impact on the real earnings management

Keywords:

Independence of board of directors, Size of board of directors, chief executive officer duality, Real earnings management.



1. Introduction

The beginning of the third millennium coincided with the financial crisis in many American and European companies, which extended its scope to other countries. Many researchers argue that the main cause of these crises is the weakness in corporate governance systems. Indeed, what was the cause of the crisis of governance? Although the answer to these questions are complex and may be different in different companies, but it can be said that factors such as weak ethical behavior at the company level, managers are flattering and lack expertise in corporate governance, weak internal controls to prevent or detect at the corporate level and weak external oversight problems (such as regulators, capital markets, auditors, legal frameworks, etc.) have a significant role in creating this crisis, Banks (2004). These factors (corporate governance mechanisms) can be found in two types of internal and external mechanisms. Internal mechanisms, based on actions are taken by companies in order to implement the control and accountability. The one of the most internal mechanisms of corporate governance is considering the board of directors of company as the leading institution that has a supervisory role on executive managers as responsible for protecting the interests of investors. Importance of board of directors as one of the internal mechanisms of corporate governance to this issue is that many of the rules of corporate governance including the Sarbanes-Oxley Act (2002) in US, Cadbury Report (1992) and reports of Higgs and Smith (2003) in the UK, etc. take into account it and guidelines have been introduced to its more effectiveness. Much of this mechanism emphasized on this issue that by having specific characteristics by board of directors, opportunistic behavior of managers is limited, so the quality and reliability of financial reporting (especially accounting earnings) will improve, thus leading to greater confidence of investors to provide the capital market, Pergola (2006). The most research conducted in Iran mainly have considered the impact of the combination of members of board of directors as an indicator of the corporate governance on corporate performance, dividend policy. So, these investigations not taken into consideration the impact of characteristics of board of directors (including size of board, the independence of board of directors, the CEO-duality, CEO duration of tenure) on real earnings management, we are trying to test the impact of characteristics of board of directors

on real earnings management in order to enhance the decision information, including the owners of capital, potential investors, creditors, financial analysis and other users of financial statements to evaluate companies in terms of probability or lack of real earnings management. This research will be to examine the impact of characteristics of board of directors on actual earnings management, the main issue in this study is whether characteristics of board of directors has an impact on real earnings management in listed companies on Tehran Stock Exchange?

2. Literature Review

Earnings management philosophy is using of the flexibility of standard procedures and accepted accounting principles. The various interpretations drawn executive methods of accounting standards, are other reasons for earnings management issue. This flexibility is the main reason for diversity of accounting procedure. The community has growing concern that some of the procedures of the earnings management reduce public trust towards outside financial reporting and these may contribute to preventing efficient flow of capital in financial markets. Critics believe that the managers abuse from free operation to be undertaken through accepted accounting principles and intentionally distorted the information contained in the financial statements, Rahmani, (2010). The real earnings management is the operation of the business management that deviates from normal operation and in order to achieve a certain threshold of accounting numbers is done, Roychowdhury (2006).

In other words, "earnings management based on real activities" is how managers to achieve their desired profit level, taking the real decisions, for example in order to increase profits, reduce the cost of advertising. In fact manipulation activities occurs when managers are responsible for operations that the scheduling activities or the structure of an operations, changes investment or financial transactions in order to influence the product (output) of the accounting system, Gunny(2010), It is observed that in this type of earnings management, economic tangible changes in company conditions are created ,So this type of earnings management leads to real economic costs for companies, Bar-Gill and Bebchuk (2003). Of course, it

is unremarkable that the intention of management is an important factor in the actual management. This means that if a company meets one of the conditions of actual earnings management, not said it has done necessarily actual profit management. It may perform these activities are caused by the set of opportunities of the company, but sometimes the managers of these activities, plans to earnings management and direct impact on the accounting results are compared to the prior state is different, so understanding management's intentions, is an important factor in identifying the actual earnings management, Gunny (2010).

One way for manipulation of activities is manipulating discretionary costs, costs easily influenced by management decisions, such as the cost of advertising and research and development costs. Most evidence of manipulating real activities also focus on the optional costs such as reduced R

& D costs ,Roychowdhury (2006), Baber et al (1991), Bushee (1998). Manipulation of the sales is one of the methods of the manipulation of real activities that is the efforts of managers to a temporary increase in the level of sales during the year by the discount offer to sell or permissive conditions for sales, Roychowdhury(2006). Another method of real earnings manipulation is excessive production of goods. With this operation, cost per unit decreased and sales margin (profit) increases, which of course it imposed production costs, maintenance and more opportunity to company, Roychowdhury(2006). With the separation of ownership from management, managers as representative of shareholders, manage the company. On the other hand, for reasons such as attitudes to risk, dividend and outlook, Forest and Kong (2000) there is a conflict of interest between managers and owners. Therefore, there is the potential that managers make decisions that are adversely affected the interests of owners. Corporate governance is a system that improves agency problems between managers and shareholders, Gompers, Joy and Metrick (2003). Board of directors is one of the internal oversight mechanisms to protect the interests of shareholders and the separation of management and ownership.

To solve this problem, the board usually plays the role of monitoring the senior executives, approved the company's strategy and monitoring control systems. From the perspective of agency theory, the role of control is the main reason for the existence of board,

Fama and Jensen (2003). The theoretical literature, provided two opposing viewpoint for the role of size of the board of directors on the company's performance. The first viewpoint suggests that the smaller board of directors improves the performance of companies. When board of directors is a great number of members of board, agency problems increase, because the number of members of the board may act as individuals with no profit , also a big board loses the ability to perform their duties efficiently and to be undertaken in a symbolic place, Hermalin and Weisbach (2003) On the other hand, the second view suggests that the smaller board has not advantages and interests of comments and specialized and diverse proposals that there are in the larger board. In addition, in areas such as experience, skill, gender, nationality, etc. has advantages; Dalton and Dalton (2005).

Mak and Yuanto (2003) showed that value of companies accepted in the Singapore and Malaysia stock exchange, when the number of members of board is five, is higher. Gravenand Visvanathan (2008) showed no relationship between the size of the board of directors and real earnings management. Yeshnan and Yu(2008),Senta-Atmaja et al (2008), Ramasay and Mather (2005), concluded that when the number of non executive managers increased in the composition of the board of directors, accruals decreases and non executive managers enhance earnings quality. Xie et al (2003), found that the probability of earnings management in companies whose external structure of the board of directors is made up of outside independent directors as well as experienced institutional managers, is minimal. (Jaggiet al, 2006) examined Hong Kong companies and found that there is a significant relationship between higher ratio of independent directors and more effective supervision in limiting earnings management.

Chang and Sun (2008), found that there is a significant relationship between independence of the board of directors and abnormal accruals, in other words there is a significant relationship between independence of the board and earnings management. Chief Executive Officer Duality could increase potentially risk of to be a as final determinant of CEO at the time of financial reporting and it increases cost of supervision on behavior of management (value of company) .Therefore, this topic plays an important role at determination of company fate and its compliance

and or lack compliance has a positive impact on value of company and from most importantly on perspective of minority and institutional shareholders towards financial situation and value of company (Namazi, 2008). Chang and Sun(2008), found that the Chief Executive Officer Duality may jeopardize supervision of board of directors on financial reporting. Finally they found that there is a significant positive relationship between the earnings quality and Chief Executive Officer Duality. Chtourou et al, found that there is a positive relationship between the earnings management and Chief Executive Officer as a head of board. Chokiet al, (2011) studied the impact of the corporate governance on manipulation of earnings and concluded that the existence of committees of independent audit and lack existence of Chief Executive Officer duality causes to prevent the earnings manipulation ,also the number of board members should be no very much and not too low why so number of members of the Board of directors intermediately can be optimal.

Tang (2014) studied the impact of mechanisms of corporate governance on earnings management and concluded that the board of directors with bigger size and more active can be helpful at prevent earnings management and CEO duality have caused earnings management to increases. Jensen (1993) & Hermalin and Weisbach (1998), argue that Chief Executive Officer undertaken in place where controls the combination of board of directors, thus to reduces supervisory ability by the board of directors. One way of identifying these issues is the duration of his service as Chief Executive Officer. Since event of increased Tenure Duration of Chief Executive Officer be greater stability and strength, so are less likely to pursue the interests of shareholders, Hermalin and Weisbach (1998).Tenure Duration of Chief Executive Officer may influence the effectiveness of the monitoring role of the board of directors, Ebrahim et al (2004). Yazdanian (2006) studied the effect of standards of corporate governance on reducing the earnings management. The results show that only the presence of institutional shareholders has an impact on reducing the earnings management while non-executive members of the board of directors, separation of the role of CEO and chairman and the internal auditor has no impact on earnings management. Ahmad Pour, Malekian, Kord Tabar (2009) in their study, investigated the impact of nonexecutive managers and

institutional investors on earnings management behavior and concluded that when the incentive for manipulate earnings are high, nonexecutive managers and institutional investors have poor role in reducing anomaly of abnormal accruals. Aghaei & Chalakei (2009) reported that the institutional ownership and board independence are negatively associated with earnings management. Also there are no relationship between the CEO dominance and the CEO-duality, board size and CEO duration of tenure and earnings management.

3. Methodology

This research, from the standpoint of the purpose is an applied research, and from the standpoint of the time, is an ex-post research and this research is a descriptive and correlation one. The statistical population of this study is companies listed in the Tehran Stock Exchange, and time domain considering the information close to time of performance of research and access to them is the period of 5 years (during the years of 2011 to 2015) . On the selection of sample, following conditions were taken into account:

- During the years of 2011 to 2015 have constant activity in exchange or not changing the fiscal year or activities.
- Before the year 2011, companies listed on the stock exchange and by the end of year 2015 be active in exchange.
- Their end of fiscal year is ended march.
- Investment firms and banks due to the specific nature of their activities are eliminated.
- Required information for the purposes of this study is available.

The selection process of the statistical society is provided in figure (1)

The figure 1: statistical society screening process

Selection conditions	The number of companies
The number of listed companies to date: Mar 19, 2015	470
The number of corporate deleted before the date: Mar 19, 2015	144
The number of corporate inserted after Mar 20, 2015	34
The number of companies of investment, banks, insurance and holding	54
The number of companies that their end of fiscal year is not ended march or changed the financial year and their information is not available	50
The companies that some of their information is not available	8
The number of companies after screening	180

The hypotheses can be developed in four main hypotheses as follows:

Hypothesis 1: The independence of the board of directors has an impact on the real earnings management.

Hypothesis 2: The size of the board of directors has an impact on the real earnings management.

Hypothesis 3: Chief Executive Officer Duality has an impact on real earnings management.

Hypothesis 4: CEO tenure duration has an impact on the real earnings management.

Independent variables

Characteristics of board of directors include:

BDIND: Continuous variable that is defined as the ratio of independent managers of the board of directors.

DUAL: Indicator variable with a value of 1 if the roles of chairman of the board of directors and Chief Executive Officer are done by one person.

BDSIZE: The number of the managers of the board of directors.

TENURE: Natural logarithm of the CEO tenure duration on the board of directors (time of tenure of Chief Executive Officer).

The dependent variables

Real earnings management (REM)

Manipulation of sales, production, discretionary expenditure, are three common methods for manipulation of the real activities in order to increase the profit and as a result, the abnormal cash flow (obtained from manipulation of sales), abnormal production (obtained from manipulation of production) and abnormal

discretionary expenditure (obtained from manipulation of abnormal discretionary expenditure) are known as criteria for real earnings management, Zhang (2008), Kim and Sohn (2008). Following previous research on real earnings management, Roychowdhury (2006) and Gani (2010), manipulation and moving the actual figures are examined as follows: Handling sales figures, abnormal discretionary and production expenditure. Abnormal level of each manipulation of real activity figures as balances of related predictive models is examined. Cross-sectional regressions run for each year and company:

Abnormal Cash flow (CFO) is the regression residual which is given as follows:

$$CFO_{i,t}/A_{i,t-1} = \alpha(1/A_{i,t-1}) + \beta_1(S_{i,t}/A_{i,t-1}) + \beta_2(\Delta S_{i,t}/A_{i,t-1}) + \epsilon_{i,t}$$

Where in:

CFO_{i,t}: Operating cash flow for the company i in the period t
A_{i,t-1}: assets at the end of last year,
S_{i,t}: sales during the period
ΔS_{i,t}: Change in sales over the years t namely (S_{i,t} - S_{i,t-1})

Abnormal discretionary costs are the regression residuals which are given as follows:

$$DISEX_{i,t}/A_{i,t-1} = \alpha(1/A_{i,t-1}) + \beta_1(S_{i,t}/A_{i,t-1}) + \beta_2(\Delta S_{i,t}/A_{i,t-1}) + \epsilon_{i,t}$$

Which, DISEX is discretionary expenditure and expenses as research and development (R & D), and administrative and organizational costs, administrative and sales, research and development costs and the cost of distributing and

selling. Abnormal production expenditure (PROD) defined as total cost of goods sold (CGS) and change in inventory (INV) over the years. CGS as a linear function of sales is modeled as follows:

Equation 1:

$$CGSi,t/Ai,t-1 = \alpha_0(1/Ai,t-1) + \beta_1(Si,t/Ai,t-1) + \beta_2(\Delta Si,t/Ai,t-1) + \epsilon_{i,t}$$

Then, change (growth) of inventory is modeled as follows:

Equation 2:

$$\Delta INVi,t/Ai,t-1 = \alpha_0 + \alpha_1(1/Ai,t-1) + \beta_1(Si,t/Ai,t-1) + \beta_2(\Delta Si,t/Ai,t-1) + \epsilon_{i,t}$$

Using equations (1) and (2) a normal level of production costs (PROD) is estimated as follows:

$$PRODi,t/Ai,t-1 = \alpha_0 + \alpha_1(1/Ai,t-1) + \beta_1(Si,t/Ai,t-1) + \beta_2(\Delta Si,t/Ai,t-1) + \beta_3(\Delta Si,t-1/Ai,t-1) + \epsilon_{i,t}$$

This model is based on the model of Dchv et al (1995). They showed that the cost of goods sold (CGS) and changes in the sales list are correlated with sales and changes in sales. Abnormal production expenditure for any years and company, with the difference between the actual production costs and expected production costs calculated using corresponding model.

Control variables

Since there are other factors that can influence board characteristics therefore, it is necessary these factors and the possible effects of these factors also should be considered.

Company size (ln): Michael Sampson (2010) and Ahmad Khalif (2008) believe that the size of the entity could influence some characteristics of board of directors (such as Chief Executive Officer Duality, etc.). Therefore, in this study a total asset is considered as proxy for size of the company.

To define this variable and to determine the size of the company and also the homogeneity of the data we have used the natural logarithm of the total assets of the company.

Debt- total asset ratio (LEV): Is defined as the ratio of debt to total assets at the beginning of this

$$\text{year: } LEVi,t = DEBTi,t/Ai,t$$

Mastuura (2007) showed that the sales of assets that is an earnings management is negatively related to the ratio of debt to capital. Therefore it is expected that the ratio of debt to assets is negatively correlated with earnings management.

Accruals Management (discretionary) (AD):

Is Accruals Management (AEM) that is estimated by the modified Jones Model (1995). Roychowdhury (2006), Cohen (2008) and Zhang (2012) argue that firms manipulate figures of income use real earnings management and accruals management together, therefore, it is expected that discretionary accruals management is positively correlated with real earnings management.

Analysis methods of hypotheses test

In this study data obtained from the Stock Exchange Site, Rahavard Novin software and Tadbir Pardaz were analyzed in the of Microsoft Excel, SPSS22 and Eviews 8 and to test the hypotheses, the multiple linear regression models are used. The statistical method used in this study is panel data. To test the hypotheses, F-Test used to test the data integration and based on results of Hausman test, type of test method (fixed effects or random effects a) is determined, and based on the type of method, the model is measured.

For evaluation of significance of the overall model, statistics F and for evaluation of significance of coefficient of the independent variables in each model the t statistics are used, and at the significance level of 95% the hypotheses are accepted or rejected. Also to test whether or not residuals are correlated among sections, the test of sectional independence of boys. Also to assess the normality of variables, consistency of the variance of errors and independence of errors, Jarque- Bera Test, or JB, and White Test, statistics d, Durbin-Watson, are used.

4. Results

descriptive statistics for the variables listed in figure 2, which represents the amount of descriptive parameters of central and dispersion proxies (such as median, mean and standard

deviation). Based on figure, 2 variable of LN has highest standard deviation and the LEV has lowest standard deviation. The proximity of the median and mean of variables showed normal data.

Figure 2: Descriptive Statistics of Variables

variable	Average	median	minimum	Maximum	Standard deviation	Skewness	Elongation
BDIND	0/347	0/428	0	1	0/302	0/003	1/470
DUAL	0/254	0	0	1	0/436	1/125	2/266
BDSIZE	5/964	6	1	10	0/793	-0/014	9/242
TENURE	3	2	0	1	0/24	0/625	0/742
LN	14/012	13/745	10/82	18/120	1/359	0/907	3/928
LEV	0/578	0/61	0/11	1	0/186	-0/471	2/725
AD	0/742	0/480	0	0/947	0/422	0/341	1/201

In order to test the hypotheses of research, three models are used as follows:

Model 1: Real earnings management based on abnormal cash flows

$$REM_{CFO} = \alpha + \beta_1 BDIND_{it} + \beta_2 Dual_{it} + \beta_3 BSize_{it} + \beta_4 Tenure_{it} + \beta_5 IN_{it} + \beta_6 LEV_{it} + \beta_7 DA_{it} + \epsilon_{it}$$

Model 2: Real earnings management based on abnormal discretionary expenditure

$$REM_{DSEV} = \alpha + \beta_1 BDIND_{it} + \beta_2 Dual_{it} + \beta_3 BSize_{it} + \beta_4 Tenure_{it} + \beta_5 IN_{it} + \beta_6 LEV_{it} + \beta_7 DA_{it} + \epsilon_{it}$$

Model 3: Real earnings management based on abnormal production

$$costs\ REM_{PROD} = \alpha + \beta_1 BDIND_{it} + \beta_2 Dual_{it} + \beta_3 BSize_{it} + \beta_4 Tenure_{it} + \beta_5 IN_{it} + \beta_6 LEV_{it} + \beta_7 DA_{it} + \epsilon_{it}$$

To determine the functionality of the model, Chow test and to suitable estimate, the Hausman Test are used respectively, summary of the results is provided in Figure (3).

According to results, panel data models can be used, all three models also need to be estimated using fixed effects. Summary results of the statistics of model and assumptions of classical regression (4) are provided in figure (4).

Figure 3: Results of Chow and HausmanTest

Model	Type of test	Statistics of TEST	statistics	P-Value
The first model	Chow	F	62/35	0
	Hausman	X ²	0/841	0/857
The second model	Chow	F	69/74	0
	Hausman	X ²	0/627	0/744
The third model	Chow	F	42/61	0
	Hausman	X ²		

Figure 4: Results of the statistics models and assumptions of the classical regression

Model	R2	F	Value	DW	Jarque- Bera	Value	statistic	P-Value
First	0/896	104/362	0.000	2/18	Bera	0/47	0/74	0/46
Second	0/827	87/651	0.000	1/87	0/94	0/76	5/24	0/44
Third	0/853	116/368	0.000	2/113	0/64	0/83	19/42	17/0

To determine the significance of the model in general, given that the probability (P-VALUE) statistics F for all three models is smaller than 0.05 (0.000), with confidence of 95%, overall significance of models is confirmed.

According to the Durbin-Watson statistics that is nearly 2 there is no linearity between variables. Also, according to Jarque-Bera statistics, residuals have a normal distribution. Therefore, fitness accuracy of model is verified. About White test statistics should be pointed out that this statistics

are based on a normalized version of sum of squares explained of certain regression that this test confirms inconstancy. Because the value of probability substantially is more than 0.05, in the figure (5) results of test of models are presented.

In examining the significance of the overall model, given that the probability (P-VALUE) statistics F is smaller from 0.05 (0.000), with confidence of 95%, the overall significance of the model is confirmed. In figure (6) F computational amount for the three models are presented:

Figure 5: results of the three models

Variable	The first model	The second model	The third model
α	2/128	4/525	0/689
T- Statistics	0.96	7/149	1/433
P-Value	0/328	0.000	0/108
BDIND	-0/374	-0/180	-0/684
T- Statistics	-1/787	0.847	3/625
P-Value	0/084	0/241	0.025
DUAL	0/245	0/377	0/328
T- Statistics	0/741	1/481	2/615
P-Value	0/576	0/094	0/047
BDSIZE	0/388	-0/361	-0/147
T- Statistics	1/784	2/455	1/194
P-Value	0/083	0/047	0/117
TENURE	0/255	0/674	0/365
T- Statistics	3/212	5/84	4/621
P-Value	0/017	0.008	0/002
LN	0/327	-0/715	-0/327
T- Statistics	-7/054	-6/527	-5/913
P-Value	0.000	0.000	0/005
LEV	-0/548	0.357	-0.671
Statistics t	-0.7.872	2.361	-6.842
P-Value	0.000	0.051	0.000
AD	1/21	8/367	0/426
T-Statistics	14/625	15/266	7/361
P-Value	0.000	0.000	0.000

Figure 6: F value calculation for the three models

Model	The F	P-Value
The first model	62.35	0.00
The second model	69.74	0.00
The third model	42.61	0.000

With the help of software Eviews , the test was conducted, the value of the probability in all three models indicates that the hypothesis H0 based on homogeneity of sections and the similar width from offset are rejected ,therefore the impacts of group accepted and the different width from offset must be considered in the estimate. As a result, the panel method can be used to estimate. Hausman Test results for the three models according to the figure (7).

It is observed that the value of the possibility for three models represents the selection of random effects to estimate the model. As a result, the effects of the sections are not correlated with distributed variables and the random effects model is suitable to estimate three models. The results of

boys test for all three models are provided in the Figure (8).

In all three models, the null hypothesis of boys test is not rejected. So residuals have no correlation between sections and sections are not correlated. To assess the accuracy of model requires that assumptions of least squares are satisfied. Therefore, the assumptions will be tested following. To investigate the normality of the residuals, Jarque-Bera Test is conducted for each models, results are as figure (9).

Residuals with according to the Jarque-Bera statistics are distributed normal. So in this sense confirmed the fitness accuracy of the model is confirmed. Results of the White Test to assess the consistency of variance of residuals (10).

Figure 7: Hausman Test results for the three models

Model	The amount of X2	P-Value
The first model	.841	.857
The second model	.627	0.744
The third model	1.114	0.335

Figure 8: Pesaran test results for all three models

Model	Pesaran Statistic	P-Value
The first model	0.658	0.778
The second model	0.252	0.925
The third model	0.945	0.369

Figure 9: the results of the Jarque-Bera Test

	The Jarque-Bera statistics	P-Value
The first model	0.94	0.47
The second model	0.64	0.76
The third model	0.38	0.83

Figure 10: Results of White Test

Model	Coefficient	P-Value	Description
F	0.74	0.46	The null hypothesis is not rejected
X ²	5.24	0.44	The null hypothesis is not rejected
X ² SESS	19.42	0.17	The null hypothesis is not rejected

By using the three different types from test of inconsistency of variance, test was performed. Statistics of test gives information at case the assumption of inconsistency of variance is valid or no. On this case each three statistics gives similar results based on lack existence evidence of inconsistency of variance, because that value of possibility substantially is more than 0.05.

In case of third prescription of test statistics, it is necessary to explained that this statistics is based on a prescription normalized of total squares explained from given regression that this test confirms inconsistency of the variances. The most common test of residuals correlation is Durbin-Watson test. According to the Durbin-Watson statistics that is nearly 2 can be said there is a strong correlation between the regression residuals.

According to the Figure (4), the coefficient of determination is (0.896) and it can be said that 89.9 percent of the dependent variable variations are explained by the independent variables. Based on the results presented in Figure (5), only the probability (P-VALUE) T-statistic of duration of CEO tenure in board of directors (TENURE) was smaller than 0.05 (0.017) and its coefficient is positive (0.255).

Thus, we can say that there is a positive and significant relationship between duration of CEO tenure on board of directors and real earnings management.

According to the Figure (4), the coefficient of determination is (0.827) and it can be said that 82.7 percent of the dependent variable variations are explained by the independent variables. Based on the results presented in Figure (5), only the probability (P-VALUE) T-statistics of the size of the board of directors (BDSIZE) was smaller than 0.05 (0.047) and its coefficient is negative (-0.361).

Therefore, we can say that there is a significant and negative relationship between the size of the board and real earnings management. Also, the probability(P-VALUE) T-statistics of CEO tenure duration board of directors (TENURE) was smaller than 0.05 (0.008) and its coefficient is positive (0.674); Therefore, we can say that there is a significant and positive relationship between duration of tenure of Chief Executive Officer in board of directors and real earnings management.

According to the Figure (4), the coefficient of determination is (0.853) and it can be said that 85.3 percent of the dependent variable variations are explained by the independent variables. Based on the results presented in Figure (5), only the probability (P-VALUE) T-statistics of the variable of number of independent directors (BDIND) was smaller than 0.05 (-0.684) and its coefficients is negative (-0.025). Therefore, we can say that there is a significant and negative relationship between the number of independent managers and real earnings management. Also, the probability (P-VALUE) of T-statistics of the variable of Chief Executive Officer Duality (DUAL) was smaller than 0.05 (0.047) and its coefficient is positive (0.328); therefore we can say that there is positive and significant relationship between Chief Executive Officer Duality and real earnings management. The probability (P-VALUE) of T-statistics relating to the variable of CEO tenure duration in board of directors (TENURE) was smaller than 0.05 (0.002) and its coefficient is positive (0.365), so we can say that there is a positive and significant relationship between CEO tenure duration in board of directors and real earnings management. The results of hypothesis tests are as following Figure.

Figure 11: Summary results of testing hypotheses

Hypothesis	Description	The first model	The second model	The third model
First	Independence of board has an effect on real earnings management	rejected	rejected	accepted
Second	Board size has an effect on real earnings management	rejected	accepted	rejected
Third	Chief Executive Officer Duality has an impact on real earnings management	rejected	rejected	accepted
Fourth	CEO tenure duration has an effect on the real earnings management	accepted	accepted	accepted

5. Discussion and Conclusions

The empirical evidence derived from hypotheses suggest that the independence of the board of directors has a significant and negative impact on real earnings management based on abnormal production costs, in other words, the real earnings management is reduced by increasing the independence of board of directors. According to the theoretical foundations of research, the independence of the board is one of the corporate governance mechanisms that potentially maintain the interests of owners against the incentives of managers. Board of directors with the more number of Non-Executive Directors provides the positive picture of independence and responsible for accountability for different groups involved in the enterprise and, ensuring compliance of governance attributes. As a result, the theoretical foundations, by increase in ratio of Non-Executive Directors, the value of companies increases. The results of the first hypothesis argued that non-executive members of the board of directors, in particular use its authority to control policies of managers to prevent the earnings manipulation and have sufficient knowledge in this regard. Such an approach makes it especially increases with the number of members of the board of directors and non-executive members, power of other governance mechanisms will also be strengthened because investors and creditors that may be relied on that non-executive board members play their roles favorably, less than benefit from supervisory tools.

Visvanathan (2008) in their study using data from before the law Sarbanes-Oxely finds that the independence of the board of directors is negatively correlated with the occurrence of actual earnings management by reducing discretionary expenditure and surplus assets rather than through displacement of figures and sales. According to the second hypothesis test results, if the company has real earnings management based on abnormal discretionary

expenditure, size of board of directors has a significant and negative impact on the real earnings management. In other words, the high size of board of director will reduce earnings management; that is inconsistent with the theoretical foundations. Lipton and Lorch (1992) were the first people assumed that the size of the board is an independent control mechanism. They specially argue that the big board of directors may have been less effective than small board of directors. Apart from size, the coordination of the larger board of directors is more difficult. In this context, the problems of lack of coordination between the members of the board, increases the supervisory costs and information asymmetry and limits the control managers. The size of the board to improve corporate performance widely studied but consensus has not been achieved.

Also, Dalton Davis (1991) argues when the size of the board is large, its ability to perform its functions is reduced, because the solidarity and unity in large groups, because of the diversity of the votes of members of different groups is difficult. In this context, the problems of lack of coordination between the members of the board of directors, increases the supervisory costs and information asymmetry and limits the control managers (Alsaed & Vahba, 2013). Results of hypothesis related to the Chief Executive Officer Duality have also indicated that if the company has real earnings management based on abnormal production costs; Chief Executive Officer Duality has a positive impact on earnings management and the impact is significant at level of

95percent. In other words, by increasing the Chief Executive Officer Duality, real earnings management increases and the influence of Chief Executive Officer Duality on the real earnings management is reliable statistically and that is consistent with the results of Chang & sun (2008) and that is inconsistent with the Karamanou & Vafeas (2005). If the companies have real earnings management based on abnormal cash

flows, real earnings management based on abnormal discretionary expenditure, real earnings management based on abnormal production costs; in this period of time, CEO tenure duration on the board of directors has a positive impact on real earnings management and the impact is significant at level of 95 percent. In other words, CEO tenure duration on the board of directors increases the real earnings management and the impact is significant at level of 95 percent. These findings are consistent with the theoretical foundations and results of Razali et al (2014).

In this regard, it might be argued that Chief Executive Officer Duality potentially threatens the independence of board and also limits the efficiency and supervisory role of the board of director on CEO. Shareholders of companies that their governance has faced the problems of Chief Executive Officer Duality, they are more alarmed about the threat to their interests in the firm, because according to the number of duties, manager failed to perform his duties and have no adequate oversight over financial decisions. Hypotheses related to the CEO tenure duration represent the significant and positive impact on real earnings management, in all three the real earnings management is calculated, which is contrary to theoretical foundations. Ebrahim et al. (2004) in their study reported the CEO tenure duration may affect the effectiveness of the monitoring role attributed to the board so there is a positive and significant relationship between CEO tenure duration and real earnings management.

According to the results test of research hypotheses, as long as the CEO tenure duration causes real earnings management increases, therefore, proposed that taken into account a period of time with in the constitution of companies for CEO posts and CEO tenure duration are not also long and since the Chief Executive Officer Duality increases probability of company has real earnings management based on abnormal production costs, therefore, proposed that for the post of CEO, restrictions should be in the constitution of companies that these restrictions cause CEO be focused on the corporate affairs and duties related to CEO post.

References

- 1) Aghaie, M., Chalaki, P.(2009). Examining the relationship between corporate governance characteristics and earnings management of listed companies in Tehran Stock Exchange. *Journal of Accounting and Audit Researches*, 1(4), 17-39.
- 2) Ahmad Pour, A., Malekiyan, A., & Kordtabar, H. (2010). Examining the effect of outside directors and institutional investors in the behavior of interest. *Journal of Accounting and Audit studies*,1(3) ,68-87.
- 3) Chambers, D., & Payne, J. (2011). Audit Quality and Accruals Persistence: Evidence from the Pre- and Post-Sarbanes-Oxley Periods. *Managerial Auditing Journal*, 26(5), 437-456.
- 4) Cohen, D. A., Dey, A., & Lys, T. Z.(2008). Real and Accrual-Based Earnings Management in the Pre- and Post-Sarbanes-Oxley Periods. *The Accounting Review*, 1(3), 757-778.
- 5) Cohen, D. A., Mashruwala, R., & Zach, T. (2010). The Use of Advertising Activities to Meet Earnings Benchmarks: Evidence from Monthly Data. *Review of Accounting Studies*, 15(1),1-15.
- 6) Cornett, M. M., Marcus, A. J.,& Tehranian, H. (2008). Corporate Governance and Pay-for-Performance: The Impact of Earnings Management. *Journal of Financial Economics*, 87(3), 357-373.
- 7) Dechow, P. M., Sloan, R., & Sweeney, A. (1995). Detecting Earnings Management. *Accounting Review*, 70(2), 193-225.
- 8) Donaldson, L. & Davis, J.H. (1991). Stewardship theory and agency theory: CEO governance and shareholder returns. *Australian Journal of Management*, 16 (1), 49-63.
- 9) Ebrahim, A.M., (2004).The Effectiveness of Corporate Governance, Institutional Ownership, and Audit Quality as monitoring Devices of Earnings Management. Ph.D. Dissertation, The state university of New Jersey.
- 10) Fama, E. F.,& Jensen, M. C.(1983).Separation of Ownership and Control. *Journal of Law andEconomic*,26 (2),301-325.
- 11) Gompers, P., Joy, I.,& Andrew Metrick. (2003). Corporate governance and equity prices. *Quarterly Journal of Economics*. 118(1), 107-156.
- 12) Graham, J., Harvey, C., & Rajgopal, S. (2005). *The Economic Implications of Corporate Financial*

- Reporting. *Journal of Accounting and Economics*, 40(1-3), 3-73.
- 13) Graven, A.(2009). The Effect of Board and Audit Committee Characteristics on Real Earnings Management: Do Boards and Audit Committees Play a Role in Its Promotion or Constraint? *Academy of Accounting and Financial Studies Journal*. 19(1), 67-85.
- 14) Gunny, K. A.(2010). The Relation between Earnings Management Using Real Activities Manipulation and Future Performance: Evidence from Meeting Earnings Benchmarks. *Contemporary Accounting Research*, 27(3), 855-888.
- 15) Hermalin, B.,& Weisbach,M. (1998).The determinants of Board Composition. *RAND Journal of Economic*.19(4) 589-606.
- 16) Jaggi, B., Chin, C., Lin, H.,& Lee, P. (2006). Earnings Forecast Disclosure Regulation and Earnings Management: Evidence from Taiwan IPO Firms. *Review of Quantitative Finance and Accounting*, 26(3), 275-299.
- 17) Karamanou, I & Vafeas, N. (2005). The Association between Corporate Boards, Audit Committees, and Management Earnings Forecasts: An Empirical Analysis. *Journal of Accounting Research*, 43(3), 453-486.
- 18) Lipton, M., & Lorsch, J. (1992). A Modest Proposal for Improved Corporate Governance. *Business Lawyer*, 48(1), 59-77.
- 19) Mak, Y.T., Yuanto, K. (2003). Board Size Really Matters: Further Evidence on the Negative Relationship Between Board Size and Firm Value, *Pulses by Singapore Stock Exchange*.
- 20) Roychowdhury, S.(2006). Earnings Management through Real Activities Manipulation. *Journal of Accounting and Economics*.42 (3), 335-370.
- 21) Schipper, K.(1989).Commentary on Earnings Management. *Accounting Horizons*, 3(4), 91-102.
- Skinner, D. J., & Sloan, R. G.(2002).Earnings Surprises, Growth Expectations, and Stock Returns or Don't Let an Earnings Torpedo Sink Your Portfolio. *Review of Accounting Studies*, 7(2),289-312.
- 22) Sweeney, A. P. (1994). Debt-covenant violations and managers' accounting responses. *Journal of Accounting and Economics*,17(3), 281-308.
- 23) Taylor, G., & Xu, R. (2008). Consequences of Real Earnings Management to Meet Analyst Earnings Forecasts on Subsequent Operating Performance. *Research in Accounting Regulation*, 2: 128-132.
- 24) Visvanathan, G.(2008). Corporate Governance and Real Earnings Management. *Academy of Accounting and Financial Journal*, 12(1), 9-22
- 25) Xie, B., Davidson, W. N., & Dadalt, P.(2003). Earnings Management and Corporate Governance: The Role of Board and the Audit Committee. *Journal of Corporate Finance*, 17(3), 259-316.
- 26) Wan Ainul Asyiqin Wan Mohd Razali, Roshayani Arshad.(2014). Disclosure of corporate governance structure and the likelihood of fraudulent financial reporting. *Procedia - Social and Behavioral Sciences*, 145, 243-253.
- 27) Yang, S.,& Krishnan, J. (2005). Audit Committees and Quarterly Earnings Management. *International Journal of Auditing*, 9(3), 201-129.
- 28) Yermack, D. (1996). Higher Market Valuation of Companies with a Small Board of Directors. *Journal of Financial Economics*, 40(2), 185-211.
- 29) Zang, A. Y. (2012). Evidence on the Trade-off between Real Activities Manipulation and Accrual- Based Manipulation. *Accounting Review*, 87(2), 675-703.