

Earnings management and corporate governance

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1- Abstract

The main aim of this study is to investigate whether UK firms manage the practice of earnings management or not also it investigates the effect of corporate governance characteristics in reducing earnings management. The motivation of this research is to what extent of exploratory variables of corporate governance has effect in reducing the practice of earnings management in sample of this study. Data collected from companies listed on London Stock Exchange during 2012. Sample included 50 companies. The study employs the same model as was used by Dechow et al. (1998) to measure earnings management through real activities manipulation. On the other hand, this study used four independent variables to test the effect of corporate governance in reducing earnings management.

The results show only a very low incidence of earnings management in the majority of firms in the sample: Furthermore, the results show there is significant negative relationship between earnings management and firm size although, the correlation is weak. However. In addition, this study found that there is just one independent variables which is bind has positive relationship with earnings management but the relationship is not significant.

2- Introduction

The last decade has seen a number of accounting scandals within major global corporations. Many of these have been blamed on the weakness of the control mechanisms employed in these organization (Agrawal et al, 2005). Poor financial reporting, for example, has been linked to weak internal controls within firms. The corruption and scandals have weakened shareholders confidence, dramatically undermined equity value and affected stock markets (Agrawal et al, 2005). The manipulation of financial reports so as to hide the losses and present a company in the best possible light is known as earnings management or creative management (Burgstahler et al, 1997). Yu (2008) defines earnings management as “a purposeful intervention in the external financial reporting process, with the intention of obtaining some private gain”.

However, there are a numerous of authors, for instance, Mangena et al (2008), Sudarsanam et al (2000) and Brown et al (2004) have shown that both developed and developing countries attempts are being made to improve corporate governance in order to avert such financial crisis and failures (Shanikat et al, 2011). Plessis (2011,P:10) defines corporate governance as " the system of regulating and overseeing corporate conduct and of balancing interests of all internal stakeholders and other parties". Over the last 40 years, increasing attention has been paid to corporate governance by researchers who see it as a way of helping firms to make better business and strategic decisions and to improve results (Tricker, 2012). Several authors have reported that improving corporate governance and accounting standards will help companies to counter the threat of aggressive of earnings management.

3- Research questions:

The purpose of this study is to identify:

- Do UK companies manage the practice of earnings management, if they do what extent they do?
- What is the effect of corporate governance in reducing the negative effect of earnings management?

4- Research objectives:

The two main objectives of this study are:

- To investigate the level of the practice of earnings management in UK companies.
- To investigate the effect of corporate governance in reducing earnings management.

5- Literature review

A number of previous studies have investigated earnings management and its impact on companies. For example, Peasnell, et al (2005) investigated the link between earnings management and board monitoring mechanisms in UK companies, focusing specifically on the role played by outside board members and the audit committee. The study, which was conducted on UK, listed companies for the period Jun 30, 1993 to May 31, 1996. Findings indicated that managers were likely to increase income to avoid reporting loses and earnings reductions. It also found some evidence that outside directors are related to income reducing accruals when the incentives to manipulation earnings downwards. However, the study found no evidence a link between audit committees and the increase of income through manipulation.

Another study related to manipulation was conducted by Roychowdhury,(2006) this study investigated earnings management to show some evidence on the management of operational activities. It aimed to improve empirical methods to discover real activities manipulation by examining cash flow from operations. The author focused on three ways of conducting manipulation: sales manipulation, reduction of discretionary expenditures and overproduction. This study used the model in Detchow et al, (1998) to derive normal levels of cash flow. The sample selected all the companies in COMPUSTAT database between 1987 to 2001. The results indicated that the managers tried to avoid reporting annual losses by suggesting price discounts to increase sales for temporary period, reducing discretionary expenditures to improve reported margins.

Additionally, Gunny,(2009) investigated the association between earnings management through using real activities manipulation and future performance. His study focused on four types of real activities manipulation which are reducing discretionary R&D expense, reducing discretionary SG&A expense, timing the sale of non-current assets to report gains and overproduction reflecting an intention to discount prices. The sample used companies with available financial data from COMPUSTAT database from 1988 to 2002. The results showed that real activities manipulation of R&D, SG&A, and production are positively related to the companies just meeting these earnings benchmarks. The relationship between just meeting earnings benchmarks through using RM and subsequent performance is negative because managers used earnings management to the detriment of investors. There was a positive association with the managers by using operational discretion to obtain benefits that allow improve future performance.

On the other hand, there are several studies which investigated the association between corporate governance and earnings management. Many of those studies examined the roles of corporate governance in reducing earnings management. For example, Tangjitprom, (2013) looked at the role of corporate governance in reducing the negative effects of earnings management. Tangjitprom's sample, which was draw from the World Scope database, comprised US companies from 2002 to 2010, while his corporate governance data was collected from ASSET4. His empirical evidence showed that earnings management had a negative effect on the firms value, is less likely to occur in companies with high

standards of corporate governance. Shen et al (2007) had similar findings they examined the effects of corporate governance on earnings management. The authors conducted their study on companies from Credit Lyonnais Security Asia of nine Asian countries. The key findings showed that firms which have good corporate governance have a lower incidence of earnings management.

Moreover, Kim et al, (2008) examined the ways in which the improvement of corporate governance can mitigate earnings management. Researchers conducted their study on the firms listed on the Korea Stock Exchange in the period 2004 to 2005. They used discretionary accruals and total accruals to measure earnings management. This study used four variables to investigate the impact of corporate governance on earnings management. The findings showed that the board of directors, foreign ownership, leverage ratio and company size all have an effect on discretionary accruals and total accruals.

In the same way Gulzar et al, (2011) investigated the effectiveness of corporate governance characteristics in reducing earnings management among companies listed on the Shanghai and Shenzhen stock exchange, China. The sample included 1009 companies from 2002 to 2006. This study used the m-J model to calculate discretionary accruals. The findings showed that corporate governance has a vital role in reducing the earnings management. Additionally, findings also showed that there was a positive relationship between earnings management and different corporate governance characteristics.

However, Abed et al (2012) researched the association between earnings management and characteristics of various corporate governance. The sample was selected from Jordanian non-financial companies from 2006 to 2009 using Jones models to measure earnings management through discretionary accruals. This study was investigated the existence of independence members within the board of directors, the size of board directors, and the proportion of insider ownership. Results showed that only board size is significantly related to earnings management. Results supported the application of the principles of corporate governance so as to control the behaviour of the board directors which might lead to misrepresentation in reported financial annual reports.

A Kang et al, (2011) arrived at a similar conclusion when they examined whether the corporate governance affects managers real operating or investment decisions to control reported earnings management. An empirical study of firms listed on the Korean stock exchange from 2005 to 2007. They focused only on the non-financial companies. The findings showed that real activity based earnings management decrease with a larger and a greater proportion of external directors sit on the board. Results also found that corporate governance structure effects on the real activity based earnings management.

This paper contributes to the literature addressing earnings management through real activities manipulation a topic which has received relatively little attention so far. It focuses specially on sales manipulation, which has direct effect on the cash flow. Moreover, it is the first study to examine the effect key corporate governance characteristics in reducing earnings management in UK firms of London Stock Exchange in 2012.

6- Methodology

According to Kothari (2004) defines research methodology “is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically”. This paper seeks to investigate whether UK companies manage their earnings management through real activities manipulation, and to explore the effect of corporate governance in reducing earnings management. A quantitative approach was employed, as this allowed a detailed examination of the relationships between the dependent and independent variables (Jones, 2013). It might be inappropriate to conduct this research by qualitative research because the data for quantitative research method are normally in numerical form.

6.1- Data and sample collection

Data was collected from companies listed on UK Stock Exchange during 2012. The sample comprised 50 companies which were randomly selected by (two companies for each letter of the English Alphabet). This paper used secondary data was collected from each company’s annual report, enabling the measurement of real activities manipulation based on earnings management while secondary data from FAME was used to measure corporate governance characteristic. There are several advantages to use secondary data which are offers high quality data, data

collected by others as a result save time and money and allows more time for data analysis (Mangena, 2013).

6-2- Estimation models

This study employs Dechow et al.'s model (1998) to measure earnings management through real activities manipulation. Normal cash flow is expressed from the equation below:

$$CFO/At-1=(1/At-1)+(St/At-1)+(\Delta St/At-1)$$

Table 1: shows express normal cash flow

At_1	Total assets last year
St	Sales during this year
St_1	Sales last year
ΔSt	$\Delta St = St - St_1$. Change in sales

Roychowdhury (2006) defines sales manipulation "as managers' attempts to temporarily increase sales during the year by offering price discounts or more lenient credit terms, which lowers the cash inflow per sale".

On the other hand, this study used four independent variables to test the effect of corporate governance in reducing earnings management. The following show that:

Table 2: shows the independent variables and their measurements

variables	Description	Measurement
Bind	percentage of independent non-exec directors	Number of outside directors/Total No. of Director
Bsize	Board size	Number of directors on the board
Fsize	Firm size	The difference between assets and liabilities
Lev	Leverage	FAME

6.3- Statistical methods

Appropriate statistical methods were applied to estimate and test the effect of exploratory variable on the dataset in order to draw informative explanation in companies in the event of the exercise of the earnings management. The first task was to assess the statistical relationship between earnings management and exploratory variables (Bind, Board size, Firm size and Leverage). This relationship was investigated by constructing a linear regression model, while the degree of relationship was measured by means of simple or multiple linear correlations.

6.4- Simple and Multiple Correlations

The simple correlation coefficient measures the strength of the linear relationship between two variables. The relationship is very strong as long as the correlation approaches -1 (lower limit) or +1 (upper limit). The sign of correlation indicates to the direction of relationship, namely if correlation is negative then we have negative relationship, otherwise the relationship is positive. The degree of relationship is defined as very weak if correlation is very close to zero (Pallant, 2007).

The multiple correlation coefficient measures the degree of correlation between exploratory variables and the dependent variables (in this case, earnings management). The square of multiple correlations is known as determination of coefficient, which measure the percentage of the variation in earnings management that explained by the exploratory variables. The multiple correlation ranges from 0 to 1 whereas determination of coefficient is from 0 to 100%.

6.5- Multiple linear regression analysis

The multiple linear regression technique is used to establish a statistical linear model between a given outcome (dependent variable) and a set of inputs (independent variables). Regarding the second goals, the study builds linear models to investigate the effect of Bind, Broad size, Firm size and Leverage on earnings management (dependent variable). The equation below shows the effect of the corporate governance on CFO (earnings management) which defined as:

$$\text{CFO} = \beta_0 + \beta_1 \text{Bind} + \beta_2 \text{Board size} + \beta_3 \text{Firm size} + \beta_4 \text{Leverage} + \varepsilon \quad (1)$$

β_0 is the expected value of CFO (earnings management) when the exploratory variables are zero, while β_1 , β_2 , β_3 and β_4 are regression coefficients showing the expected change in CFO per one unit change in each variable of equation (1). The coefficients are estimated using ordinary least squares method (OLS) (Draper et al, 1998). ε is defined disturbance term of the model.

Sometimes, it is referred to the effect of omitted variables.

For model (1), this study states the null and alternative hypothesis.

- Null hypothesis (H0A): there is no relationship between CFO and Bind.

Alternative hypothesis (H1A): there is a relationship between CFO and Bind.

- Null hypothesis (H0B): there is no relationship between CFO and Board size.

Alternative hypothesis (H1B): there is a relationship between CFO and Board size.

- Null hypothesis (H0C): there is no relationship between CFO and Firm size.

Alternative hypothesis (H1C): there is a relationship between CFO and Firm size.

- Null hypothesis (H0D): there is no relationship between CFO and Leverage.

Alternative hypothesis (H1D): there is a relationship between CFO and Leverage.

A series of T test were conducted to identify whether independent variable in the model (1) have a significant effect on the dependent variable in order to reject or accept the null hypothesis, t test is used to determine the significant effect. If the p-value obtained by t test, for exploratory variable is below the level of significant (0.05), then that

variable has a significant effect on CFO and hence null hypothesis is rejected meaning that alternative hypothesis is accepted. If p-value is higher than 0.05, the null hypothesis is accepted. If the sign of coefficient is positive, then CFO is expected to increase, but if the effect is negative, then CFO is expected to decrease (Maddala, 2001).

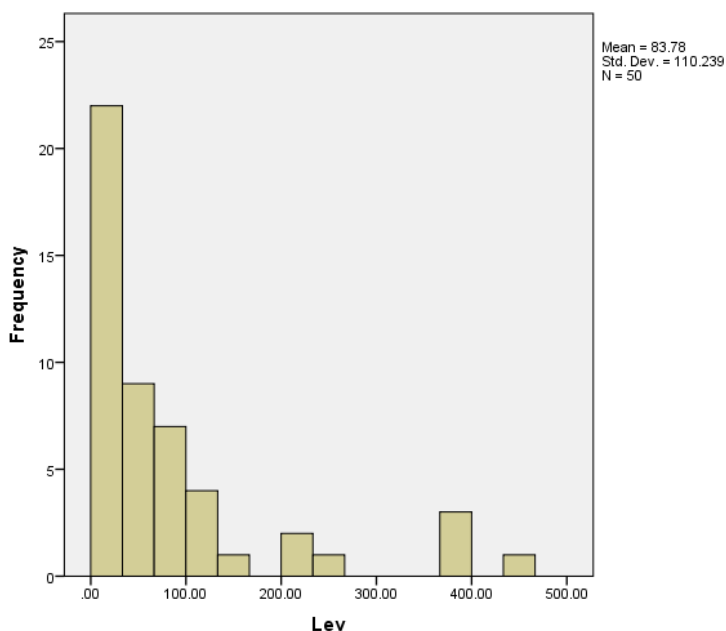
7- Empirical results

7.1 Descriptive statistics and analysis

The summary descriptive statistics for the dependent and explanatory variables are reported in table 3, while correlation matrix is present table 4. Then the linear regression model results are demonstrated in table 5.

Regarding the exploratory variables, table 3 shows that the sample of firms show very similar and mean of Bind which is .372 and median .365, respectively with SD=.813. The lowest value of Bind reaches 0 while the largest is .85. For Board size, the resulting mean and median are 8.62 and 9.00 with SD=5.00. The values of Board size are ranging between 0 and 14 members. The firm size shows a large difference in the resulting mean and median, where mean=372318.916 while median=6516.000 indicating that the most of firms has small size as shown by the mode which is found to be 70. The smallest firm size is 70 while the largest size is 6718953. The leverage shows different higher mean (83.784%) than median (35.625%), while the mode is much smaller (.45%), and this indicates that the firms tend to have low leverage, for more details figure 1 shows the distribution of leverage. The smallest leverage is found to be .45% while the largest leverage is 446.22%.

Figure 1: Histogram for the leverage



In terms of earnings management shows close mean and median, where the mean reaches 1.419%, while median is 1.272%. The distribution of earnings management using histogram, shown in figure 2, seems to be quite skewed, namely the majority of firms own low earnings management. The largest value is noted to be 4.34% which is only for one firm, while the smallest value is 0.01% which is only observed for two firms. Based on the median, the earnings management for this sample is somewhat higher than the average shown by Peasnell et al (2005) for the UK firms which is 1.16%. In comparison with China firms investigated by Gulzar et al (2011), the average for the listed firms of Shanghai and Shenzhen stock exchange is 18.4% which is much higher than the average of the sample of this study.

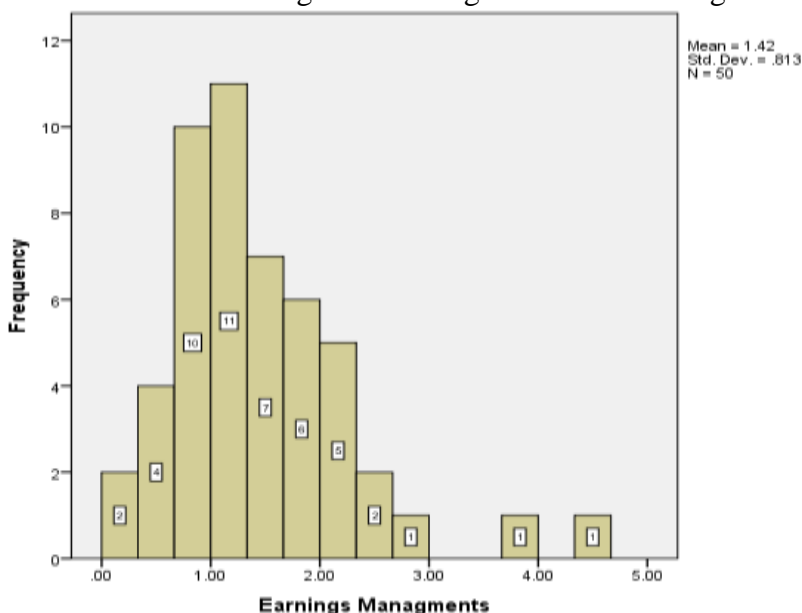
Table 3: Summary descriptive statistics for the dependent and explanatory variables

	Earnings management	Bind	Board size	Firm size	Leverage
Mean	1.419%	.3721	8.620	372318.916	83.784
Median	1.272	.365	9.000	6516.000	35.625

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Mode	.01	.20	5.00	70.70	.45
Std. Deviation	.8128	.1786	2.891	1245431.72	110.239
Minimum	.01	.00	.00	70.70	.45
Maximum	4.34	.85	14.00	6718953.00	446.22

Figure 2: Histogram for the earnings management



7.2 Correlation analysis results

The earnings management measured by CFO is associated negatively with firm size as it described in table 4 . Although the resulting correlation is weak (-.291), it is statistically significant (p-value=.040). Other study such as that by Gulzar et al (2011) found that the correlation is positive and weak, while Akang et al (2011) indicated that there is no correlation between CFO and firm size. The earnings management is not significantly related with the rest of exploratory variables of this study because (p-value>0.5).

By looking at the correlation between the exploratory variables in table 4, the highest correlation is found between Board size and Leverage, although this correlation is low (0.350), it is statistically significant (p-value=0.013), indicating that Board size and Leverage move in the same direction. Board size and firm size show weak negative correlation (-0.223) which is not statistically significant (p-value>0.05). Moreover, firm size is negatively correlated with leverage, but the value of correlation is weak (-0.118) and not significant (p-value>0.05). The degree of correlation is close to zero between Bind and Board size (0.077) and firm size (0.006). Generally, the correlations among exploratory variables are not high.

Table 4: shows simple correlation matrix for dependent and exploratory variables

		CFO	Bind	Board size	Firm size	Lev
CFO	Correlation	1	.229	-.009	-.291	-.165
	p-value		.110	.949	.040	.252
Bind	Correlation		1	.077	.006	-.143
	p-value			.595	.968	.321
Board size	Correlation			1	-.223	.350
	p-value				.120	.013
Firms size	Correlation				1	-.118
	p-value					.416
Leverage	Correlation					1
	p-value					

7.3 Regression analysis and results

Using linear regression model, table 5 reports the regression coefficients using cross-sectional data for 50 firms in the sample. Table 5 also shows the t-test with corresponding p-value for each exploratory variable. The coefficient of firm size on earnings management is actually negative with significant effect ($t=-2.295$, $p\text{-value}=.026$). As a result, H1C is statistically accepted so that the earnings management is likely to be lower as firm size increase. The direction of the firm size effect is in line with Gulzar et al (2011) although they showed that the firm size is not

statistically significant. This result is in contradiction with Abed et al (2012) although the effect of firm size was not significant.

The Bind has a positive effect on the earnings management, but the effect is not statistically significant (p -t=1.523, p -value=.135) therefore, H0A is accepted. In terms of board size, the earnings management is negatively influenced by this variable however no significant effect is found (t =-.278, p -value=.782) therefore, H0B is accepted. This result is in the line with Gulzar et al (2011). Similarly, Abed et al (2012) found that effect of board size is negative however they found that the effect of board size is significant. Leverage also, lead to reduction in the earnings management, but this impact is not statistically significant (t =-1.068, p -value=.261), and hence H0C accepted. Also, Gulzar et al (2011) were found that the leverage had negative impact but it was significant. The same result was found by Abed et al (2012).

Based on the estimated coefficients given in table 5, The estimated model for CFO (earnings management) is presented as

$$\text{CFO} = 1.337 + 0.961\text{bind} - 0.012\text{board size} - 0.0000021\text{firm size} - .001\text{leverage}$$

Table 5: shows estimated coefficients for regression model

	Coefficient	t-test	p-value
Constant	1.337	3.209	.002
Bind	.961	1.523	.135
Board size	-.012	-.278	.782
Firm size	-.00000021	-2.295	.026
Leverage	-.001	-1.068	.261

Coefficient of determination=0.168

According to the study results, the earnings management is only statistically influenced by the firm size. Overall, the quality of CFO model using coefficient of determination is low since the total of variation explained by the exploratory variables is 16.8%.

8. Conclusion

The main purpose of this study is to investigate whether UK firms manage the practice of earnings management or not also it examines the effect of corporate governance characteristics in reducing earnings

management. The motivation of this research is to what extent of exploratory variables of corporate governance has effect in reducing the practice of earnings management in sample of this study. Data collected from companies listed on London Stock Exchange during 2012. Sample included 50 companies. The study employs the same model as was used by Dechow et al. (1998) to measure earnings management through real activities manipulation. On the other hand, this study used four independent variables to test the effect of corporate governance in reducing earnings management.

The results show only a very low incidence of earnings management in the majority of firms in the sample: the largest value is 4.34% and this was recorded is only one firm. The recorded median of 1.272% is higher than Peasnell et al.'s (2005) 1.16% for the UK firms, but much lower than Gulzar et al.'s (2011) 18.4% for firms in China. Furthermore, the results show there is significant negative relationship between earnings management and firm size although, the correlation is weak, it is significant because ($p\text{-value}=0.040$). However, prior study, such as Gulzar et al (2011) showed that the correlation is positive and weak. Moreover, Akang et al (2011) indicated that there is no correlation between CFO and firm size. By looking at the correlation between earnings management and the rest of exploratory variables there is no significant relationship between earnings management and the rest of independent variables because ($p\text{-value}>0.5$). this study found that there is just one independent variables which is Bind has positive relationship with earnings management but the relationship is not significant.

9. References

- 1- Abed, S., Al-Attar, A., and Suwaidan, M., 2012. Corporate Governance and Earnings Management: Jordanian Evidence. *International Business Research*. Vol. 5(1), pp.216-225.
- 2- Agrawal, A. and Chadha, S., 2005. Corporate governance and accounting scandals. *Journal of Law and Economics*, vol. XLVIII. pp.371-406.
- 3- Burgstahler, D. and Dichev, L., 1997. Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics*. Vol. 24. Pp.99-126.
- 4- Drapper, N., and Smith, H., 1998. *Applied Regression Analysis*. Wiley-Interscience.
- 5- Gulzar, M., and Wang, Z., 2011. Corporate Governance Characteristics and Earnings Management: Empirical Evidence from Chinese Listed Firms. *International Journal of Accounting and Financial Reporting*. , Vol. 1(1). PP. 133-151.
- 6- Gunny, K., 2009. The relation between earnings management using real activities manipulation and future performance: Evidence from meeting earnings benchmarks.
- 7- Jones, C., 2013. Advantages & disadvantages of qualitative & quantitative research [online]. Available at: http://www.ehow.co.uk/info_8091178_advantages-disadvantages-qualitative-quantitative-research.html [Accessed 6 th Dec 2013].
- 8- Kang, S. and Kim, Y., 2011. Does Earnings Management Amplify The Association Between Corporate Governance And Firm Performance? Evidence From Korea .*International Business and Economies Research Journal* . Vol. 10(2), pp.53-66.
- 9- Kim, H. and Yoon, S., 2008. THE IMPACT OF CORPORATE GOVERNANCE ON EARNINGS MANAGEMENT IN KOREA. *MALAYSIAN ACCOUNTING REVIEW*, VOLUME 7(1), PP. 43-59.

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- 10- Kothari, C. R., 2004. Research Methodology: Methods and Techniques[online]. New Delhi; New Age International. Available at: <http://books.google.co.uk/books?hl=en&lr=&id=8c6gkbKi-F4C&oi=fnd&pg=PR7&dq=definition+of+research+methodology&ots=iGnGnWRbll&sig=jRHmtTBL6RwCrz2tvopo9sNKYYE#v=onepage&q=definition%20of%20research%20methodology&f=false> [Accessed 10 th Dec 2013].
- 11- Maddala, G.S., 2001, introduction to econometrics. New York; John Wiley & Sons.
- 12- Mangena, M., 2013. Quantitative research [power point]. Nottingham: Nottingham Trent University. Available at: <https://now.ntu.ac.uk/d21/le/content/247586/viewContent/1116539/View> [Accessed 11 th Dec 2013]
- 13- Pallant, J., 2007. SPSS; Survival Manual. England; Open University Press.
- 14- Peasnell, K.V, Pope . P. F. and Young, S., 2005. Board Monitoring and Earnings Management: Do Outside Directors Influence Abnormal Accruals?. Journal of Business Finance & Accounting. Vol.32(7) & (8). Pp. 1311-1346.
- 15- Plessis, J., Bagaric, M. and Hargovan, A., 2011. Principles of Contemporary Corporate Governance.[online]. New York. Cambridge University Press. Available from: http://books.google.co.uk/books?id=ll75w5ZY55IC&pg=PA10&dq=definition+of+corporate+governance&hl=en&sa=X&ei=gU_BUruvNur07AaI-IHICA&redir_esc=y#v=onepage&q=definition%20of%20corporate%20governance&f=false [Accessed 2 th Jan 2014].
- 16- Roychowdhury, S., 2006. Earnings management through real activities manipulation. Journal of Accounting and Economics. Vol. 42. Pp. 335–370.
- 17- Shanikat, M. and Abbadi, S., 2011 .Assessment of Corporate Governance in Jordan: An Empirical Study .Australasian Accounting Business and Finance Journal. Volume 5(3). Pp. 93-106.
- 18- Shen, C. and Chih, H., 2007.Earnings Management and Corporate Governance in Asia’s Emerging Markets. Journal compilation. Blackwell Publishing Ltd. Oxford. Vol. 15(5), pp.999-1021.

19- Tangjitprom. N., 2013 .The Role of Corporate Governance in Reducing the Negative Effect of Earnings Management. International Journal of Economics and Finance. Vol. 5(3). PP. 213-220.

20- Tricker, B., 2012. Corporate Governance; principles, policies and practices.Oxford; Oxford University Press.

21- Yu, W., 2008. ACCOUNTING-BASED EARNINGS MANAGEMENT AND REAL ACTIVITIES MANIPULATION. PP.1-113.