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The Relationship between Audit Quality and Earnings Management in Listed Companies of Tehran Stock Exchange, Iran

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Abstract: Main purpose of this investigation was the study the effect of independent audit quality on earnings management in listed companies of Tehran Stock Exchange that in order to do, one main hypothesis and two secondary hypotheses were considered to indicate that "is there any relationship between audit qualities and earning management of listed companies in Tehran Stock Exchange"? According to the hypotheses and local scope (which included the company were listed on the Tehran Stock Exchange) and time scope (2009-2013), information were collected using available data in the RAHAVARD-e-NOVIN software and verifying the reports and financial statements of companies listed of the Tehran Stock Exchange by referring to Official Website of Tehran Stock Exchange. Results of the research indicated that, there was a significant relationship between auditor tenure, type of audit institutions and earnings management.

Keywords: Audit quality, Earnings Management, Independent Auditing.

Introduction

Earnings management is a case where the managers of business units, report the earnings in accordance with their desire and not in accordance with the economic content of business unit activities. Scott (2009) defined the earnings management as selection the accounting procedures by the manager. In his opinion, the target of manager by this selection is achieving to specific purposes such as getting more rewards, to reduce the debt, abatement of tax and reduce political costs, etc. Auditors play an important role in monitoring managers' performance and restricting their opportunistic behavior. So far as scientific and professional societies know the audit function as accreditation and assurance than financial reports and accounting and ultimately improve the quality of information. They know the audited financial information as a tool to reduce investment risk, improve the quality of decision-making within the organization and outside the organization, increasing the efficiency of securities transactions and improve the structure of investment portfolio of various individuals and groups (Banimahd et al, 2014). De Angelo (1981) introduced the definition of common audit quality as "market assessment". In fact, the market assessment include: the possibility that a material misstatements was detected in the financial statements and or the auditor's system by auditor and then will be reported the discovered misstatements. The possibility that auditors discover cases of material misstatement is related to the auditor competence and the possibility that discovered material misstatements is reported by the audit is related to the auditor independence. Palmros (1984) defined the audit quality in terms of the accreditation audit amount. Since the purpose of auditing is establishing the confidence in the

financial statement, the auditor quality is defined as the audited financial statements that are free of material misstatements. In fact, the audit results are emphasized in this definition. The reliability of audited financial statements can reflect audit quality.

History of research

Rahimian et al (2011) were tested the relationship between three indices such as audit institute, specialty of auditor and the auditor's report as audit quality characteristics and institutional ownership. The result of their study revealed that by increasing the amount of institutional ownership, audit quality will also increase. They also stated that institutional ownership concentration will lead to a reduction in audit quality.

Karami et al (2011) examined the relationship between auditor tenure and earnings management. The results of their study indicated that by enhancing the auditor tenure, the absolute value of discretionary accruals was increased. Also, they showed that whatever auditor tenure increased, negative values of discretionary accruals level increased the same amount of auditor tenure.

Sajjadi et al (2012) were examined the effect of auditor tenure continuity on audit quality. They showed that auditor tenure did not have a significant effect on audit quality. In this study, they used indicator discretionary accruals to measure the quality of audits.

Namazi et al (2012) examined the relationship between audit quality and earnings management in companies listed of the Tehran Stock Exchange in a study. Two criteria such as auditor tenure and size of auditor was used for determining the audit quality and in order to calculate the earnings management was used the modified model of Jones. The results of the research indicated that there was a positive but insignificant relationship between the earnings management and auditor size and also, there was a significant positive relationship between the earnings management and auditor tenure.

Darooqe-Hazrati and Pahlavan (2012) in a study with subject of the quality of audit report concluded that there was a significant and positive relationship between earnings management and audit fees. They reported that auditors can act as a corporate governance mechanisms and play a key role in reducing discretionary accruals. Existence of discretionary accruals can enhance audit services by auditors. This mater causes the companies accept the additional auditing practices to reduce audit risk. Therefore expected that discretionary accruals have a positive impact on audit fees.

Chung and Sun (2008) after carrying out a study on the characteristics of corporate governance and earnings management, found that there was a significant negative relationship between board independence and unusual accruals. In other words, there was negative relationship between board independence and earnings management.

Lee (2010) found that the audit accuracy and information quality of financial statements in the companies that were audited by the big audit institutions were more than other companies.

Hu et al (2010) selected the auditor's tenure as an indicator of the audit quality and indicated that whatever auditor's tenure be increased, reduce the earnings management and thus, the quality of information in the financial statements will increase.

Tipurido et al (2010) studied the unusual accruals and audit reporting in the Greece. They found that the audit institution did not have relationship with unusual accruals. They also found that large auditing institutes despite entity of earning management (unusual accruals) is done, they issued unqualified audit opinions.

The research findings of Chambers and Payne (2011) with title of audit quality and unusual accruals indicates that there was a negative relationship between unusual accruals related to the operational efficiencies and audit quality. They also in another study concluded that increasing audit quality and application of Sarbanes-Oxley act leads to enhanced ability to accrual in the financial statements.

Research hypotheses

The main hypothesis

The main hypothesis: there is a significant relationship between audit quality and earnings management.

Subsidiary hypotheses

First secondary hypothesis: There is a significant relationship between the type of audit institutions and earnings management.

The second secondary hypothesis: There is a significant relationship between continuity of auditor tenure and the earnings management.

Research variables

Dependent variable

Management earnings: for calculating the earnings management variables will follow the following steps:

Non-discretionary and discretionary accrual calculate by using the Jones model:

$$TACC_{i,t}|TA_{i,t-1} = \alpha_1(1/TA_{i,t-1}) + \alpha_2(\Delta REV_{i,t}/TA_{i,t-1}) + \alpha_3(PPE_{i,t}/TA_{i,t-1}) + \varepsilon_{i,t}$$

In which:

$TACC_{i,t}$: Total accruals that will obtain from the net income before unusual accrual minus the operational cash flow.

$TA_{i,t-1}$: Total assets for the company i in the year t-1.

$\Delta REV_{i,t}$: Change in the earning company i in the year t, and

$PPE_{i,t}$: The net balance of property, machinery and equipment for company i per year t.

α_2 , α_1 و α_3 Obtained from this regression and then used to calculate $DCACC_{i,t}$ *from* the following model.

$$DCACC_{i,t} = TACC_{i,t}|TA_{i,t-1} - [\alpha_1(1/TA_{i,t-1}) + \alpha_2(\Delta REV_{i,t} - \Delta REC_{i,t})/TA_{i,t-1}) + \alpha_3(PPE_{i,t}/TA_{i,t-1})]$$

$\Delta REV_{i,t}$: Change in the earning company i in the year t.

$\Delta REC_{i,t}$: Changes in accounts receivable for the company i in the year t,

$PPE_{i,t}$: The net balance of property, machinery and equipment for company i per year t,

$TA_{i,t-1}$: Total assets for the Company i in the year t-1.

Independent variables

Table 1. Independent variables.

Independent variables.	Symbol	Method of measurement
Auditor type	Auditor reputation	If the Company was examined by the audit, will receive one, otherwise zero.
	Auditor seniority (SEN)	It is an artificial variable that if more than three years was taken proceeding by the audit organization, will receive one number, otherwise zero

Control variables

Table 2. Control variables.

Variable name	Variable type	Explanations
Size	Control variable	Company size: it is calculated by logarithm of book value of total assets.
lev_{it}	Control variable	Financial leverage: ratio of total debt to assets
M/B	Control variable	It is calculated by the market value of investment ownership divided to the book value at the end of the financial period.
ROA	Control variable	Ratio of return to assets

The statistical model of research

$$DA_{it} = \beta_o + \beta_1 Auditor_{it} + \beta_2 SIZE_{it} + \beta_3 LEVERAGE_{it} + \beta_4 ROA_{it} + \beta_5 MB_{it} + \varepsilon_{it}$$

$$DA_{it} = \beta_o + \beta_1 Auditor\ seniority_{it} + \beta_2 SIZE_{it} + \beta_3 LEVERAGE_{it} + \beta_4 ROA_{it} + \beta_5 MB_{it} + \varepsilon_{it}$$

The scope of the study (time, place and subject)

The scope of any researches were three researchable subject, place and time, so that it can be collected and analyzes the data within the scope which is as follows:

Subject scope: This study investigated the relationship between audit quality and earnings management in companies listed of the Stock Exchange of Tehran in terms of thematic.

Place scope: place scope of this study was the company was listed on the Tehran Stock Exchange that were in different cities of the country regardless of the location of these companies and was studied information relating to the company's financial statements (profit or loss, balance sheet, cash flow statements) in order to collect data.

Time scope: in terms of time in this study, a sample of companies listed on the Tehran Stock Exchange were studied during a 4-year period for financial statements from 2009 to 2012.

Research method

This research method was causal after an event, because studied the causal relations between the variables. Also, this research in terms of objective was practical, because its results can be used for wide range of users.

Analysis hypotheses

First secondary hypothesis test

First secondary hypothesis: There is a significant relationship between the type of audit institutions and earnings management.

H_0: There is not significant relationship between the type of audit institutions and earnings management.

H_1: There is a significant relationship between the type of audit institutions and earnings management.

$$\begin{cases} H0: \rho 1 = 0 \\ H1: \rho 1 \neq 0 \ claim \end{cases}$$

Table 3. Pearson correlation, significance level and samples number between earnings management and type of audit institutions.

Dependent variable	Independent variable	Auditor reputation
Earnings management	Pearson correlation coefficient	0.76
	Sig.	0.23
	Number	416

Table (3) presented the correlation coefficient, significant level and number of data, respectively that according to this table, Pearson correlation coefficient between the two variables such as type of audit institutions and earning management was equal to 0.76. This number showed the intensity of the relationship between the two variables in error-level of 0.05. Since significance level was less than 0.05, the hypothesis of H_0 was rejected at the 5% error level and correlation between these two variables was confirmed.

Table 4. Correlation coefficient, determination coefficient and Durbin-Watson test between variable type of audit institutions and earnings management.

Model	Correlation coefficient	Determination coefficient	Modified determination coefficient	Standard error estimation	Durbin-Watson test
1	0.420	0.176	0.166	0.23397	2.050

Correlation coefficient between variables and calculated the coefficient of determination were 0.420 and 0.176, respectively based on table 4. The coefficient of determination number was the percentage changes of earnings management variable that was explained by type of audit institutions variable. One of the regression hypotheses was independence of errors, if the hypothesis of independence errors is rejected and errors are correlated with each other, there is not the possibility of regression. Durbin-Watson statistic used to evaluate the independence of errors from each other that if the value of Durbin-Watson statistic be between 1.5 and 2.5, the hypothesis of correlation between errors will be rejected and can be used regression. The Durbin-Watson statistic was 2.050 according to the table 4 and this number indicated that errors were independent of each other and there was no correlation between errors. The hypothesis of correlation between errors will be rejected and can be used regression.

Table 5. Regression variance analysis between type of audit institutions variable and earning management.

Model	Sum of square	df	Mean square	F	Sig.
Regression	4.805	5	0.961	17.560	0.00
Residual	22.439	410	0.055		
Total	27.224	415			

Table 5 is indicative the analysis of variance that was used for significance level of total regression from F or significance level (Sig). The null hypothesis and alternative hypothesis for significant are as follows:

$$\begin{cases} H0: there\ is\ not\ significant\ model\ or\ linear\ relationship\ between\ two\ variables. \\ H1: there\ is\ significant\ model\ or\ linear\ relationship\ between\ two\ variables. \end{cases}$$

Significance level was 0.00 that this value was less than 0.05. Therefore, H_0 hypothesis will be rejected and H_1 hypothesis will be accepted. This means that there was significant model or linear relationship between two variables.

Table 6. Coefficients of regression equation between earnings management and type of audit institutions variables.

Model	Not standardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
Constant value	-0.077	0.027		-2.854	0.005
Type of audit institutions	0.032	0.025	0.059	1.272	0.04
Financial Leverage	0.084	0.097	0.039	0.862	0.389
Company size	-6.0895	0.001	-0.003	-0.060	0.952
Ratio of market value to book value	-0.002	0.003	-0.034	-0.748	0.455
Return to assets	0.008	0.001	0.419	9.178	0.00

In the output of Table 6 and in column B are presented the constant value and the coefficient of the independent variable in the regression equation, respectively. According to output of Table 6, the rest of the columns in this table includes the criteria of column coefficient (β), t-statistic and Significance level that used to test the hypothesis the equality of each coefficients in Column B with zero.

The second secondary hypothesis test

***The second secondary hypothesis*:** There is a significant relationship between continuity of auditor tenure and earnings management.

$$\begin{cases} H0: \text{There is not significant relationship between the continuity of auditor tenure and earnings management.} \\ H1: \text{There is a significant relationship between the continuity of auditor tenure and earnings management.} \end{cases}$$

$$\begin{cases} H0: \rho 1 = 0 \\ H1: \rho 1 \neq 0 \; claim \end{cases}$$

Table 7. Pearson correlation, significance level and samples number between continuity of auditor tenure and earnings management.

Dependent variable	Independent variable	Continuity of auditor tenure
Earnings management	Pearson correlation coefficient	0.005
	Sig.	0.012
	Number	416

Table (7) presented the correlation coefficient, significance level and number of data, respectively that according to this table, Pearson correlation coefficient between the two variables such as continuity of auditor tenure and earning management was equal to 0.05. This number showed the intensity of the relationship between the two variables in error level of 0.05. Considering to outputs of SPSS software, significance level was less than 0.05, therefore, the hypothesis of H_0 was rejected at the 5% error level and correlation between these two variables was confirmed.

Table 8. Correlation coefficient, determination coefficient and Durbin-Watson test between variable continuity of auditor tenure and earnings management.

Model	Correlation coefficient	Determination coefficient	Modified determination coefficient	Standard error estimation	Durbin-Watson test
1	0.417	0.174	0.164	0.23430	2.042

Correlation coefficient between variables and calculated the coefficient of determination were 0.417 and 0.174, respectively based on table 8. The coefficient of determination number was the percentage changes of earnings management variable that was explained by continuity of auditor tenure variable. One of the regression hypotheses was independence of errors, if the hypothesis of independence errors is rejected and errors are correlated with each other, there is not the possibility of regression. Durbin-Watson statistic used to evaluate the independence of errors from each other that if the value of Durbin-Watson statistic be between 1.5 and 2.5, the hypothesis of correlation

between errors will be rejected and can be used regression. The Durbin-Watson statistic was 2.042 according to the table 8 and this number indicated that errors were independent of each other and there was no correlation between errors. The hypothesis of correlation between errors will be rejected and can be used regression.

Table 9. Regression variance analysis between continuity of auditor tenure and earning management variables.

Model	Sum of square	df	Mean square	F	Sig.
Regression	4.736	5	0.947	17.255	0.00
Residual	22.508	410	0.055		
Total	27.244	415			

Table 9 is indicative the analysis of variance that was used for significance level of total regression from F or significance level (Sig). The null hypothesis and alternative hypothesis for significant are as follows:

$$\begin{cases} H0: \text{there is not significant model or linear relationship between two variables.} \\ H1: \text{there is significant model or linear relationship between two variables.} \end{cases}$$

Significance level was 0.00 that this value was less than 0.05. Therefore, H_0 hypothesis will be rejected and H_1 hypothesis will be accepted. This means that there was significant model or linear relationship between two variables.

Conclusion

The main hypothesis: "There is a significant relationship between audit quality and earnings management."

The main hypothesis included two subsidiary hypotheses that analysis of the hypothesis described in the following results:

First subsidiary hypothesis: "There is a significant relationship between the type of audit institutions and earnings management."

According to the test and analysis through the multivariate linear regression and correlation was conducted and also, according to the output of SPSS software in examining the relationship between type of audit institutions and earnings management, the result indicated that calculated Sig (0.23) was less than 5%. Consequently, it was indicative the relationship between the type of audit institutions and earnings management. Calculated correlation coefficients (0.76) also indicative of direct and positive relationship between the variables under investigation. Results of the investigation revealed that there was significant relationship between audit institutions and earnings management. Thus, it can be said that earnings management will change by change in audit institution.

The second subsidiary hypothesis: "There is a significant relationship between continuity of auditor tenure and earnings management."

According to the test and analysis through the multivariate linear regression and correlation was conducted and also, according to the output of SPSS software in examining the relationship between continuity of auditor tenure and earnings management, the result indicated that calculated Significance level (0.12) was less than 5%. Consequently, it was indicative the relationship between the continuity of auditor tenure and earnings management. Calculated correlation coefficients (0.005) also indicative of direct and positive relationship between the variables under investigation. Results of the investigation revealed that there was significant relationship between continuity of auditor tenure and earnings management. Thus, it can be said that the process of selection, change and continuity mechanisms of corporate governance and independent auditors had a direct relationship with earnings management. This means that if it continues the cooperation relationship with an external auditor, also earnings management will be continued its trend.

Conflict of interest

The authors declare no conflict of interest

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