



Study of the Relationship between Auditor Fee and Auditor Independence and Audit Quality in the Listed Companies

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ABSTRACT: The purpose of this research is Investigation of The Relationship Between Audit Fees, Auditor Independence and Audit Quality in the Context of Listed Companies in Tehran Stock Exchange. We use of Discretionary Accruals as measurement indexes of Auditor Independence and Audit Quality. Research has two hypotheses that investigation the relationship between rat of Audit Fees change and Auditor Independence and Audit Quality. In this research, sample is 58 firms listed in Tehran stock exchange that are analyzed for the period of 2006-2010 by using of the Panel Data system and Ordinary Least Square Regressions (OLS) Model. The results show that Audit Fees change is significantly associated with the Auditor Independence and Audit Quality.

Key words: Audit Fees, Discretionary Accruals, Audit Quality, Auditor Independence

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INTRODUCTION

The main reason for the demand for audit services as a regulatory tool can be the existing conflict of interest between the owners and managers of the companies. The main objective for independent audit is to determine whether it fairly reflects the financial statements, results of the operations and financial status of the addressed economic enterprise. Its significance is that the users of financial statements utilize the information contained in such reports as a criterion for evaluating the performance of the enterprise management and also as a criterion for determining the stock price. Thus, the credibility and the reliability of the information and audit quality, as a certifier of the quality, validity and reliability of financial statements seem to be of great importance to the current and prospective investors, creditors and other users of financial statements (Ghorbani, 2010). In this study, the relationship between the auditor fee and auditor independence and audit quality is evaluated to answer the question, "Does the audit fee have any effects on the auditor independence and audit quality in the listed companies in Tehran Stock Exchange?"

Theoretical Bases of the Research

People outside the organization, such as investors and creditors, cannot directly monitor managers' performance and their opportunistic behavior. It is the case because benefit accruals are largely under management control, and by manipulating the benefit accruals they can make the company performance look better and increase the predictability of the future interest in benefit accruals.

To put it in more modern terms, the management is capable of engineering the interests (Sajjadi and Arabi 2009). Therefore, the auditors, by accurate and quality reviews, can control managers' financial behavior and reduce their use of accruals, and also restrict their improper decisions. Thus, selecting independent auditors is required for surveillance and accredited accounting information. Independent auditors' reports, in turn, lead to the validation of the accounting information and a basis for decision-making of the groups that have interests in the companies.

Regulators and standard setters of Accounting and Auditing are attempting to enhance audit quality by formulating laws that positively affect auditor independence. By increasing auditors' independence, the survey quality will also increase. The issue of the auditor tenure is also of particular interest to the regulators. In general, regulators and capital market participants are interested in knowing whether a long-term relationship between companies and their auditors would damage auditor independence and the quality of the audit (Ettredge et al., 2007).

There are many definitions for audit quality. Although different, they all follow a similar structure. For example, Wallace (1987) recognizes audit quality as the improvement in the data purity rate. Lee et al. (1999) define audit quality as the probability of not issuing an unqualified report for financial statements containing material errors. Titman (1986) and Beatty (1989) define audit quality as the accuracy of the data reported by the auditor. *Statement of Basic Auditing Concepts* published by the American Accounting

Association in 1973, has defined audit quality as auditor's ability in controlling the quality of the provided information with the assurance that the generally accepted accounting principles are implemented. Ming (2007) and many other researchers believe that audit quality is higher in firms which are audited by major audit institutes.

The overall goal of this research is to examine the impact of audit fee on auditor independence and audit quality. Specific objectives of the research include offering applicable results to potential and

actual investors and creditors about the effects of these factors on audit quality. These results are also rendered to company executives and audit institutions in order to assist them in making correct and reasonable financial decisions.

Review of Literature

Several studies on audit quality and audit fee have been conducted within and outside the country, which are briefly outlined and shown in Table 1 below:

Table 1. Researches conducted in the field of audit fee and factors related to auditor independence

No.	Researcher and the year of the research	Result of the research
1	Choi and Gul (2011)	In companies with more renewed presentation, the audit fee has also increased.
2	Hoai Nam (2011)	The fee paid to the auditor has significant positive relationship with audit quality. There has also been a significant positive relationship between auditor independence and audit fee among the sample companies.
3	Choi et al. (2009)	There is a positive significant relationship between auditor independence and audit quality. They used discretionary accruals to assess audit quality.
4	Frankel et al. (2002)	Fees paid to auditors have significant relationship with earnings management. That is, by increasing the amount of audit fee the rate of accruals decreases and subsequently, earnings management increases.
5	Paul et al. (2010)	There is a significant positive relationship between audit fee and the rate of its changes and audit quality and the level of discretionary accruals.
6	Raghunandan et al. (2003)	There is a significant relationship between the amount of non-audit service fee and the rate of represented items in financial statements.
7	Stanley and Dezoort (2007)	Showed a significant negative relationship between auditor rotation and renewed presentation of the accounting profits.
8	Brown, Falaschetti and Orlando (2008)	Showed a significant positive relationship between auditor independence and earnings quality.
9	Carey and Simnett (2006)	Audit quality decreases with the audit partner tenure.
10	Turner et al (2008)	When the relation between the audit partner tenure and the client lengthens (more than seven years) in small firms, it leads to an increase in audit quality.
11	chi et al .(2005)	The audit quality in the first year of the incoming auditor's service decreased when compared with the outgoing auditor's last year of service.
12	Tahinakis and Nicolaou (2004)	Survey results from independent auditors, bank managers and financial analysts in Greece also indicated that independent auditors and financial analysts believed that the auditor independence would be at more risk when his collaboration with the client lasted longer than three years.
13	Setayesh and Jamalianpour (2009)	Inventory turnover ratio, debt ratio, net profit and gross profit ratio to sale had a significant relationship with the type of auditor opinion.
14	Hassas Yeganeh et al. (2004)	They examined the impact of seven factors, including specialization, audit efficiency, uncovering significant distortions, conflicts of interests, rules and regulations, market mechanisms and the size of auditing institutions on audit quality. The impact of all the aforementioned factors was confirmed in the course of the study.

Research Hypotheses: Regarding the theoretical bases and the prior works, research hypotheses were formulated as follows:

H1: There is a meaningful relationship between the changes in auditor fee and audit Quality.

H2: There is a significant relationship between auditor independence and the changes in Auditor fee.

Variables and Empirical Models of the Research

The measuring method of each of the variables and hypotheses testing model is as follows:

A) Audit Quality

Accounting earnings are comprised of both cash and accruals. Company managers cannot manipulate earnings cash items. All accruals of the financial statements cannot be manipulated either. Discretionary accruals, however, are more likely to be manipulated by the managers. Myers et al. (2003), Lee and Suni (2007) and Choi et al. (2009), on the other hand, have defined the high quality audit as limiting unconventional reporting decisions of the management and suggest that accruals can be used to show such unconventional decisions. In this research also, discretionary accruals will be used to calculate audit quality. Hence, the more the discretionary accruals in the audited financial statements in a company, the lower would be the audit quality of the firm. The discretionary accruals are the result of the difference of total accruals and non-discretionary (current) accruals.

Current accruals are measured and calculated by means of the following model:

$$(1) \quad (ACC_{i,t} = ((\Delta CA_{i,t} - \Delta CASH_{i,t}) - (\Delta CL_{i,t} - \Delta STD_{i,t})))$$

Where:

$\Delta CA_{i,t}$; refers to changes in current assets in year t for firm i ,

$\Delta CASH_{i,t}$; refers to the change in cash in year t for firm i ,

$\Delta CL_{i,t}$; represents the change in current liabilities in year t for firm i and,

$\Delta STD_{i,t}$ is the current share of long-term liabilities in year t for firm i .

In the above equation, all the variables are divided to the total assets of company i in year t . To calculate the total accruals, the Flow Cash-Based Model is used as follows:

$$(2) \quad TACC = EARN - CFO$$

Where, $EARN$ stands for Proceed and CFO for cash flow resulted from the operations. Finally, the discretionary accrual is obtained through equation (3):

$$(3) \quad CACC - TACC = DA$$

Where, DA represents the discretionary accruals, $TACC$ is total accruals and $CACC$ shows non-discretionary (current) accruals. In this research also, equation (3), i.e., the amount of discretionary accruals is used to measure audit quality. The smaller this value for a company, the higher would be audit quality in the company.

B) The Percentage Change in Auditor Fee

The amount of the fee paid to the auditor may be extracted from the explanatory notes of the financial statements of sample companies. The rate of change in the fee is measured by means of the following equation.

$$(4) \quad AF_{CR}_t = \frac{AF_t - AF_{t-1}}{AF_{t-1}}$$

Where, AF_{CR}_t refers the rate of change in auditor fee and AF_t and AF_{t-1} refer to the auditor fee in the current and previous year.

To test the first hypothesis, which examines the relationship between the rate of change in auditor fee and audit quality, the model introduced by Frankel, Johnson and Nelson (2002), and employed by Choi et al (2009), is used. The model is as follows:

$$(5)$$

$$DA_{i,t} = \beta_0 + \beta_1 AF_{CR}_{i,t} + \beta_2 ROA_{i,t} + \beta_3 LOSS_{i,t} + \beta_4 LEVER_{i,t} + \beta_5 INVREC_{i,t} + \beta_6 MB_{i,t} + e_{i,t}$$

Where:

$DA_{i,t}$; stands for the rate of discretionary accruals in year t as a benchmark to measure audit quality,

$AF_{CR}_{i,t}$; stands for the change in the rate of auditor fee in year t for firm i ,

$ROA_{i,t}$; represents assets return in year t for firm i ,

$LOSS_{i,t}$; is considered to be one, in case there is a loss and zero, otherwise,

$LEVER_{i,t}$; is the ratio of total liabilities to total assets in year t for firm i ,

$INVREC_{i,t}$; stands for ratio of aggregate inventory and accounts receivable to total assets in year t for firm i and,

$MB_{i,t}$; shows the ratio of market value to book value of equity in year t for firm i .

C) Auditor Independence

It is expected that when the auditor enjoys greater independence, he has a declining effect on the amount of discretionary accruals of the company. To measure auditor independence, the rate of accruals of the previous financial period is used (Simunic, 1984).

To test the second hypothesis and examine the relation between the rate of change in auditor fee and auditor independence, the model introduced by

Simunic (1984) and employed in Francis' (2006) research, is used. The model is as follows:

(6)

$$AFCR_{it} = \beta_0 + \beta_1 DA_{t-1} + \beta_3 SIZE_{it} + e_{it}$$

Where:

DA_{t-1} ; refers to the rate of discretionary accruals in year $t-1$ (previous) as a benchmark measure of auditor independence,

$AFCR_{i,t}$; refers to change in the rate of auditor fee in year t for firm i and,

$SIZE_{i,t}$; refers to the size of the firm in year t for firm i which is obtained through the natural logarithm of total assets.

MATERIALS AND METHODS

The present research, based on its objective, is of descriptive-applied type, and in terms of the nature and method, it is of correlation type. The study, on the basis of the research plan and using post-event approach (past events), is semi-empirical. To test the hypotheses of the research, Multivariate Regression Model based on a hybrid approach was used.

Population and Statistical Sample:

The statistical population of the research were companies listed in Tehran Stock Exchange from the beginning of 2004 to the end of 2007, for a period of

five years, during which time they preserved their membership in the stock exchange. To achieve reliable results, companies that were listed in the stock exchange after 2007 or those which dropped out of the stock market during the research period, were not included in the population. Moreover, the sample did not include companies that were of financial supplier, insurance and investment types (due to the different nature of such institutions). Thus, it was attempted for the sample companies to have fiscal year that ended on the last day of the Iranian calendar year (20 March) (for reasons of uniformity and comparability of the samples) and for the data variables of the research to be available for a period of six years.

By examining the companies listed in Tehran Stock Exchange, and after imposing the above-mentioned conditions and restrictions, 84 companies (504 years-companies) were selected to assess the models and test the hypotheses.

RESULTS

1. Descriptive Statistics

In this study, using raw data, the variables were calculated, and then descriptive statistics of the research including mean, median, maximum, minimum and standard deviation were calculated and are presented in Table (2). These values only provide an overview of the general status of data distribution.

Table 2. Results of descriptive statistics for the variables

Remarks	AFCR	DA _t	DA _{t-1}
Mean	0.3902	0.0178	-0.0208
Median	0.1573	-0.0162	-0.0078
Total	142.1587	5.1686	-6.0400
Standard deviation	2.2520	0.8282	0.8525
Coefficient of Skewness	0.3520	-0.5923	-0.4382
Domain	10.5173	11.0344	11.0344
Minimum	-4.1373	-5.8339	-5.8339
Maximum	6.3800	5.2005	5.2005
Number of Observations	290	290	290

2. Results of the First Hypothesis Test

The first hypothesis is concerned with the relationship between changes in the fee paid to the auditor and audit quality. The results of the research model and the t statistic test related to the first hypothesis are shown in Table 3. The F statistic with a confidence level of 99% is significant. Thus, the research model is, in general, significant and independent variables are able to explain the dependent variable. The table suggests that the value of t statistic for the independent variable and its significance level (p -value), is 6.6548 and 0.0131, respectively. Given that the error level that was assumed to be 0.05 for this study, it is concluded that

the variable of auditor fee has had a meaningful relationship with the dependent variable, i.e., audit quality. Hence, the first hypothesis of the research is confirmed. The independent variable coefficient of the model, i.e., the changes in auditor fee, is positive. As a result, the relationship between changes in the fee paid to auditor and audit quality is of direct type. In other words, the change in auditor fee increases audit quality, and vice versa.

The modified coefficient of determination resulting from estimating model (5) has been equal to 0.3250. This means that 32 % of the changes in the dependent variable, i.e., changes in audit fee resulting from changes in discretionary accruals in the prior

period (auditor independence) and the size of the company and other changes (about 68 %) are due to

other factors and variables.

Table 3. Results of the first model test of the research

Remarks	Coefficient	Durbin Watson	p-value	F-static	Adjusted R-squared	R-squared	t-static p-value
AFCR	0.019875	2.412206	0.000000	7.883019	0.325033	0.343198	6.654841 0.0131
ROA	0.874059						3.729718 0.0002
LOSS	0.078921						0.542462 0.5879
LEVER	-0.010114						-4.191465 0.0483
INVREC	-0.643634						-6.086023 0.0000
MB	-0.003202						-0.303817 0.7615
Fixed Coefficient	0.242075						2.617151 0.0093

As the value of Durbin Watson statistic has been 2.4122, the existence of autocorrelation in the error values of the model is rejected.

Findings related to this hypothesis are consistent with those of Hoai Nam (2011), Paul et al. (2010) and Frankel, et al. (2002). They also stated in their studies that there was a significant positive relationship between audit quality and auditor fee.

3. Results of the Second Hypothesis Test

The second hypothesis deals with the relationship between auditor independence and changes in the fee paid to the auditor. The estimation results of model (6) for testing the second hypothesis of the research are shown in table (4). A dummy variable was added to model (6) in order to remove non-normality of regression residuals.

Table 4. Test results of the second model of the research

Remarks	Coefficient	t-static p-value	R-squared	Adjusted R-squared	F-static	p-value	Durbin-Watson
DA2	0.014115	8.147676 0.0027	0.406211	0.399982	65.21752	0.000000	1.603926
SIZE	0.220002	11.44131 0.0000					
D2	7.925641	13.89971 0.0000					
Fixed coefficient	-0.967843	-1.073653 0.2839					

As shown in Table 4, the *F* statistic, (*p-value* = 0.000) is significant at 99% confidence level. Thus, the research model is, overall, significant and independent variables are able to explain the dependent variable. The table suggests that the value of *t* statistic for the independent variable and its significance level (*p-value*), is 8.1476 and 0.0027, respectively.

Crcuals in the prior period (auditor independence) had a meaningful relationship with the changes in auditor fee (dependent variable); hence, the second hypothesis of the research is confirmed. The independent variable coefficient of the model, i.e., auditor independence, is positive. As a result, the

relationship between auditor independence and changes in the fee paid to the auditor is of direct type. In other words, auditor independence increases the change in auditor fee.

The modified coefficient of determination resulting from estimating model (7) was equal to 0.3998. This means that about 40 % of the changes of the dependent variable, i.e., changes in audit fee resulting from changes in discretionary accruals in the prior period (auditor independence) and the size of the company and other changes (about 60 %) are due to other factors and variables. As the value of Durbin Watson statistic was 1.6039, the existence of

autocorrelation in the error values of the model is rejected.

Findings related to this hypothesis are consistent with those of Hoai Nam (2011), Brown et al. (2008). They also concluded in their studies that there was a significant positive relationship between auditor independence and auditor fee.

DISCUSSION

The overall results of hypotheses testing suggest that both hypotheses have been confirmed. Therefore, it can be stated that there is a significant positive relationship between the fee paid to the auditors and audit quality and auditor independence in the companies listed in Tehran Stock Exchange.

The confirmation of the first hypothesis suggests that when audit firms obtain higher fees, they spend more time and energy in their investigations. They also address more audit cases, and to maintain their interests and reputation, meet their clients' needs in the best possible way by constantly improving their audit quality. This means that, as much as possible, gross errors in the items presented in the financial statements are detected and management involvement in tampering the earnings is reduced. Of course, this relationship is bidirectional and institutions that present higher audit quality, expect to charge higher fees.

The results of investigating the second hypothesis imply that the audit firms whose quality audits in the prior terms had led to reduced levels of discretionary accruals in earnings, have enjoyed more independence in their audits in the current year. Furthermore, an increase in the quality and independence of audits brings about further satisfaction of the owners (members' equity). It also makes the company pay more audit fees. Because of the importance of the issue, to test the hypothesis the size of the company was used as a control variable in the second model. Results showed that there was a significant positive relationship between the size of the company and the increase in audit fees. The reason is that in such cases, because more employees are involved in the audit process and more time is spent on audit planning, this procedure leads to a high quality audit.

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