

A study of the effects of agency costs and information asymmetry on audit quality

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ABSTRACT

High audit quality leads to a reduction in information asymmetry and an increase in agency costs, so, the present study aimed to investigate the effects of agency costs and information asymmetry on the audit quality. In the present study, two measures of auditor size and type of auditing report were used. In the present study, the samples were 111 companies accepted in Tehran Stock Exchange during the period of 2010-2011. SPSS software was used for data analysis. The results of the present study showed that when auditor size is used to calculate the audit quality, there is negative and significant relationship between agency costs and audit quality. Additionally, the results showed that when type of auditing report is used to calculate the audit quality, no relationship was observed between agency costs and audit quality. Also, contrary to prediction, there is significant positive relationship between audit quality and information asymmetry.

Keywords: agency cost, audit quality, information asymmetry, auditor size, type of auditing report.

Introduction

The quality of audit services provided by independent auditors can affect the quality of financial reporting. Achieving high quality of financial reporting depends on the accuracy and correctness of each loop of financial reporting supply chain and independent auditing which is one of these loops, plays a key role in maintaining and enhancing the quality of financial reporting ^[1]. In recent years, investors and shareholders have believed that they are troubled by news and announcements about doing offences in accounting. These irregularities and unconventional and misleading accounting cases have the names such as cautious accounting, earnings management and fraudulent accounting. In such situation, independent auditing is a monitoring process used to reduce information asymmetry and to control the freedom of managers in financial reporting ^[2]. Independent auditing dilutes unfavorable effects of

separation of ownership from management by reducing information asymmetry between users and suppliers of financial statements. Hence, independent audit services are considered as a means for reducing information risk and enhancing the quality of financial reporting ^[3]. Independent auditing is a part of supervisory system of companies that facilitates reducing the agency costs ^[4]. Investors expect the firms, that there are signs of agency in their ownership structure, to choose higher quality auditors. On the other hand, management group employs honored and excellent auditors to attract the trust of capital market ^[5]. Given the nature of independent audit services, it is expected that enhanced quality of independent audit services has significant impact on reducing information asymmetry and conflicts of interest between shareholders and management team ^[6]. Hence, the present study aimed to test the impact of audit quality on agency costs and information asymmetry in Tehran Stock Exchange and to answer the question whether the quality of audit services reduces the agency costs and information asymmetry?

Theoretical basics

Audit quality

Audit quality is a multi-faceted concept which can be studied from different perspectives. One of these perspectives is audit

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report of a type of product and quality of the product, in accordance with the determined standards, expresses the audit quality. From another perspective, auditing is considered as a service that should be provided by qualified individuals, and the process of performing it and reporting its results are subjected to certain criteria and standards. If mentioned services are provided, from the beginning to the end, which is audit report, in accordance with determined standards and criteria, it will have required quality ^[1]. In terms of three dimensions of monitoring, information and assurance, the reasons of capital market demand for higher quality audit services can be paid attention. In the role of monitoring, owners use auditing in order to monitor the agent, prevent opportunistic behaviors and information asymmetry, and reduce agency costs. In the role of information, investors use auditing as a mechanism to improve the quality of financial information, which is considered as a valuable process. In the role of assurance, auditors guarantee the quality of information contained in the financial statements to reduce the costs incurred by legal claims and insures managers against third parties ^[3].

Information asymmetry

Information asymmetry phenomenon is rooted in the fact that investors make financial decisions based on the information provided by the management of company while according to the agency theory, there is there is a potential conflict between the interests of management and shareholders. So, it can be stated that information asymmetry between management team and shareholders is a fundamental issue for the capital market ^[7].

Agency costs

One of the most agency relationships is a relationship between management team and shareholders of the company. It is possible that the objectives of managers and owners do not match completely. In such way, the shareholder seeks to reach the highest level of investment value, and the manager will first seek to increase his wealth. For this reason, agency relationship ends to agency problems and issues and this is costly according to agency theory. Therefore, the owners must tolerate the costs to match the interests of brokers with their own interests. Since these costs emerge due to the formation of agency relationship, they are called agency costs.

Audit quality, agency costs and information asymmetry

According to agency theory, utility functions of information producer and users of this information are different from each other and the result of this difference appears in the form of agency costs. The manager, who is at the center of this conflict of interests, tries to provide financial information of the company to reduce agency costs but, due to authority of management team, the need for the independent auditor's expert judgment is raised in order to monitor performance of the manager ^[8]. Auditors can influence the selection of accounting methods by management. Hence, they influence the

final financial statements and increase the reliance of the items contained in the financial statements ^[3]. According to Mayang Sari (2007) ^[9], audit quality is high when auditors limit unwise choices of management from accounting methods and prevent incorrect presentation of the corporate's financial status; audit quality is low when auditors do not limit the manager and also, they may advise the manager using the escaping methods contained in the accounting principles accepted and help him to incorrectly present financial status of the company. Therefore, it can be stated that audit quality can impact agency costs. Lack of ownership concentration results in the shareholder's inability to consider the actions and the manager's measures. If the shareholders have no method to control the manager's measures, it is only the manager who knows whether he has taken the steps towards the interests of the shareholders or not. Therefore, enhancing audit quality reduces information asymmetry between informed managers and shareholders and other uninformed or less-informed beneficiaries and thereby, increasing the quality of information contained in financial statements. Therefore, independent audit services can be an efficient tool and used to reduce information asymmetry between beneficiaries. The higher, the quality of services provided is, the further, the costs imposed by information asymmetry phenomenon decrease.

Research hypotheses

1. There is a significant negative relationship between information asymmetry and audit quality.
2. There is a significant negative relationship between agency costs and audit quality.

Research background

Qasim Mohammad (2011) ^[10] have examined the effects of ownership structure on the audit quality of Jordanian companies. The results show that there is significant positive relationship between institutional ownership and foreign ownership with audit quality. Also, the results show that there is significant negative relationship between the institutional ownership concentration and audit quality.

Idris (2013) ^[11], in a study, has stated that there is significant difference between information asymmetry between the companies audited by large and small audit firms. One of the researchers, in a study, has concluded that audit quality increased by strengthening the corporate governance system results in increased quality of financial reporting, greater transparency of the information environment and reduced information asymmetry related to the company's stock in the capital market.

Rahimian et al. (2011) ^[12] have studies the role of institutional stakeholders in audit quality of financial statements of the companies listed in Tehran Stock Exchange. The results showed that the companies having higher levels of institutional ownership have higher audit quality while institutional ownership concentration reduces audit quality.

Didar, Mansourfar and Parvizi (2012)^[13], in their study, have shown that audit quality (as a mediating variable) is a strong monitoring mechanism that can reduce agency problems and information asymmetry by improving the quality of financial reporting. The results of their previous study showed that audit quality reduces information asymmetry and agency costs through making the figures contained in the financial statements more reliable.

Boulou and Hasani Alghar (2014) have investigated the relationship earnings quality and information asymmetry. In contrast to the initial expectation, no significant relationship was observed between earnings persistence and information asymmetry in Iranian companies.

Method

The present study is an applied research in terms of objective and it is descriptive and causal in terms of nature and method. In order to prove or reject the research hypotheses, "logistic linear regression analysis" was used. The data required were extracted from the companies' financial statements audited and their other financial reports as well as Tadbir Pardaz software. After data collection, they were sorted and classified in Excel spreadsheets and finally, they were analyzed by SPSS software.

Research model

In order to investigate the agency costs and information asymmetry on the audit quality of the companies listed in Tehran Stock Exchange, logistic linear regression model was used. The models used are as follows:

1. Regression model used to test the first research hypothesis is:

$$AQ_{it} = \beta_0 + \beta_1 HLDG_INDV_{it} + \beta_2 ROA_{it} + \beta_3 MVB_{it} + \beta_4 Aditor_Change_{it} + \beta_5 AGE_{it} + \beta_6 LEV_{it} + \beta_7 Size_{it} + \epsilon_{it}$$

2. Regression model used to test the second research hypothesis is:

$$AQ_{it} = \beta_0 + \beta_1 AE_{it} + \beta_2 ROA_{it} + \beta_3 MVB_{it} + \beta_4 Aditor_Change_{it} + \beta_5 AGE_{it} + \beta_6 LEV_{it} + \beta_7 Size_{it} + \epsilon_{it}$$

Where

AQ_{it} : it is indicator of audit quality that in present study, two measures of auditor size and type of audit report were used to calculate the audit quality.

AE_{it} : operating expenses to net sales ratio and it is a measure for calculating agency costs.

$HLDG_INDV_{it}$: it is the ownership percentage of non-institutional shareholders and it is an indicator for information asymmetry;

ROA_{it} : return on assets

MVB_{it} : The ratio of market value to book value of equity and it is a measure for measuring company growth.

$Aditor_Change_{it}$: it is a measure for calculation independent auditor rotation and if a company changes its auditor during the research period, this measure is equal 1 and otherwise, it is zero.

AGE_{it} : Natural logarithm of company life.

LEV_{it} : the ratio of debts to total assets.

$Size_{it}$: The natural logarithm of the market value of equity at the end of the period and it is an indicator of firm size.

Population

Population of present study includes all the companies listed in Tehran Stock Exchange during the period 2011-2016. The eligible companies were selected according to the following terms:

1. The companies should be audited during the period by the audit company or the institutions trusted by Tehran Stock Exchange.
2. Their fiscal year ends to the end of March.
3. The companies are not of financial intermediating companies and banks.

According to the mentioned terms, 111 companies of 551 companies listed in Tehran Stock Exchange during the period 2011-2016 were selected as the samples.

Results

Results of descriptive statistics

In order to better understand the nature of population studied in present study and to be more familiar with the research variables, it is required to describe the data before data analysis. The statistical description of data is a step for identifying the model governing them and the basis for explaining the relationships between variables used in the present study. Accordingly, before hypothesis testing, a summary of descriptive indicators of each variable are investigated.

Table 1. Results of descriptive statistics of the variables

Variable	Mean	Standard deviation	Minimum	Maximum
AQ_{it}	0.412	0.576	0	1
Auditor size	0.691	0.567	0	1
Type of audit report	0.080	0.072	0.003	0.656
AE_{it}	0.246	0.191	0.011	0.960
$HLDG_INDV_{it}$	0.144	0.101	-0.219	0.430
ROA_{it}	1.015	1.001	0.109	10.006
MVB_{it}	0.140	0.344	0	1
$Aditor_Change_{it}$	3.509	0.403	1.709	4.094
AGE_{it}	0.593	0.209	0.062	0.979
LEV_{it}	9.023	0.639	5.913	11.209
$Size_{it}$				

Results of hypothesis testing

The first hypothesis testing

H_0 : There is no significant negative relationship between information asymmetry and audit quality.

H1: There is significant negative relationship between information asymmetry and audit quality.

In order to test this hypothesis, following regression model was used:

$$AQ_{it} = \beta_0 + \beta_1 HLDG_INDV_{it} + \beta_2 ROA_{it} + \beta_3 MVB_{it} + \beta_4 Aditor_Change_{it} + \beta_5 AGE_{it} + \beta_6 LEV_{it} + \beta_7 Size_{it} + \epsilon_{it}$$

Table 2. Results of the first hypothesis testing

$$AQ_{it} = \beta_0 + \beta_1 HLDG_INDV_{it} + \beta_2 ROA_{it} + \beta_3 MVB_{it} + \beta_4 Aditor_Change_{it} + \beta_5 AGE_{it} + \beta_6 LEV_{it} + \beta_7 Size_{it} + \epsilon_{it}$$

Variable	Coefficient of the variable		t-statistic		Sig.	
	Auditor size	Type of audit report	Auditor size	Type of audit report	Auditor size	Type of audit report
Constant	4.291	6.740	2.320	3.391	0.020	0.000
Information asymmetry	-1.166	0.498	-1.841	2.350	0.003	0.001
Return on assets	2.276	-6.102	1.583	-4.220	0.113	0.000
Company growth indicator	-10.129	-0.071	-1.576	-1.501	0.115	0.133
Auditor rotation	-2.790	0.072	-3.727	0.291	0.000	0.77
Company life	-1.531	-0.079	-4.948	-3.677	0.000	0.000
Financial leverage	5.926	-0.706	5.330	-1.258	0.000	0.208
Firm size	0.545	-0.065	5.161	-1.415	0.000	0.157
Likelihood ratio statistic	LR statistic	Degree of freedom			Sig.	
	387.151	44.280	7	7	0.000	0.000
McFadden's determination coefficient	0.291	0.119	Durbin-Watson statistic		1.951	1.801

In the first hypothesis, the relationship between information asymmetry and audit quality was investigated and it was suggested that there is significant negative relationship between information asymmetry and audit quality. The results of the first hypothesis testing are listed in Table2. Two measures of auditor size and type of audit report were used in order to audit quality. In the first mode; if the measure of auditor size is used to calculate the audit quality, information asymmetry coefficient is equal to -1.166 and t-statistic is -1.184 at significance level of 0.003 and since it is less than predictive error (1%), it is confirmed that independent variable is significant at confidence level of 99%. Therefore, if auditor size is used as a measure to calculate the dependent variable, the first hypothesis is confirmed. The results of the control variables also show that there are significant negative relationships between the variables of auditor rotation and company life and audit quality at 99% confidence level. In fact, with the increase

in auditor change and company life, audit quality decreased. There are significant positive relationships between the variables of financial leverage and firm size and audit quality at 99% confidence level. In other words, with the increase in debt and firm size, audit quality increased. The results show no relationships between the variables of return on asset and company growth and audit quality.

In the second mode; if the measure of type of audit report is used to calculate the audit quality, information asymmetry coefficient is equal to 0.498 and t-statistic is 2.350 at significance level of 0.001 and since it is less than predictive error (5%), it is confirmed that independent variable is significant at confidence level of 95%. Therefore, if type of audit report is used as a measure to calculate the dependent variable, the first hypothesis is rejected. The results of the control variables also show that there are significant negative relationships between the variables of return on assets and company life and audit quality at 99% confidence level. In other words, with the increase in return on assets and company life, audit quality of financial statements decreased. The results show no relationships between the variables of company growth, auditor rotation, financial leverage and auditor size and audit quality.

The second hypothesis testing

H0: There is no significant negative relationship between agency costs and audit quality.

H1: There is significant negative relationship between agency costs and audit quality.

In order to test this hypothesis, following regression model was used:

$$AQ_{it} = \beta_0 + \beta_1 AE_{it} + \beta_2 ROA_{it} + \beta_3 MVB_{it} + \beta_4 Aditor_Change_{it} + \beta_5 AGE_{it} + \beta_6 LEV_{it} + \beta_7 Size_{it} + \epsilon_{it}$$

Table 3. Results of the second hypothesis testing

$$AQ_{it} = \beta_0 + \beta_1 AE_{it} + \beta_2 ROA_{it} + \beta_3 MVB_{it} + \beta_4 Aditor_Change_{it} + \beta_5 AGE_{it} + \beta_6 LEV_{it} + \beta_7 Size_{it} + \epsilon_{it}$$

Variable	Coefficient of the variable		t-statistic		Sig.	
	Auditor size	Type of audit report	Auditor size	Type of audit report	Auditor size	Type of audit report
Constant	3.803	3.378	2.524	3.540	0.012	0.000
Information asymmetry	-4.211	0.077	-1.030	0.050	0.013	0.860
Return on assets	2.531	-4.926	1.676	-3.298	0.094	0.000
Company growth indicator	-0.152	-0.071	-3.805	-1.502	0.137	0.000
Auditor rotation	-2.931	0.059	-3.970	0.242	0.000	0.809
Company life	-2.120	-0.793	-4.615	-3.361	0.000	0.000

Financial leverage	6.793	-0.0851	4.871	-1.502	0.000	0.133
Firm size	0.315	-0.068	3.491	-1.415	0.000	0.157
Likelihood ratio statistic	LR statistic		Degree of freedom		Sig.	
	131.160	43.767	7	7	0.000	0.000
McFadden's determination coefficient	0.287	0.120	Durbin-Watson statistic		1.987	1.842

In the second hypothesis, the relationship between agency costs and audit quality was investigated and it was suggested that there was significant negative relationship between agency costs and audit quality. The results of the second hypothesis testing are listed in Table 3. Two measures of auditor size and type of audit report were used to calculate the audit quality. In the first mode; if the measure of auditor size is used to calculate the audit quality, agency cost coefficient is equal to -4.211 and t-statistic is -1.030 at significance level of 0.013 and since it is less than predictive error (5%), it is confirmed that independent variable is significant at confidence level of 95%. Therefore, if auditor size is used as a measure to calculate the dependent variable, the second hypothesis is confirmed. The results of the control variables also show that there are significant negative relationships between the variable of return on assets and audit quality at 90% confidence level. In other words, with the increase in return on assets, audit quality of financial statements increased. Also, there are significant negative relationships between the variables of auditor rotation and company life and audit quality at 99% confidence level. In fact, with the increase in auditor change and company life, audit quality decreased. There are significant positive relationship between the variables of financial leverage and firm size and audit quality at 99% confidence level. In other words, with the increase in debts and firm size, audit quality increased. The results show no relationships between the variables of company growth and audit quality. These results are not consistent with the results of the study by Rahimian et al. (2011) [12].

In the second mode; if the measure of type of audit report is used to calculate the audit quality, no significant relationship was observed between agency costs and audit quality. In other words, there is no relationship between agency costs and type of independent audit report. This shows that in present study, type of audit report is not a desirable indicator to assess the audit quality. The results of the control variables also show that there are significant negative relationships between the variable of return on assets and audit quality at 99% confidence level. In other words, with the increase in return on assets, audit quality decreased. Also, there are significant negative relationships between the variables of company growth and company life and audit quality at 99% confidence level. In fact, with the increase in company growth and company life, audit quality decreased. The results show no relationships between the variables of auditor rotation, financial leverage and auditor size and audit quality.

Conclusion

Events such as global financial crises and turmoil have increased the importance of credible and high quality financial statements, including the earnings and loss which are the interest of most users of financial statements. Earnings as the final figure of the earnings and loss statement, on the one hand, is influenced by the individual judgments and estimates of the company's management, and on the other hand, earnings may be the basis for awarding the company's management and this creates a conflict of interests between the owner and manager, resulting in the creation of agency costs and thereby reducing the value of the company. Increasing debt costs also increase the potential conflict between shareholders and creditors. In present research, the effects of audit services quality on agency costs and information asymmetry has been investigated. The results of present study show that when the measure of auditor size is used to calculate the audit quality, there is a negative and significant relationship between agency cost and audit quality. Also, the results show that when the measure of audit quality is used to calculate the audit quality, no relationship is observed between agency costs and audit quality. Also, contrary to prediction, there is positive and significant relationship between audit quality and information asymmetry.

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