



AL KUT JOURNAL OF ECONOMIC AND ADMINISTRATIVE SCIENCES

Publisher: College of Economics and Management - Wasit University



The Distance between Auditor and Client

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Abstract

The aim of the present study is to evaluate the relationship between auditor and client and the effect of such a distance on the audit quality and timely audit report in companies listed on Tehran Stock Exchange. A total of 108 companies was selected for this purpose during 2010-2016 and the obtained results indicated that in case of presence a local auditor, either he/she is a high-ranked one or not, the possibility of signing a contract with the nonlocal auditor will decline, significantly. Finally, there is a positive and significant relationship between selecting a local auditor and timeliness of the audit report. The results of this study show that there is no significant relationship between client risk and local auditor selection as well as auditor and client and audit quality.

No study is conducted so far on the distance between auditors and the employer. The topic of the use of non/local auditors and their impact on reporting risk, audit fee, audit quality, and the issuance of a timely report is not studied so far, so the project contributes to the innovation and presents some new ideas in this area.

Keywords: local auditors, audit fee, audit quality, industry specialization, financial restatements, timeliness of audit reports.

Introduction

The literature of financial geography provides some evidence about the information advantages to local investors, analysts, investment banks, managers of mutual funds (investment, cooperative fund), and market practitioners. Proposing acceptable explanations to be used for

the information of local shareholders would lower the costs of getting access to such information. The geographical advantages may be used in the audit market, as well.

Auditors spend most of their times at the client's place in that most of their projects must or are better to be performed at their own place. The relation between local auditor and client, compared with the relation between auditor and distance client, may incur less time and travel. In addition, the financial literature has changed the trend of articles to distance loan and investment (e.g. Petersen and Rajan, 2002; Coval and Moskowitz, 1999; Coval and Moskowitz, 2001). These articles argue that lenders and local investors benefit from the interests of a loan and local investments and this is due to advantages the information provides due to enhancement of supervision, observation of firm data, having access to information, lower costs, and having access to confidential information. In case the interests of the region and location could be applicable to the audit market, the firm and the auditor should prefer a relation between local auditor and customer instead of a distant relation. A considerable number of firms, however, employ foreign auditors.

WasineeThammasiri (2014) believe that companies may prefer the audit quality to the audit costs and this is why they prioritize foreign auditors to the local ones. They have three reasons for such a behavior:

- 1- There should be a limited number of auditors,
- 2- The local auditors may not be willing to accept high-risk customers and refrain from such duties, and;
- 3- The foreign auditors may ask for lower audit fee than the local ones with the same audit quality.

WasineeThammasiri (2014) declares that the distance between auditor and the client can influence the audit quality under three conditions. First, if the auditors are local, they may have some information advantages over the business firm and be aware of the confidential information, but this is not possible for nonlocal auditors and they may gain no information about the firm. Second, the local auditors may put in less effort to achieve information about the firms and incurred fewer costs, while nonlocal auditors can gain such information by incurring much more expenses and time. Third, according to Coval and Moskowitz (1999), one of the information advantages of local auditors is to have close relations with firm managers. If local auditors have close relations with the firm managers, they would benefit from information advantage and this could bring about some concerns on the independence of auditors. In other words, in such circumstances, the presence of friendly relations with the client will disrupt the independence of the auditor and will lessen the possibility of presenting an appropriate opinion.

WasineeThammasiri (2014) argues that local auditors may not accept the firms with a high risk of financial reporting because of two assumptions. First, the financial reporting risk of firms is

associated with the audit risk and auditors ask for higher audit fees to compensate the risks. Second, local auditors benefit from information advantage for evaluating the risk, while nonlocal ones cannot understand such a risk and underestimate the possibility of potential damages derived from such risks. Audit risk is a combination of intrinsic risk, risk of control, and the risk of non-detection. Hence, local auditors may not accept the high-risk firms (WasineeThammasiri, 2014). In this study, we attempted to assess the geographical advantages that may be present in the audit market to realize why firms select non/local auditors, how the distance between auditor and client contributes to the audit quality, and whether the distance between auditor and client is associated with the timely reporting or not.

Theoretical principles and hypothesis development

Various factors contribute to the selection of an independent auditor. According to the agency theory, we predict that by the increase of firm size, debt leverage, and cost of payment of the staff, the possibility of selecting a high-quality volunteer auditor will also increase in the ordinary general assembly (HassasYeganeh and Heidari, 2008). Therefore, we assess the contributing factors to the selection of a non/local auditor.

1- Factors influencing the selection of non/local auditor

A- Availability of local auditors

Auditor selection is a mutual decision between the client and auditor. There are two primary factors the firms consider when selecting the auditors: audit quality and audit costs. The firm benefits from the work of auditors in many aspects. Auditors may explore the accounting error or internal control weakness. Before the disclosure of financial statements, the firm is able to modify such errors, improve the internal control methods, and prevent the occurrence of such error in future. The previous studies show that high-quality auditors, like the BIG4 audit companies, are able to present high-quality financial reports (Becker et al., 1998). A famous auditor is able to ensure the shareholders of the decline of information asymmetry between management and firm investors.

From auditors' point of view, audit costs are comprised of two parts, the consumed time and effort by the audit team in the audit work and the future damages that can be due to the costs of litigation or cost of lost opportunities of current and future customers that can be resulted due to the damage to reputation and punishments (Simunic, 1980; Menon and Williams, 2001). Given the audit standard No. PCAOB 8, the aim of the auditor is to audit the financial statements in a way that the audit risk decreases to an appropriate level. The standard defines the audit risk as a risk that auditor expresses an inappropriate statement, while financial statements contain significant distortions, in addition, this standard explains that the audit risk is a function of the risk of significant distortion which is comprised of intrinsic risk, risk of control, and risk of non-detection. Auditors cannot control such risks but they require the evaluation of the level of significant distortion risk to identify the appropriate level of risk of non-detection. The level of non-detection risk needs some tests of auditor's content that

contribute to the time and effort of the audit team during a project. An erroneous assessment of significant distortion risk level can lead to the increase of audit risk and future loss, the decrease in profit, or loss of customers due to charging too much audit fees. Auditors may not accept the high-risk customers in that they cannot assess the significant distortion risk properly or the auditors may ask for high audit costs to compensate such risks.

The standard No. 5 of PCAOB audit classifies the trend of auditing for risk analysis methods and further auditing, which includes control and content tests. Moreover, this standard provides a special definition of the auditing methods to reach the auditing records. These methods include inspection, observation, survey, confirmation, recalculation, confirmation inquiry, and analysis. However, most of the auditing projects are still required to be performed at the client's place. For example, the observation standard is defined as follows: "observation comprises of looking (searching) for a process or method that is performed by others. Hence, auditors spend most of their times in the place of their clients. In terms of travel cost and time, the relationship between client and the local auditor is lower than the relationship between client and nonlocal auditor. Clients should incur the travel costs of non-local auditors. Total auditing costs for nonlocal auditors should be higher than the cost of employing local auditors. Thus, by assuming that local and nonlocal auditors have an equal level of audit quality, the firm should prefer the local auditors to the nonlocal ones.

Petersen and Rajan (2002) perceived that the distance between small firms and their creditors is increasing and explained that technological and communicational development has enabled the creditors to have accurate and timely information about the borrowers.

Stein (2002) asserts that small business loans depend entirely on weak information and that such information cannot be achieved directly by anyone other than the creator. Broadly, these studies claim that creditors and local investors benefit from information advantage, like the enhancement of supervisory capacity, observation of risky information of firms, gaining information with lower costs, and/or having access to confidential information of companies. However, in some cases, the information advantage of a creditor and/or local investor is replaced with the advancement of communications and technology.

Malloy (2005) provides some evidence that shows local analysts are more accurate than their peers and firms should prefer the local auditors to the nonlocal ones. WasineeThammasiri (2014) also argues about the increasing trend of employing local auditors, compared with the nonlocal ones. Hence, given the advantages of employing local auditors the first hypothesis and its related sub-hypotheses are formulated as follows:

H1: in case of presence of local auditors the possibility of signing a contract with the non-local auditors is lower and the sub-hypotheses are proposed to further examine the issue.

Sub-hypotheses: in case of presence of rank A local auditors the possibility of signing a contract with non-local auditors is lower.

In case of presence of local auditors other than rank a, the possibility of signing a contract with non-local auditors is lower.

In case of presence of specialized local auditors in the industry, the possibility of signing a contract with non-local auditors is lower.

B- Risk of reporting for client

Local auditors may not be willing to accept high-risk customers or they may ask for a considerable payment for such an unacceptable risk. Johnston and Bedard (2004) analyzed the managerial decisions of a large audit firm and noticed that such firms have reduced the high-risk customers and replaced them with the less risky ones. The audit risk model defines the audit risk as a combination of intrinsic risk, risk of control and risk of non-detection. By making more attempts to keep lower the risk of non-detection, the auditors of companies with high intrinsic risk and risk of control are able to maintain the audit risk at an acceptable level. Local auditors may not accept companies with a high risk of financial reporting or receive extremely high-risk insurance of these companies. This prediction is based on two hypotheses. First, the risk of financial reporting of companies is associated with the high risk of auditing and auditors ask for higher payments to compensate such a risk. Second, local auditors benefit from information advantage for risk evaluation, while nonlocal auditors are not able to understand such a risk or underestimate the risk of future damages of such risks (WasineeThammasiri, 2014). Based on the hypothesis that companies prefer high-quality audit to audit cost, the second and third hypotheses of the study are proposed as follows:

H2: there is a negative and significant relationship between signing contract with non-local auditors and reporting quality for client.

H3: there is a positive and significant relationship between client risk and the selection of non-local auditors.

C- Audit fee

Audit fee is one of the leading issues that has brought about much controversy between the client and auditor and is a topic that should be sharply defined from the very beginning. Various factors contribute to the audit fee, among which we could refer to the quality of audit report. It is important to study the contributing factors to audit fee, in terms of their effect on the audit quality. Audit fee affects the planning and appropriate and high-quality running of a financial auditing process. A low audit quality would decrease the trust of users of financial statements and this not only causes the failure of auditing objectives but would lower the credit of auditing process at macro-level and hinders the optimal allocation of capital to the Securities market and increases the cost of capital and financial supply (Rajabi, 2004).

In Iran, the manner of determining audit fees becomes a problem and the turmoil of pricing audit services has made no certain basis for financial audit fee and in most of the cases the

professional judgments of auditors would bring about some contradictory suggestions which have no congruency (Tanani and NikBakht, 2010).

Nonlocal auditors may propose lower audit fees than the local ones at the same level of audit quality. In general, the distance between customer and the client should increase the audit fee. The time and costs of travel, which are a part of audit fees should be lower for the local auditors. In addition, the local auditors may incur fewer costs of information asymmetry and decrease the costs of the auditing process. A low information asymmetry between local auditors and their customers may lessen the risk of litigation and expected future damages via the legal cases and damage to reputation. Therefore, local auditors, compared with their nonlocal peers, should incur fewer costs with the same interest. Furthermore, as a result of inappropriate selection, the audit fee of nonlocal auditing may be more than the local costs. Nonlocal auditors with a high information asymmetry assume that the nonlocal customers are high-risk because they were rejected by the local auditors who have better information for evaluating customers. Hence, nonlocal auditors should earn higher audit fee to compensate such risks. However, it is probable for a nonlocal auditor to be more efficient than a local auditor and incur fewer costs. Furthermore, it is also possible that the auditors, by having access to confidential information, be able to lower the information asymmetry between auditors and customers. Moreover, the nonlocal auditors may be less willing to profit, compared with the local auditors (WasineeThammasiri, 2014). Hence, the nonlocal auditors cannot understand such a risk and/or underestimate the risk of future damages. In general, companies are able to lower the audit costs by employing nonlocal auditors. Mainly, there are some reasons that we expect the nonlocal auditors to collect fewer fees. Based on this assumption that companies prefer high-quality audit to economical costs, the fourth hypothesis is formulated as follows:

H4: the audit fee of non-local auditors is lower than the local auditors.

2- The effect of distance between customer and client on the audit quality

Within the accounting literature, there are some studies like WasineeThammasiri (2014), Jensen et al. (2013), and Choi et al. (2012) that analyzed the relationship between the distance between auditor and client and audit quality. The results of the study of WasineeThammasiri show that the availability of BIG4 local audit firms and auditors with industry specialization would lower the possibility of employing non-local auditors. Further, the losing companies, companies that receive continuing business audit report, companies with lower profitability, and companies with internal control weaknesses are more likely to employ a nonlocal auditor. In total, the obtained evidence suggests that companies with a high audit risk are more probable to employ nonlocal auditors. Finally, we observed that the fees of nonlocal auditors are higher than the fees of local auditors. This reveals that companies by employing nonlocal auditors were not capable to lower the audit fees. One probable explanation is that nonlocal auditors compensate the risks of information asymmetry between the nonlocal auditor and customer by asking for higher costs. However, it is less likely that scholars define the

information advantages achieved by the local auditors to have a better supervision capability, lower supervision costs, and high availability. The main objective of the study is to assess the information advantages related to distance relative to the information availability.

Jensen et al. (2013), Choi et al. (2012), and Defond et al. (2011) found a negative relationship between the distance between auditor and client and audit quality.

Local auditors may incur lower costs in performing their duties. On the other hand, a close and friendly relationship between auditors and firm management may interrupt the independence of auditors. If the presence of local auditors is related to information advantage, it is probable that the firm employs local auditors and auditors should also accept local customers more than the nonlocals. In addition, auditors should, compared with the local customers, earn a higher audit fee from nonlocal customers. Moreover, they should observe a negative relationship between the distance between auditor and client and audit quality. Should the distance between auditors and customers interrupt the independence of the auditor and should there are some factors that lower the information advantage in case the auditor is local, a significant and inverse difference should be evident in the proposed high-quality audit of non/local auditors, so the fifth hypothesis claims that:

H5: there is a negative and significant relationship between the distance between auditor and client and the audit quality.

Audit specialization in the industry

Previous studies have shown that specialized auditors in the industry are more competent to explore the errors and distortions of clients (Li et al., 2010). The auditor's industry expertise involves creating innovative thoughts in order to aid the client (creating value added) and providing some approaches and/or some new strategies in some topics that clients face in their related industries (Kend, 2008). Specialized industry auditors grant some significant resources for the development of knowledge and specialization in the industry that empowers them to present high-quality audit services (Fernando, 2007). Additionally, industry specialization contributes to the nature of experience, the work of auditing, and achieving the expertise and may provide some conditions for individual experts to better perceive certain issues related to the industry (Solomon et al., 1995).

Dunn et al. (2000) demonstrate that those auditors who have expertise in the related industry, due to more capability in recognizing and facing with special problems of the industry are able to perform higher quality audits. Moreover, the more the experience of the audit firm in a certain industry, due to acquiring a positive reputation, the more it would be interested to present high-quality audit services. In addition, in some industries with strict rules and regulations, the presence of specialized auditors could secure the regulations of a certain industry or satisfy the reporting requirements (Abidin et al., 2010). Thus, we can claim that industry specialized auditors can propose higher quality audits within a quality framework.

Financial restatement

Audit analysis shows an increase in the number of restatement of 557 companies in 2001 and 1566 companies in 2006. This number started a decreasing trend in 2007 (audit analytics, 2011). Accounting restatement hurts the wealth of investors. Palmrose et al. (2004) reported an abnormal return of 9% for more than two days of restatement. Within a study by Hennes et al. (2008), the results of disorder in the accumulated return is -13.64%, while restatement due to errors would lead to accumulated return of -1.93%. In another study by Hranaiova and Byers (2007) on PCAOB, after the provision of Sarbanes-Oxley Act, the negative effect of inappropriate restatement has a considerable decrease (71%). The negative reaction of the market, however, exists in the accounting restatement. Accounting restatement not only had restatement for companies, but also influenced the companies the managers of which share the decrease in profit (Srinivasan, 2005). Restatement can be due to the management and turnover of the manager (Srinivasan, 2005; Desai et al., 2006, audit analytics, 2011).

Those restatements attributed to third persons are indicative of managerial inability and internal controls in realizing and modifying the significant distortions. In case of occurrence of such a restatement, we expect from users to be less confident of the reliability of financial information and to face a more severe reaction of the market. Hence, if the management confesses to significant distortions and modifies them, this is indicative of their manipulations and returning the trust (Robin and Romanus, 2007). Financial restatements of an independent auditor have a more considerable effect on stock price, information risk, and financial supply of dividends.

Scholars chose the occurrence of restatement as one of the other indexes of audit quality for two reasons. First, De Angelo (1981) defined the quality of audit services as a mutual probability that an auditor explores a defect in the accounting system of a customer and report that defect. Auditors are responsible for their opinions to whether or not the financial statements are free of significant distortions. Accounting restatement provides some clear evidence of auditing failure to explore or report significant distortions of financial statements. Second, different types of financial restatement may be related to different accounts that, to a great extent, may influence the distance between the audit and client. Should the local auditors benefit from better information advantage and supervision ability than the nonlocal auditors, the audited financial statements by the local auditors should contain fewer distortions and this would lower the chance of restatement.

3- The effect of the distance between auditor and client on timely audit report

Financial statements propose useful information for economic and investment decision making. Such information is important for users to evaluate the financial status and performance of firms. Hence, the audited financial statements are probably the only trusted resources of available information (Leventis et al., 2005). The accuracy and timeliness of these two essential indexes are for the usefulness of the firm reports. The usefulness of disclosed information will

be decreased in the annual reports, in case the time for completing the audit process (presenting audit report) increases (Heidari et al., 2015). Timeliness is one of the related characteristics to information and means that temporal financial information should be available to the users to have the opportunity to make a decision, judge, and show timely actions to the related issues. In other words, financial information should be available before missing the opportunity, based on which the users can judge and make decisions. Therefore, the closer the information to the time of occurrence, the timelier is the information (Barzideh and Moayeri, 2006).

Hence, we predict that the distance between auditor and client can be associated with the presence of timely report and such a distance can be subject to the increase of delay of the audit report. This prediction is based on the previous studies (WasineeThammasiri, 2014; Coval and Moskowitz, 1999), in which local auditors may have information advantage over a business firm and be aware of the confidential information of the firm, but this issue is not possible for nonlocal auditors and they may have no complete information about the firm. Moreover, local auditors may have fewer effort and less time for gaining information about the firm, while nonlocal auditors can collect such information by more time and attempt. Furthermore, one of the information advantages of local auditors is having a close relationship with firm managers. Should the local auditors have a close relationship with firm managers, they will benefit from information advantage, so if the local auditors have a better information advantage and supervision over the nonlocal ones, they would generate a timely report, so they assume that:

H6: there is a negative and significant relationship between the distance between auditor and client and timely report.

Research methodology

In terms of objective, the present study is practical and in terms of method and nature, it is correctional. The research method is inductive where the theoretical principles and the literature were collected through library, article, and the internet and by applying appropriate statistical methods, the inductive reasoning was used for rejecting or confirming the research hypotheses.

Statistical population and sample

The statistical population under study is listed companies on Tehran Stock Exchange and the time domain is from 2010 to 2016 with the following qualifications:

- Being admitted in the Tehran Stock Exchange before 2010,
- Their financial yearend is March 20 and did not change their fiscal year during the course of the study,
- Not being affiliated with financial intermediaries, including banks and investment companies,
- Their shares being transacted at least once during the year, and;

- Their data being available.

Data collection methods

Library method is used in order to collect the required data of the present study. In this method, the related documents have used a sample for data collection. The sample documents of the present study include financial statements of selected members which are gathered through the Tehran Stock Exchange Website and Rah Avaran-e Novin Software.

Data analysis method

In this paper, the R Software is used in order to measure the variables and analyze the data and for Logit and multiple regression. The reason why we employed this software is its appropriate application in econometrics and accounting and financial studies.

Research models

Model (1): this model is related to the selection of local and non-local auditors in accordance with the studies of WasineeThammasiri (2014), Jensen et al. (2013), and Choi et al. (2012) and for testing the first hypothesis, which is formulated as follows:

$$\begin{aligned} \text{NonLocal} = & \beta_0 + \beta_1 \text{NumLocal}_{\text{MSA}} + \beta_2 \text{NumExp}_{\text{MSA}} + \beta_3 \text{ClientRisk} \\ & + \beta_4 \text{Leverage} + \beta_5 \text{Loss} + \beta_6 \text{ROA} + \beta_7 \text{Auditfee} \\ & + \beta_8 \text{Officenatexp} + \beta_9 \text{Big} + \beta_{10} \text{InstOwner} + \beta_{11} \text{IndepentDT} \\ & + \beta_{12} \text{size} + \beta_{13} \text{BookMK} + \varepsilon \end{aligned}$$

Where

Dependent variable

In this paper, nonlocal auditor is considered as a dependent variable, for the calculation of which we have:

Nonlocal: virtual variable of signing contract with non-local auditor which is equal to 1 if the client and auditor are not in the same city and the distance between these two persons is more than 100 miles (161 kilometers), otherwise, we assign zero. The criterion of 100 miles is considered based on the study of WasineeThammasiri (2014).

Independent variable

NumLocal_{MSA}: number of local auditors in the city where the client is not present.

Control variable:

In this paper, twelve variables are used as the control variables, for the computation of which we have:

NumExp-MSA: the number of audit institutes specialized in the industry which is present in the city of the client.

Three criteria of financial leverage, loss, and return on assets are used for calculating reporting risk as follows:

Leverage: a leverage proportion which is equal to total debts divided by total assets.

Loss: the virtual variable of loss that is equal to 1 if the firm reported the net loss in the previous year, otherwise it would be 0.

ROA: return on assets which is equal to the profit ratio before putting interest and tax to total assets.

ClientRisk: client risk is equal to total accounts receivable and goods inventory divided by total assets.

Auditfee: natural logarithm of total audit fees to total assets.

Officenatexp: is equal to 1 if the auditor is industry specialist, otherwise, it would be 0.

BigN: is equal to 1 if the auditor is one of the rank A auditors from official accountants association' point of view, otherwise, it would be 0.

instOwner: the percentage of ownership of institutional shareholders, which is equal to total number of shares under the possession of institutional shareholders to total number of shares.

IndepentDT: is equal to the number of the unbounded board members to total number of the board members.

Size: firm size which is equal to natural logarithm of sales.

BookMK: book value of dividends to the market value of the firm.

Model (2): this model is related to the selection of local and non-local auditors in accordance with the studies of WasineeThammasiri (2014), Jensen et al. (2013), and Choi et al. (2012) and for testing sub-hypotheses 1-3 and hypothesis 2, 3, and 4, which is formulated as follows:

$$\begin{aligned} \text{NonLocal} = & \beta_0 + \beta_1 \text{NumBign}_{\text{MSA}} + \beta_2 \text{NumnonBign}_{\text{MSA}} + \beta_3 \text{NumExp}_{\text{MSA}} \\ & + \beta_4 \text{ClientRisk} + \beta_5 \text{Leverage} + \beta_6 \text{Loss} + \beta_7 \text{ROA} + \beta_8 \text{Auditfee} \\ & + \beta_9 \text{Officenatexp} + \beta_{10} \text{Big} + \beta_{11} \text{InstOwner} + \beta_{12} \text{IndepentDT} \\ & + \beta_{13} \text{size} + \beta_{14} \text{BookMK} + \varepsilon \end{aligned}$$

Where

Local auditors, for the measurement of whom local auditors, rank A local audit, non-ranked A local audit, and industry specialized local audit are used:

NumBign_MSA: the number of rank A auditors from official accountant association's point of view, who are not present in the clients firm.

NumnonBign_MSA: the number of non-ranked A auditors from official accountant association's point of view, who are present in the clients firm.

Other variables are explained above.

Model (3): is estimated for testing the fifth hypothesis in conformity with the study of WasineeThammasiri (2014) and in the present study auditor industry specialization and financial restatements are used as the audit quality criteria. Model (3) is as follows:

$$AQ = \beta_0 + \beta_1 \text{Local} + \beta_2 \text{size} + \beta_3 \text{Leverage} + \beta_4 \text{BookMK} + \beta_5 \text{ROA} \\ + \beta_6 \text{InstOwner} + \beta_7 \text{IndepentDT} + \beta_8 \text{BigN} + \varepsilon$$

Where

AQ: is the audit quality. In this paper, two variables are used for the audit quality. The first one is the industry specialization that if the auditor is industry specialized 1, otherwise, 0 would be used. The second variable is financial restatements, such that if the firm has a restatement, it is 1, otherwise, it would be 0.

Local: a virtual variable for local auditor which is equal to 1 if the auditor and client are settled in the same city or are in a 100 miles (161 kilometers) distance from each other.

Model (4): this model is used for testing the sixth hypothesis as follows:

$$\text{ART} = \beta_0 + \beta_1 \text{Local} + \beta_2 \text{size} + \beta_3 \text{Leverage} + \beta_4 \text{BookMK} + \beta_5 \text{ROA} \\ + \beta_6 \text{InstOwner} + \beta_7 \text{IndepentDT} + \beta_8 \text{BigN} + \beta_9 \text{Officinatexp} \\ + \varepsilon$$

Where

ART: is timely audit report, the closer the time of audit report to the end of the year, the timelier is the audit report.

Other variables are explained above.

Data analysis and hypothesis testing

The proposed variables and the research hypotheses will be analyzed in this section. The logit regression is used to test hypothesis 1 to 5 and multiple regression is used for the sixth hypothesis.

The results of the first hypothesis testing

Model 1 is used for testing this hypothesis.

The results of model (1) estimation

Table 1 shows the results of model (1) estimation. Due to the formation of a severe linearity between firm leverage and virtual variables of year and industry and as a result impossibility of model estimation, these variables were omitted from the model.

Table 1: the results of model (1) estimation on the research variables

Title	Coefficient	Standard deviation	Z statistic	Significance	VIF
Intercept	7.055	3.633	1.942	0.052	---
No. of local auditors	-0.060	0.010	-5.829	0.000	1.915
Local industry specialized auditors	-0.063	0.067	-0.953	0.341	1.460
Loss	-0.799	1.168	-0.684	0.494	1.225
Return on assets	-0.436	0.715	-0.610	0.542	1.509
Client risk	-3.782	1.809	-2.091	0.037	1.786
Auditor fee	-0.903	0.348	-2.598	0.009	1.510
Auditor industry specialization	-0.391	0.596	-0.657	0.511	1.699
Rank A auditor	0.570	0.667	0.855	0.393	1.156
Institutional ownership	-0.001	0.009	-0.125	0.900	1.434
Unbounded member ratio	-0.805	1.389	-0.580	0.562	1.381
Firm size	0.143	0.259	0.551	0.582	2.147
Growth opportunity	0.267	0.242	1.104	0.270	1.347
Likelihood ratio (significance)	Pseudo R ²	Hosmer-Lemeshow statistic		HL significance	
117.510 (0.000)	0.485	4.997		0.758	

As can be seen in the table, the significance of likelihood ratio is less than 0.05 and also the significance value of the Hosmer-Lemeshow statistic is more than 0.05, which is indicative of the goodness of model fitting. This means that the model is fitted appropriately and the results are reliable. The R² pseudo-statistic with the value of 48% seems proper for the model. Moreover, the VIF value for independent variables is less than 5, which show the absence of linearity among the variables. In addition, use of variance has made the model stronger that eliminate any probable variance heterogeneity. Given the above-said facts, the results of the model can be authenticated.

Analyzing the first hypothesis

The coefficients related to the variable of the number of local auditors is equal to -0.060 and the value of significance is also less than 0.05 which is indicative of the presence of a negative and significant relationship between the availability of local auditor and selection of a non-local auditor. This shows that in case of presence of a local auditor, the chance of signing a contract with a non-local auditor is decreased, significantly. Consequently, the first hypothesis is accepted. In order to assess different effects of rank A and non-rank A local auditors, model (2) is also estimated and will be analyzed in the following.

The results of sub-hypotheses 1-3 and second, third, and fourth hypotheses

Model (2) is used for testing these hypotheses.

The results of model (2) estimation

The results of model (2) estimation on the research data can be seen in table 2. Due to the generation of a severe linearity between firm leverage and virtual variables of year and industry and consequently impossibility of model estimation, these variables were eliminated from the model.

Table 2: the results of model (2) estimation on the research variables

Classification	Title	Coefficient	Standard deviation	Z statistic	Significance	VIF
	Intercept	6.028	3.287	1.834	0.067	---
Local auditors	No. of rank A local auditors	-0.031	0.016	-1.982	0.048	4.049
	No. of non-rank A local auditors	-0.210	0.078	-2.692	0.007	3.184
	No. of local industry specialized auditors	-0.075	0.061	-1.227	0.220	1.497
Client's reporting quality	Loss	-0.513	0.669	-0.767	0.443	1.637
	Return on assets	-4.013	1.708	-2.349	0.019	1.901
Client risk	Client risk	-1.177	1.061	-1.109	0.267	1.254
Fee	Auditor fee	-0.817	0.301	-2.715	0.007	1.526
Control	Auditor industry specialization	-0.467	0.550	-0.850	0.396	1.756
	Rank A auditor	0.210	0.643	0.327	0.744	1.220
	Institutional ownership	0.002	0.008	0.248	0.805	1.440
	Unbounded	-0.067	1.314	-0.051	0.959	1.509

	member ratio					
	Firm size	0.183	0.238	0.767	0.443	2.333
	Growth opportunity	0.148	0.217	0.683	0.495	1.443
Likelihood ratio (significance)	Pseudo R ²	Hosmer-Lemeshow statistic		HL significance		
(0.000) 121.930	0.503	7.813		0.452		

As can be seen in the table, the significance of likelihood ratio is less than 0.05 and also the significance value of the Hosmer-Lemeshow statistic is more than 0.05, which is indicative of the goodness of model fitting. This means that the model is fitted appropriately and the results are reliable. The R² pseudo-statistic with the value of 50% seems proper for the model. Moreover, the VIF value for independent variables is less than 5, which show the absence of linearity among the variables. In addition, use of variance has made the model stronger that eliminate any probable variance heterogeneity. Given the above-said facts, the results of the model can be authenticated.

Analyzing the sub-hypotheses

The significance value of the variables of the number of rank A auditors and the number of non-rank A auditors is less than error level of 0.05, but this value is more than 0.05 for the variable of number of specialized industry auditors. Coefficients related to the number of rank A auditors and number of non-rank A auditors are -0.031 and -0.210, respectively. These results are indicative of a negative and significant relationship between the presence of rank A local auditors and non-rank A auditors and the selection of local auditors and show that in case a local auditor is available, either he/she is rank A one or non-rank A, the chance of signing a contract with a non-local auditor is decreased, significantly, and also the related coefficient to rank A auditors rank A auditors is more than that of the non-rank A auditors. However, the presence of industry specialized auditors has no significant relationship with the selection of nonlocal auditor. Therefore, the first and second sub-hypotheses of the study will be accepted.

Analyzing the second hypothesis

Three indexes of financial leverage, loss, and return on assets were assessed for reporting risk that the financial leverage was eliminated due to linearity.

Among the variables related to reporting risk (including loss and return on assets) only the coefficient related to return on assets (with the value of -4.013) has a significance of less than 0.05, which is indicative of a negative relationship between reporting risk and the selection of a non-local auditor. Hence, we can claim that the chance of selecting a non-local auditor for companies with lower reporting quality (return on assets) is higher and the second hypothesis is accepted. However, due to the insignificance of the variable of loss, we should consider about this issue with caution.

Analyzing the third hypothesis

The coefficient related to the variable of client risk (with the value of -1.177) has a significance higher than 0.05, which is indicative of lack of a significant relationship between client risk and the selection of nonlocal auditor. This shows that client risk has no significant relationship with the selection of nonlocal auditor and in case the risk value is high or low, the chance of selecting a non-local auditor has no significant change. So, the third hypothesis is rejected.

Analyzing the fourth hypothesis

The coefficient related to the variable of audit fee (with the value of -8.817) has a significance less than 0.05, which is indicative of the presence of a negative and significant relationship between audit fee and the selection of nonlocal auditor. This shows that in case of selecting a non-local auditor, the audit fee will decrease to a great extent, so the fourth hypothesis is accepted.

Analyzing the fifth hypothesis

Mode (3) of the study is used to test the fifth hypothesis.

The results of model (3) estimation

Table 3 illustrates the results of model (3) estimation with the dependent variable of auditor industry specialization on the research data. In this model, due to the formation of a severe linearity between some virtual variables of year and industry and consequently impossibility of model estimation, these variables were eliminated from the model.

Table 3: the results of model (3) estimation on the research variables

Title	Coefficient	Standard deviation	Z statistic	Significance	VIF
Intercept	15.578	2.891	5.388	0.000	
Local auditor	0.173	0.410	0.422	0.673	1.183
Firm size	-1.158	0.211	-5.492	0.000	1.176
Firm leverage	-0.573	0.767	-0.747	0.455	2.811
Growth opportunity of the firm	-0.321	0.197	-1.629	0.103	1.859
Profitability	-1.199	1.472	-0.815	0.415	1.866
Institutional ownership	-0.001	0.006	-0.242	0.809	1.200
Unbounded member ratio	1.195	0.961	1.244	0.214	1.196
Auditor size	-0.750	0.477	-1.573	0.116	1.070
Likelihood ratio (significance)	Pseudo R ²	Hosmer-Lemeshow statistic		HL significance	
77.125 (0.000)	0.033	6.089		0.637	

As can be seen in the table, the significance of likelihood ratio is less than 0.05 and also the significance value of the Hosmer-Lemeshow statistic is more than 0.05, which is indicative of the goodness of model fitting. This means that the model is fitted appropriately and the results are reliable. This means that there is a significant relationship between the chance of auditor industry specialization and the independent variables of the study. Moreover, the VIF value for all independent variables is less than 5, which shows the absence of linearity among the variables.

The variable coefficient related to the local auditor is equal to 0.173, the Z statistic of which is equal to 0.422. Since the value of Z is less than 1.98 and consequently its significance is more than 0.05, we cannot accept the relationship between industry specialization and the selection of a local auditor.

The results of model (3) estimation

Table 4 depicts the results of model (3) estimation and the dependent variable financial restatement on the research data. These variables were eliminated for the model due to the formation of a severe linearity among some of the virtual variables of year and industry and consequently impossibility of model estimation.

Table 4: the results of model (3) estimation on the research variables

Title	Coefficient	Standard deviation	Z statistic	Significance	VIF
Intercept	0.139	2.174	0.064	0.949	
Local auditor	0.348	0.408	0.851	0.395	1.158
Firm size	0.081	0.159	0.512	0.609	1.468
Firm leverage	0.664	0.837	0.793	0.428	2.882
Growth opportunity of the firm	0.038	0.183	0.209	0.834	1.934
Profitability	1.738	1.477	1.177	0.239	2.032
Institutional ownership	-0.012	0.006	-1.984	0.047	1.361
Unbounded member ratio	-0.052	0.995	-0.052	0.959	1.279
Auditor size	-0.414	0.519	-0.799	0.425	1.131
Likelihood ratio (significance)	Pseudo R ²	Hosmer-Lemeshow statistic		HL significance	
(0.628) 6.571	0.033	4.528		0.807	

As can be seen in the table, the significance of likelihood ratio is more than 0.05 and also the significance value of the Hosmer-Lemeshow statistic is more than 0.05. Since the likelihood ratio is more than 0.05, despite the significance of the Hosmer-Lemeshow statistic is also more

than 0.05, we cannot accept the goodness of model fitting, so the estimated model is not reliable, which means the chance of financial restatement is not associated with the independent variables and the fifth hypothesis is not accepted.

Analyzing the sixth hypothesis

Model (4) is used for testing the hypothesis.

Analyzing the hypotheses of classic regression

Since the model has an intercept, assuming zero mean of errors is accepted. Moreover, since we have high numbers of observations (more than 30 times), we can negligibly accept the hypothesis of normality of model residuals. The results of test of variance homogeneity are presented in table 5 using the Breusch-Pagan test.

Table 5: test of variance homogeneity of the model

F statistic	Degree of freedom	Significance	Result
1.105	20 and 252	0.344	Variance homogeneity

Since the significance of the F statistic is more than 0.05, the variance homogeneity hypothesis is also accepted. Given the results of table 6, since the VIF has some values less than 5, the hypothesis is accepted. It is noteworthy that the value of this statistic is less than 5 for control variables of industry and year. Since all classic regression hypotheses are set the result is reliable.

Results of model (4) estimation

Table 6 indicates the results of model (4) estimation on research data.

Table 6: the results of model (4) estimation on the research variables

Title	Coefficient	Standard deviation	t statistic	Significance	VIF
Intercept	10.268	13.133	0.782	0.435	
Local auditor	4.897	2.400	2.041	0.042	1.190
Firm size	6.866	0.861	7.972	0.000	2.042
Firm leverage	-3.170	5.450	-0.582	0.561	3.310
Growth opportunity of the firm	-2.281	1.232	-1.851	0.065	2.052
Profitability	-70.813	9.964	-7.107	0.000	2.627
Institutional ownership	-0.067	0.034	-1.990	0.048	1.285
Unbounded member ratio	-1.195	5.431	-0.220	0.826	1.255
Auditor size	-12.488	2.859	-4.368	0.000	1.258

Auditor industry specialization	1.175	2.646	0.444	0.657	1.705
Fixed effects of year	Controlled				
Fixed effects of industry	Controlled				
F statistic	F significance	R ²		Adjusted R ²	
18.988	0.000	0.601		0.569	

As can be seen in table 6, the value of F statistic is 18.988 and its significance is less than 0.05, so the totality of the regression model is accepted, which substantiates the presence of a significant relationship between independent variables and the dependent variable and also confirms that at least one independent variable has a significant relationship with the dependent variable.

The coefficient of the variable of local auditor is a positive value equal to 4.897, the significance value of which is less than 0.05 and shows a positive and significant relationship between the presence of a local auditor the number of days the audit report is published. Therefore, we can say that in case of selecting a local auditor, the timeliness of audit report will be increased and the sixth hypothesis of the study is accepted.

Conclusion

The aim of the present study is to assess the relationship between the distance between auditor and client and the impact of such a distance on audit quality and the timeliness of audit report in companies listed on Tehran Stock Exchange. Broadly, the results show that the in case of presence of a local auditor, either he/she is a rank A or not, the chance of signing contract with the non-local auditor will be decreased significantly. Furthermore, the possibility of selecting a non-local auditor for companies with high-quality reports is lower and in case of selecting a non-local auditor, the decrease of the audit fee is highly probable and finally, there is a positive and significant relationship between the selection of a local auditor and the timeliness of audit report. The obtained results reveal that there is no relationship client risk and the selection of local auditor as well as the distance between auditor and a high-quality audit client.

Based on the analyses carried out and the review of theoretical principles and the literature, there is no similar national study on the distance between auditor and client. Among the foreign studies, we could only refer to the study of WasineeThammasiri (2014) that the results of the present study related to hypothesis 1-4 are in conformity with that of the WasineeThammasiri (2014). Moreover, the results of the fifth hypothesis testing are in line with

that of the WasineeThammasiri(2014) and Jensen et al. (2013) but are in contrast with that of the Choi et al. (2012).

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