



The effect of the company's borrowing power on audit quality: Insurance Hypothesis Testing

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ABSTRACT

The Iranian audit market comparing with other countries, has very distinctive features audit market of Iran includes two public and private sectors. On the other hand, the financing system in the country mostly takes place through borrowing from banks, and evidences show that for receiving more loans, companies may change their auditor, or based on the insurance hypothesis and in order to transfer the risk of debt default to the auditor, look for reputable and high-quality audit institutes. Therefore, this can have many economic consequences for the auditor. The goal of the present research is to study the role of "Company's borrowing power" on audit quality, in direction of Insurance Hypothesis Testing. Data collection method in theoretical basics section is library method. Statistical population of present research, is the companies listed to the stock exchange, from which a sample including 167 companies were chosen during the period of 12 years, between 2010 to 2021. Hypothesis of the research is tested based on multi-variable regression. Results of this research demonstrates that as the borrowing power of the company increases, the audit quality also increases. While confirming the role of insurance hypothesis in audit quality promotion, findings of this research can result in development and expansion of previous researches theoretical basics about audit quality.

Keywords: Borrowing power, audit quality, and insurance hypothesis

1. Introduction

Audit quality means discovery and report of errors and material distortions existing in financial statements by an independent person as auditor. Studies conducted in the field of audit quality demonstrate that this task depends on various factors including intra-organizational and extra-organizational factors and also for measuring the audit quality, various methods of research is introduced, but lack of attention to financial and legal conditions of the country, and just blindly following audit quality measurement methods adapted from foreign researches, will unintentionally decrease the credit of the results of researches conducted in Iran (Mohammadrezaei and Faraji, 2019).

One of the theories for demand for high-quality audit services, is insurance hypothesis. According to this hypothesis, management of the business unit, selecting large and high-quality auditor that has a larger share of audit market, is about to insure itself against any risk including lawsuit against itself.

On the other hand, financing of business units in Iran, is mainly done through bank system, therefore, both banks and business unit directors are willing to choose high-quality audit institutes as their auditor, in order to decrease the risk of loan installments default and decreasing the risk of legal lawsuits against directors, in direction of decreasing costs of agencies. High-quality and large audit firms can play an important role in clarifying information, reducing risks and costs of agencies, in financing activities, through validation of accounting information. Through informing banks, in financing economic projects, presenting necessary analysis and solutions, they can assist them in related decisions (Barahouyi et al., 2016).

What we can observe from evidences existing in the Iranian audit market, is that there are still research gaps in this market about the quality of audit. One of these gaps that that has not been noticed by researchers yet, is the relation between borrowing power and audit quality in direction of insurance hypothesis. Although past studies, each draw different causes and consequences of audit quality in a way, there are still questions about to what extent are more business units interested in choosing high-quality audit firm studies for loans. Therefore, the main goal of this research is to expand the theoretical fundamentals of audit quality literatures, by examining the relation between

borrowing power of the company and audit quality. Following, theoretical fundamentals and research backgrounds, methodology, research findings and conclusion shall be described.

Theoretical Fundamentals and Research Backgrounds

Insurance hypothesis: Demand for high quality audit services has a direct relation with the number of lawsuits threatening directors. Auditor and auditee have common responsibility against any loss occurred to third parties due to presence of misleading information in financial statements, and this situation caused a large importance for attention toward the audit responsibility and choosing high quality auditors. When audit quality of the audit firm is high, the conflict of interest between shareholders and creditors is reduced. Auditors also increase the quality of their audits to reduce lawsuits risks from creditors (Fan & Wong, 2005). firms that have high borrowing power, managers of those firms choose high-quality auditors to cover the risk of lawsuits against them. Hence, it is expected that as the borrowing power of firms increases, the audit quality will also increase (Wallace, 1980). Huang & Kang (2018), found out that companies with higher reputation, in order to prevent decrease in their reputation, select large and expert auditors in the industry who have high quality audit, as their auditor. According to Corten et al. (2018), whenever both business unit auditor and suppliers, are selected among high quality audit institutes, that have larger share of audit market, a kind of coordination exist in selecting auditor, and this decreases the related risks. According to law, in Iran, audit of public banks, is assigned to Audit Organization and private banks are also assigned to private audit institutes with larger share from audit market. Therefore, directors of business units that have higher borrowings in comparison with other companies, in order to cover any risk related to receiving loan, try to choose Audit Organization or large private audit institutes as their auditor. Therefore, the research hypothesis can be written as follows:

Research hypothesis: By increasing the borrowing power of companies, the audit quality (audit market share) also increases.

Research Background:

Rakhshan et al. (2024), believe that pricing procedures of audit services and results from their utilization, audit fee and method of payment, competition of audit institutes and their share from audit market and affecting factors, method and conditions of presenting various services and issuing audit report by audit institutes, size of audit institutes and how to integrate them and the consequences, length of tenure of audit institutes and effective factors on appointment and change of auditors has meaningful effect on the audit quality. Lam et al. (2024) found that companies in countries with a culture of high secrecy, usually do not select large audit institutes as their auditor. Because these institutes present higher audit quality than other institutes. Magri & Marchini (2024) showed that companies that intend to restructure their debts, does not usually choose large audit institutes as their auditor. They are seeking for those audit institutes that are expert in field of debt restructure and have a higher audit quality in this field. Javadi et al. (2024) show that there is a negative and significant relationship between dark personality traits and auditing professional judgment and individual accountability and skepticism have a minor mediating role in the above relationship. Rezaei et al. (2023), found that, responsibility, trustworthiness, justice and honesty as the next form of professional ethics of auditors has a positive and meaningful effect on the audit quality of companies, therefore, with increasing each aspect of professional ethic, audit quality of companies is also promoted, and in general organizational culture has positive and meaningful effect on the relation between professional ethic of auditors and the audit quality of companies, and organizational culture has less effects on audit quality comparing with professional ethic. Lotfijou et al. (2023) found that woman auditors in comparison with man auditors, has a higher accuracy and audit quality. ezaeizadeh Molla and Ghafourian Shagerdi (2022) found that with increased share of institutes in audit market, the audit quality increases too. Maleki et al. (2022) demonstrated in their research that in Iran, competition in audit firms causes decrease of audit quality. Issuing disciplinary verdicts against audit institutes and their partners, by Association of Certified Public Accountants, is a reason for this claim. It should be mentioned that, in 2022, according to the report by Admission and Supervision Committee for Trusted Auditing Institutions of The Stock Exchange,

20 partners of audit institutes, were subject to the verdict of not being able to hold the office of partner and director, and 8 institutes and 27 partners and directors (total of 35 verdicts) were subject to verdict of notification with recording in file, and 33 institutes and 71 partner and director (totally for 104 verdicts) were subject to warning with recording in file.

Nasirpour et al. (2022), performed research in direction of identifying components and indicators affecting audit quality based on morality and ethical atmosphere in work place as well as rating its components. Findings showed that the most important aspect effective on audit quality promotion is leading aspect, with spiritual leading components and leading style, and after that there are respectively organizational, psychological and personal aspects.

Salehi et al. (2022) demonstrated that dumping by audit institutes results in decrease in audit quality. In this way, receiving wages lower than ordinary and determined in audit profession, cause the audit institute to decrease work hours and consequently the related costs, to decrease the loss of work as much as possible and this results in meaningful deficit in audit quality.

According to the research of Mohammadrezaei and Faraji (2019), one of the problems in the researches of the country in comparison with foreign researches is the task of lack of demand for high quality audit. In Iran, demand for audit is mostly resulted from legal obligations. In such a circumstance, the thought that the high wages of an audit are due to its high quality, is not acceptable. In addition, due to low risk of litigation in the country, considering the auditor's high fee as a sign of the auditor's effort to reduce the risk of future litigation is not very relevant too.

According to DeAngelo (1981), large institutes enjoy higher quality for some reasons. Including that, since they have a lot of clients, they have less time to negotiate and compromise with the employer, in addition, preserving their reputation is far more important than compromise with the employer for these institutes, and also financial consequences of not recognizing significant distortions in financial statements are very high for these institutions, so they try not to decrease the quality of work for any reason and finally boldness of training in these institutes causes the improvement of expertise in the industry and quality increase, this is while the research of Mohammadrezaei and Yaghoubejad (2017) demonstrated that these particulars does not fit for

audit quality in Audit Organization and this organization got large, due to monopoly in Iran's market and the requirement of the law for the audit of institutions and large companies by this organization, and it has a high share of the country's audit market and only one factor of DeAngelo hypothesis is correct for this organization that is the role of training and expertise of employees in audit quality.

In order to introduce high quality institutes, Stock Exchange in Iran managed to rate them. Findings of Mohammadrezaei and Mehrbanpour (2016) research demonstrate that since the criteria of this classification is mainly based on input criteria of audit quality measurement and less attention was paid to the output criteria, institutes with grade A does not necessarily enjoy a higher quality in comparison with other grades, and output criteria of these institutes sometimes tell a different story. For instance, one of the output criteria of audit quality is the violation cases of audit institutes and if an audit institute obtained 900 points based on ordinary criteria and meanwhile has significant number of violations, these violations will totally have 200 negative points, and finally this institute, having 700 points, will be introduced with grade A.

Rahman et al. (2023) findings demonstrate that comparing with non-family companies, family companies in China, due to lower agent's problems between owners and directors, are less willing to choose large audit institutes as high-quality institutes. In addition, Chinese family companies in comparison with non-family companies, has higher audit costs. but Chinese family companies that are audited by large institutes, pay lower audit costs than other family companies.

Guizani & Abdalkarim (2022) demonstrated that family ownership has a meaningful and negative relation with choosing high-quality institutes. In addition, they found that there is a meaningful and positive relation between institutional ownership and choosing high-quality audit institutes.

Hall et al. (2020) in their research concluded that government banks choose large and high-quality institutes that have larger share of the market as their auditor, more than private banks. In addition, their findings demonstrate that government banks pay a higher audit fee to audit institutes.

According to Church et al. (2020), the moral character of narcissism has a meaningful and direct

relation with the audit quality. Narcissist auditors resist the manipulation of financial statements and in other words, they do not give up their position easily and without strong reasoning.

Lee et al. (2018) found through a study that companies with gender variety in their board of, are highly probable to choose women as the auditor for their company. In addition, they demonstrated that women auditors present higher quality audit in comparison with men auditors.

Montenegro & Antunes Bras (2015) found through their research that women audit partners have a higher quality audit than men. They also got the conclusion that whenever women have larger share in partners of an audit institute, non-conservative accounting policies will be reduced in the audited company. Niskanen & Karjalainen (2011), in their research, studied the affects of gender on earnings management and showed that in companies with man auditor, earnings management is more likely to happen. Hardies & Breesch (2016) in their analytical studies, considered gender differences effective on independent audit quality and demonstrated that women are in average more risk averter than men.

Research methodology

This research is an applied research and in terms of method, it is among descriptive-correlation studies. Theoretical basis and data of the research are collected through library studies. Since this research took place in a real environment that is companies admitted in Stock Exchange of Tehran, this research is considered as a field study. Research hypothesis testing was done according to multivariable regression. Time duration of the research is a 12-year period, between 2010 to 2021. One hundred sixty-seven companies were finally examined. Annual financial reports of companies admitted in Stock exchange of Tehran and Over the Counter (OTC) of Iran were collected through screening method and tested as data.

Research method for the testing of the relation between company's borrowing power and audit quality, is written in form of relation No. 1:

$$AQ_{it} = a_0 + a_1 BP_{it} + a_2 AudCh_{it} + a_3 Size_{it} + a_4 Fees_{it} + a_5 BI_{it} + a_6 SalGro_{it} + a_7 GS_{it} + a_8 PMC_{it} + a_9 Audtyp_{it} + \varepsilon$$

Dependent variable:

AQ_{it}= Audit quality, This variable is determined based on audit institute share from audit market. The higher is the ratio of audit fee of the audit institute in each year to the total fees of audit institutes in the same year, the larger share of market the institute has, therefore their audit quality is also higher.

Independent variable:

BP= Borrowing power, is the ratio of received loans of each company in each year to the total financial facilities of the industry in the same year;

Controlling variables:

AudCh= Audit Change. If a company changes its audit in a year, it is shown with No. 1 and otherwise with 0.

Size= The size of audited company, that is measured through natural logarithm of total assets;

Fees= Audit fees, including natural logarithm of fees paid to the audit;

BI= Board Independency, of the audited company, is the percentage of non-executive board members to the total board members;

SalGro= Sales Growth, is the ratio of sales changes of the current year to the previous year;

GS= The ratio of institutional stockholders, is the share percentage belonging to institutional stockholder in ownership structure of the company;

PMC= The competitive power of the company, which is obtained through the sales ratio of each company in each year to the total sales of the industry;

Audtyp= Audit Type, if the audit is governmental it is shown with No. 1 and if private with 0.

4- Research findings**4-1- Descriptive statistics**

Descriptive statistics of research data are presented in table 1. This table demonstrates the average and median of quantitative variables of the research. Closeness of the average and median of variables shows the normal state of variables. In addition, table 2 shows that about 24 percent of observations, has chosen their auditor among government sector.

Table 1- Descriptive statistics

variables	average	median	Max	Min	Stdv	skewness
share from audit market	0/000492	0/000640	0/001015	0	0/000322	-0/752429
Borrowing power	0/011976	0/001926	0/525082	0	0/033708	6/809828
Audit Change	0/242515	0	1	0	0/428711	1/201505
Audit fees	5/008493	6/522093	10/33796	0	3/276471	-0/752429
Size of company	14/51738	14/29147	21/32763	10/03122	1/696687	0/694353
Sales Growth	0/303636	0/173468	7/319492	-0/471514	0/493608	5/547438
Competitive power	0/012475	0/003140	0/430995	8/67E-07	0/030710	6/076713
Audit Type	0/189122	0	1	0	0/391703	1/587712
Board Independency	0/667362	0/6	1	0	0/181485	-0/288072
Ratio of institutional stockholders	0/577482	0/689400	0/999200	0	0/323926	-0/692373

Table 2- Descriptive statistics continued- number of government auditors, number of private auditors

All Observation			Number
years	number of private auditors	number of government auditors	
2010	123	44	167
2011	25	42	167
2012	125	42	167
2013	125	42	167
2014	127	40	167
2015	126	41	167
2016	128	39	167
2017	129	38	167
2018	131	36	167
2019	129	38	167
2020	131	36	167

All Observation			Number
years	number of private auditors	number of government auditors	
2021	132	35	167
Total	1531	473	2004

4-2- Research hypothesis testing

Research hypothesis testing is done based on multivariable regression. Table 3 shows the results of the mentioned testing. According to the results of this table, since the meaningful limit of the company borrowing power is 0/9 percent and less than 5 percent. Therefore, we can claim that in level of 95 percent, company's borrowing power has a meaningful relation with audit quality criteria (that is company's share from audit market), and since the coefficient of this variable is positive, we can say that this relation is positive, that is when the company's borrowing power increases, the audit quality is also increased and therefore, the research hypothesis is confirmed. This table also demonstrates that the assurance level of 95 percent, auditor change variables, size of company and board independence have meaningful and positive

relation with audit quality criteria. In addition, variables of audit fees, audit type and percentage of stocks belonging to the institutional stockholders, have meaningful and negative relation with audit quality, and other variables, that is sales growth and competitive power of the company, do not have meaningful relation with audit quality. Collinear statistic also demonstrates that there is not severe collinearity between model explanatory variables. Because the amount of collinear statistic is lower than 5 percent. Findings of this research shows that the F statistic of the model is 15/56 And the meaningfulness level of that is lower than 5 percent and equal to zero. This means that the role of model explanatory variables is important and confirmed in explaining dependent variable, that is audit quality. Also, the determination coefficient of the model is equal to 13.5.

Table 3- Results of hypothesis testing

Variables	B	Std	statistic T	Sig.	VIF
Borrowing power	0/106969	0/041450	2/580680	0/0099	1/335703
Audit Change	0/013279	0/002601	5/105859	0/0000	1/064430
Audit fees	-1/668259	0/758710	-2/198811	0/0280	1/053058
Size of company	0/495766	0/069287	7/155218	0/0000	1/358537
Sales Growth	0/042491	0/039769	1/068443	0/2855	1/077679
Competitive power	-0/013422	0/026974	-0/497579	0/6188	1/413911
Audit Type	-0/746826	0/222631	-3/354545	0/0008	1/160616
Board Independency	0/042248	0/020500	2/060866	0/0395	1/020735
Ratio of institutional stockholders	-0/012525	0/004348	-2/880353	0/0040	1/045176
Constant	1/617525	0/425518	3/801310	0/0001	-
R ² : 0/137497	Adj.R ² =0/135088	F :15/56749	F-Sig 0/00000	D.W=1/572853	-

5- Conclusion and Suggestion

In this article, the relation between company's borrowing power and audit quality is studied. Findings of this research demonstrates that when the company's borrowing power increases, audit quality (share of audit market) is also increased. This finding is in accordance with insurance hypothesis fundamentals (Wallace, 1980). According to this hypothesis, directors of firms with high financial risk, including companies with high amount of borrowing and debt,

are about to insure themselves against the mentioned risk and expected losses from legal and judicial suits, through choosing large audit firms having larger share of market. In addition, results of this research are consistent with results of Huang & Kang (2018) and Fan & Wong(2005). They showed in their research that companies, in order to prevent deficit in their reputation and credit, choose audit firms having larger share of the audit market as their auditor. In addition, findings of this research are consistent with results of

Rakhshan et al. (2024) research and Rezaei Zadeh Molla & Ghafourian Shakeri (2022) research, about direct and meaningful relation of audit market share of the audit firm with the audit quality. Also, results of this research are consistent with findings of Kortot et al. (2018) research, that showed whenever both business auditor are chosen from high-quality audit firms having larger share of audit market, it will reduce related risks.

Most of the companies listed at stock exchange of Tehran, have governmental management and they are willing to borrow from banks in an easier way, in addition to reducing political pressure against themselves and the company, through choosing Audit Organization or large private audit firms that have larger share of audit market. In addition, governmental banks have a kind of interest consistency with government auditor and we can say that the government auditor plays the role of internal auditor and the role of controller for the governmental banks in a way, therefore directors of the mentioned companies, being aware of these facts, intend to choose Audit Organization that have a larger share of audit market, as their auditor.

The contributions of this study are as follows: First, the current study introduces the role of the insurance hypothesis in audit quality to the audience of this research, and expands the theoretical foundations of previous studies about audit quality. Second, the current research can provide useful information for policymakers in the securities and audit markets about borrowing power and audit quality. They can use the results of this research to plan and make decisions about improving audit quality and improving the supervision of the auditing profession. Third, the results of the current research can provide new ideas for future research.

According to research findings, it is suggested to the legislators and economic policy makers to change the role of the audit organization and private audit firms in the audit market from an insurer to the credibility of financial statements by privatizing and separating ownership from management in companies listed to the stock exchange. Also, economic policy makers and legislators are suggested to provide the necessary actions for the presence of Big 4 audit firms in the Iranian audit market. This issue increases the competition between large

international audit firms and Iranian audit firms and this improves the audit quality.

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