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Increased Audit Competition, Interlocking and Financial Reporting Quality in an Emerging Market

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Abstract:
Purpose- The present study aims to figure out whether audit market competition and large shareholders and auditor's interlock(Interlocking) is associated with the quality of financial reporting or not.
Design/Methodology/Approach- The auditor's concentration is used for audit market competition for this study's purpose. The absolute value of accruals is employed for measuring the financial reporting quality. The required information is collected from 112 listed companies on the Tehran Stock Exchange from 2012-2018 and analyzed using the pooled regression model.
Findings- The study results show that auditor's competition is associated positively with accruals and negatively and significantly with financial reporting quality. The findings also indicate that the quality of financial reporting goes up by declining competition in the audit market and increasing the auditors' interlock and large shareholders.
Originality/value- In contrast to the conducted studies on different types of interlock, this paper has focused on the interlock of large shareholders and auditors in an emerging market with increased competition.

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Introduction

In today’s economic environment, reliable financial information has increased the importance of divergent economic activities with complicated structures and economic relations. Reliable financial information is among the main evaluative factors in a firm's condition and performance and making decisions about buying or selling that firm's shares. As time goes and joint-stock companies become larger, the number of shareholders and the amount of resources available to managers have increased. A conflict of interests has been shaped due to differences in the objectives and interests of a manager and shareholders. To lower the conflict of interests and to align that of others, one should incur some costs named agency costs (Jensen & Mackling, 1976). A manager at one side of the conflict of interests tries to describe the performance and lower the conflict between himself and shareholders by presenting transparent financial statements.

Since the manager is authorized and is likely to commit errors and mistakes or misuses the information, the manager's performance is required to be controlled by an independent supervisor (Gul et al., 1997). Auditing has a significant role in the firm decision and can lower the chance of information asymmetry between shareholders and managers (Jensen & Mackling, 1976). High-quality auditing provides high-quality financial statements, lowers agency costs, and finally leads to better financial decisions (Ding & Jia, 2012). The role of independent auditors is to present an independent evaluation of the accuracy and fairness of firms' financial statements per the generally formulated accounting principles (Hop et al., 2012). Globally, lawmakers declare that publicly listed firms should disclose their audited financial statements for some actual reasons. Hence, as stated extensively, for publicly listed firms, the benefits of auditing are more than audit costs, and subsequently, it is a mandatory process (Longley & Svansetram, 2013).

Privatization in Iran caused an increase in competition among auditors. Auditing privatization refers to an event wherein audit services were initially presented by a governmental institution (audit organization) and pursued by a private audit firm (Roudaki, 2008). Privatization in auditing commenced in Iran in late 2001 by establishing the Iranian Association of Certified Public Accountants(AICPA) under the Act of utilizing official accountants’ services (Rezaei et al., 2015). The initiated changes in regulations in 2001 reordered the audit market remarkably and led to an increase in the number of audit firms and audit changes. Moreover, a part of the government policies to transfer the stocks from the state-owned section to the private section enhanced the number of shareholders and information asymmetry. Such a process, in turn, brought about intense competition on auditing and broke up the monopoly of the audit organization that is a state-owned organization. The state's recently changed regulations and policies have enhanced the competition in audit and capital markets (Bagherpour et al., 2009).

On the other hand, one of the challenging accounting topics in today's world is the interlock of the auditor and shareholders. Shareholders of a firm can be classified into two groups of large and institutional. Due to the possession of a considerable amount of firm stocks, large shareholders play a significant role, both directly and indirectly, in selecting the board members. Since they can select one or several board members, large shareholders effectively select auditors. The study of Chiraz et al. (2013) on the reasons for asking for auditing shows that the ownership structure contributes to selecting auditors.

1- Literature review and hypothesis development

In this section, we initially present the theoretical principles of dependent and independent variables, then evaluate the literature of the study related to the topic and the results of the previous studies. Finally, we develop and describe the hypotheses of the study by using logical results and arguments.

2-1- Financial reporting quality

According to a theoretical framework, financial statements provide some information about the economic resources of an organization and claims related to reporting of the organization and also gather information about the effects of events and other incidents that change claims and economic resources of the organization (Financial Accounting Standards Association, 2010). Hence, financial statements aim to understand the firm's foundation's economic situation and make changes in the so-called situation (Gaynor et al., 2016). In conceptual declaration No. 2, financial reporting quality is defined as a type of credit to financial statements to provide useful information for the users to make better decisions. Financial statements should accurately show all operations and activities of a firm to enable the investors to predict expected cash flows of the firms and finally use such useful information for making a decision. It can be said that management performance can be assessed by using such high-quality financial statements and the results they yield in the future. Financial reporting quality shows that financial statements provide fair and real information about the financial status and economic performance (Tang et al., 2016). Dechow (1994) stresses that earnings are of great importance for a broad spectrum of shareholders since they provide a considerable amount of information about firm performance. Investors and managers use earnings as a key strategy for detecting and evaluating investment opportunities (Bushman & Smith, 2003). Further, investors utilize earnings to acquire valuable information (Francis et al., 2004).

Earnings quality is also used by current and future investors for contractual goals (Schipper and Vincent, 2003). An (2017) declares that financial statements are of high quality when earnings reflect large economic events of a firm, and the financial statement users can make better decisions. Moreover, earnings are of high quality when they have transparency and aid the users in assessing the firm's performance by providing helpful information.

2-2- Audit Market Competition

U.S. legislators express their concerns that the U.S. audit market is not that competitive due to intense concentration (Government Accountability Office (GAO), 2008).

According to the regulations, the listed firms are obliged to audit their financial statements. The legislators are concerned that firms may have fewer choices for hiring auditors, which would lead to less competition and give more power to auditors to ask for higher payments. The intense audit market concentration increases the audit quality by lowering the firm's ability to replace the auditor with an auditor that easily presents a favorable audit report (an auditor who easily accede to unfavorable demands of the employer). Should the auditors be informed that audit committees have fewer choices for auditor selection, they have no competitive quality and present low-quality audits. On the other hand, fierce competition among auditors leads to auditor’s opinion shopping by the client or unfair pressures from the client-side and potential violation of auditor’s independence (Hallman et al., 2018). The abrupt increase of competition after audit privatization in Iran may positively or negatively affect audit quality. A sufficient number of market suppliers should exist to create effective competition (Schaen & Maijoor, 1997; Bresnahan and Reiss, 1991). By increasing the number of new auditors in the audit market, the auditors and audit firms should provide high-quality services with a minimum fee. In other words, in addition to high-quality, firms should focus on optimal cost in the shortest time possible to not be taken away from the competition (Joseph & Chad, 2015). The audit market has some features that distinguish it from other markets wherein the existing jobs provide services for society (Joseph & Chad, 2015). Within a common market, the clients buy high-quality products at certain prices. Competition in such a market increases the quality since rivals attempt to attract more clients. However, the audit market is unique since the firm manager does not ask for high quality.

Previous studies show that more competition (less concentration of the audit market) would lead to auditor’s opinion shopping (Newton et al., 2016) and high-scaled earnings management (Boone et al., 2012). After the Sarbanes-Oxley Act, independent audit committees are obliged to hire auditors for auditing financial statements. If audit committees prioritize the audit quality, auditors have no other option than competing for value creation (Hallman et al., 2018). Lawmakers are concerned that the lack of competition among audit firms will cause the audit fees to increase and audit quality to decrease so that financial reporting will have a low quality (Chu et al., 2018). Moreover, the U.S. Government Accountability Office is concerned that excessive concentration lowers the competition,

increases the audit fee, and decreases the audit quality. Given the facts above, the first hypothesis of the study is as follows:
H1: there is a significant relationship between audit market competition and financial reporting quality.

2-3- Auditor and large shareholders' interlock
Financial reporting aims to present useful information about the operation of the business unit to information users and shareholders. Shareholders can be classified into large and minority shareholders. The large shareholders are strongly motivated to collect personal information and sell their shares when the management experiences a weak performance. To prevent the share sale of large shareholders and reduce the cost of firm shares, managers attempt to align their operations with the interests of shareholders. Earnings manipulation will reduce, and firm value will increase due to the alignment of interests of managers and shareholders (Dou et al., 2018). There are two theories about the role of institutional investors in the capital market. It is argued that institutional investors work as a vendor, not an owner. Previous studies proposed several reasons why they work as transient and unstable investors. First, institutional investors are faced with some precise fiduciary responsibilities, so they are more likely to sell and trade based on short-term financial performance to show that they are capital suppliers. Second, due to information asymmetry between managers and shareholders, it is affordable for institutional investors to diverge their investment portfolio following the short-term performance, not the long-term analysis of firm outlook. According to such a view, institutional investors are likely to lower the accounting quality since they motivate the manager to take less risk in reporting financial performance due to sale, business, and short-term concentration (Han, 2004). On the other hand, the rationale behind supervision is that elite institutional investors wipe out those derivers that provoke the opportunistic behavior of managers by expanding supervision on management behaviors (Bushee, 1998). Such supervision can occur through explicit governmental activities or by collecting implicit information and disclosing it. In such a view, institutional investors play an active role in enhancing transparency because they are inclined toward supervision and discipline and ensure that managers are searching for maximizing the firm's long-term value instead of their interests (Han, 2004). Firm managers are likely to prefer their interests to shareholders instead of maximizing their interests, doubling their interests. In such a case, a conflict of interests will be created between the management and shareholders. The large shareholders (owners of more than 5% of the firm stock) hold the maximum of firm stock, and since they make crucial decisions, they prefer useful and reliable information. One of the big decisions of large shareholders is to hire dependent auditors to be the shareholders' representatives

and resolve the conflict of interests between the management and shareholders. The interlock of large shareholders and the auditor takes place when one or several large shareholders of a certain firm are still the large shareholder of another firm or firm at the same time, and they all have a single auditor. Such an interlock leads to the transfer of knowledge among firms and enhances the firm performance (Francoeur et al., 2008; Halpern and Cheong, 2011). In the knowledge of today's global economy, the theory of resource dependency may be the best description for managers' interlock (Pfeffer & Salancik, 2003). Firms connect through interlock to have safe access to those resources that are not available in the firm. Interlock is a potential mechanism for knowledge transfer and lowers uncertainty. Should a firm manager be the board member of several firms simultaneously, he/she is located at the center of a network, has access to the available resources, and is more aware of the external environment (O'Hagan, 2017; Hossain et al., 2016). The future payment of an auditor who works for interlocked firms may be influenced due to a conflict with the managers. Such economic relations may potentially hurt the dependence of the auditor and consequently lower the audit quality. The studies of Johansen and Pettersson (2013) indicate that managers' interlock can share audit knowledge and information and contribute to selecting an auditor and audit fee. When the following two steps are taken: 1) interlock, those who select the auditor become connected, and 2) those involved in the process of auditor selection accept the published information. For the first step, lawmakers strongly declare that the board of directors should carefully select and analyze the non-executive managers' auditors. Non-executive common managers that constitute networks of the board of directors should connect those involved in auditor selection. The second step relies on the nature of the decision. Auditor selection is accompanied by uncertainty (Craswell and Francis, 1999; Houghton and Jubb, 2003). There may be several ways to deal with such uncertainty. Two cases in the previous studies are selecting a big auditor or selecting an industry specialist as an auditor (Francis, 2004). However, a different and highlighted path for dealing with uncertainty observed in social communication literature is confidential communications (Nelson, 1970; Powell, 2003). Such confidential communications are created by the board interlock, through which managers get connected by having access to confidential information (Granovetter, 2005).

Corporate governance literature reveals that an appropriate network of experienced managers can gain profit for the firm. Such a finding is reflected in studies on corporate governance of developed economies (Berglof & Claessens, 2006). By evaluating the effect of audit committee connections via managers' networks on financial reporting quality, especially the errors of annual financial reporting, Omer et al. (2020) observe that after controlling operational performance and corporate governance features, firms with better audit committee connections are less likely to commit an error in annual financial reporting. Saona et al. (2020) figure out that earnings management goes down by increasing the voting right of controlling shareholders and the relationship between internal ownership and earnings management is inverse. Their findings give credence to the necessity of strengthening rules and regulations related to the clear disclosure of financial statements. Peng et al. (2015), Ahuja (2000), Baum et al. (2000), Koka and Prescott (2002) discover the positive effect of the board interlock on firm performance. In contrast, Gargiulo and Benasi (2000), Labianca et al. (1998), Rowley et al. (2000) posit the positive and negative effects of the board interlock on firm performance. Given the facts above, the second hypothesis of the study is as follows:

H2: there is a significant relationship between the interlock of large shareholders and auditors and financial reporting quality.

2-4- Other contributing factors to financial reporting quality

The contributing factors to financial reporting quality are assessed by the previously conducted studies that by evaluating them a number of determining factors in financial reporting quality have been selected, among which we can refer to conservatism, audit committee independence, managerial ownership, compulsory auditor change, auditor tenure, auditor specialization, and financial leverage.

2-4-1- Conservatism

Basu (1997) defined conservatism as an expedition in detecting losses and postponing the realization of earnings. Financial reporting has long been established based on the principle of conservatism. The probable losses that occur during an unfavorable period should be recorded, and the earnings of favorable periods should be ignored or taken for granted (Penman & Zhang, 2002). The principle has been used for a long time and is considered one of the most influential factors (Watts, 2003). However, standard writers, like International Accounting Standards Board (IASB), have recently developed some low-scaled conservative standards to reduce conservatism in financial reporting.

Recommendation No. 8 of Securities and Exchange Organization defines the financial reporting quality criteria as a degree of conservatism in accounting principles. Conservatism causes the transparency of financial statements since it restricts the opportunistic behavior of the management and compensates the managerial prejudices through information asymmetry (Ball et al., 2000; 2003; Watts, 2003). Guay and Verrecchia (2006) and LaFond and Watts (2008) declare that conservatism reduces the information asymmetry between managers and beneficiaries outside the organization. Olson states that book value conservatism should be presented less than its market value. Guay and Verrecchia (2006) and LaFond and Watts (2008) argue that information asymmetry between the staff inside the firm and investors outside the firm would lead to conservatism in financial statements. They empirically figure out that conservatism decreases managers' motivations and ability to manipulate accounting figures, so it causes the information asymmetry to go down. They also posit that if conservatism is omitted from the qualitative specifications of accounting information, information asymmetry will increase compared to the Stock Exchange rules.

2-4-2- Audit committee independence

The main task of the auditing committee is to oversee the financial reporting process, including the integrity of the financial statements, the effectiveness of internal controls, and the supervision of internal and external auditors. Increasing the capacity of the board of directors by providing information and an accurate understanding of the company's financial statements is considered a supervisory factor for management (Pincus et al., 1989). The auditing committee is expected to have an oversight role between management and external auditors, as the two parties may have legal differences over how better to use accounting standards (Klein, 2002). Kusnadi et al. (2016) found that the presence and independence of auditing committee members may help them balance the different views of management and external auditors to provide higher quality financial statements.

DeFond and Jiambalvo (1991) stated that the existence of an auditing committee could most likely prevent the occurrence of accounting errors.

Kusnadi et al. (2016) stated that Klein (2002) discovered a negative relationship between the independence of the auditing committee and unusual obligations (a measure of the quality of financial reporting).

2-4-3 Management ownership

According to agency theory, the degree of ownership concentration affects the nature of contracts, which creates agency problems between managers and foreign shareholders (Jensen & Meckling, 1976; Fama & Jensen, 1983). As managerial ownership decreases, the incentive for opportunistic behaviors increases, and as a result, the demand for accounting-based constraints increases.

Suppose management accounting options are not completely limited to the rules and provisions of contracts. In that case, it is predicted that the level of transparency of accounting information is positively related to ownership because, with the increase of managerial ownership, the interests of managers and foreign owners will improve (Warfield et al., 1995). But contrary to the argument of sameness of interests, a negative relationship can be assumed. As managerial ownership increases, managers are less exposed to accounting constraints. Therefore, managers reduce the disclosure quality if the disclosure has specific costs for them because by reducing disclosure, competitors and suppliers know less about the company's situation (Verrecchia, 1983; Dye, 1985; Darrough & Stoughton, 1990). Fan and Wong (2002) empirically found that managers are more motivated to disclose less proprietary information to the public; it is significant in companies with a higher ownership focus. The vast majority of past studies show that low managerial ownership is a desirable governance and management feature regarding managerial ownership. According to agency theory, the increase in institutional ownership of profit management decreases. Agency theory shows that a high percentage of managerial ownership indicates the company's high value because the management goals are aligned with the interests of other shareholders (Jensen and Meckling, 1976).

2-4-4- Auditor's Tenure

The effect of the auditor's tenure on the quality of the audit is significant in the audit literature and has been incorporated into the hypotheses of auditor independence and expertise with conflicting arguments (Mautz and Sharaf, 1961; Shockeli, 1981; Iyer and Rama, 2004). The auditor's independence hypothesis assumes that, based on three arguments, the quality of the audit is compromised by increasing tenure: 1) Over time, the auditor tries to retain the client and exploit the audit, which results in economic dependence (DeAngelo, 1981; Magee & Tseng, 1990; Raghunathan et al., 1994).

2) As the tenure of the auditor increases, auditors may reassure clients and turn a blind eye to management errors. This prevents the auditor from properly reviewing financial reporting, predicting results instead of warning about anomalies, using less accurate methods, or using static audit programs (AICPA, 1992; Arrunada and Paz-Ares, 1997; Johnson et al. 2002).

3) A long-term relationship between the auditor and the client may turn into an acquaintance relationship (threatening acquaintance) so that the independent auditor cannot act honestly (AICPA, 1992; Arel et al., 2005).

Auditor expertise hypotheses claim that auditing quality increases with the duration of the tenure, as the asymmetry of information between the client and the auditor decreases as the auditor collects information about the client.

Increasing client information has a comparative advantage in identifying material misstatements in financial reporting. Lack of this information in the early years of an audit reduces the quality of the audit (Beck et al., 1988; Geiger & Raghunandan, 2002). Ghosh and Moon (2005) believed that the long-term relationship between the auditor and the client reduces the auditor's independence and audit quality. They also stated that with the increase in the tenure of the auditing firm, the reported profits have a high level of conservatism. The results of Carcelo and Naji (2004) also indicate a positive relationship between the existence of financial reporting fraud and short-term tenure. According to one view, the auditor's long tenure creates a very close private relationship between the auditor and the client, which reduces the auditor's readiness to qualify. On the other hand, the opposite view argues that the longer the auditor's tenure, the more familiar the auditor is with the accounting system and its performance, thereby improving the audit quality (Eyenubo et al., 2017).

2-4-5- The Auditor’s Expertise

Ashton (1991) and Bonner and Lewis (1990) found that industrial expertise was positively related to the auditor's ability to identify problems within the financial statements. Auditors acquire industrial expertise by working with the client in the industry and appropriate familiarity with accounting practices and risks specific to that industry. The expertise of the industry is related to the tenure of the auditor because the industrial expertise helps compensate for the lack of specific knowledge of the client. Auditing Quality Control Standards in the United States (American Institute of Certified Public Accountants, 1993) emphasizes the importance of identifying, designating, and developing an expert auditor (Gramlin & Stoin, 2001). Carselo and Naji (2004) and Krishnan (2003) assumed that the increase of industrial expertise at the audit firm level should be related to the increase of expertise at the specific level of the auditor. Industry-specific companies are more likely to have industry-specific training materials, databases, checklists, and other advanced audit assistance (Carselo & Naji, 2004; Krishnan, 2003). Dunn & Mayhew (2004) found a positive relationship between an industry-specific auditing firm and the quality of client disclosure and, ultimately, financial reporting quality. Carcelo and Naji (2004) found a negative relationship between the industry-specific audit firm and the financial fraud exposed by the firm. In other words, the existing research literature shows that clients of industry-specific auditing firms have higher profit response rates (Balsam et al., 2003) and lower levels of optional accruals.

2-4-6- Financial Leverage

Financial leverage refers to the ratio of financial debt to the entire capital structure of the company. It is believed that the right combination of debt and capital increases the value of the company. Financial leverage is also associated with financial reporting options. Agency theory explains this relationship.

According to this theory, companies with high financial leverage have a high incentive to report financially through conventional and contractual financial statements to stakeholders and shareholders (Jensen & Mcling, 1976). Disclosure of financial information reduces agency costs and facilitates the assessment of company volatility by creditors (Botosan & Plumlee, 2002; Fathi, 2013).

Investors and stakeholders welcome high-quality financial reporting because it provides users with the most valuable information in making effective decisions and also helps reduce agency problems. Leverage is one of the most important variables that help stakeholders recognize the company's ability to repay its debts. Therefore, companies often inflate their profit levels using profit management methods (Ardison et al., 2012). The literature also shows that managers manipulate profits to portray favorable financial conditions, and high-indebted companies are more involved in profit management practices to avoid reporting losses (Ardison et al., 2012; Waweru & Riro, 2013). Several studies have been conducted to examine the relationship between financial reporting quality and financial leverage. Hassan (2013); Amr (2016); Hassan and Farouk (2014); Karami and Akhgar (2014); Kim and Young (2014); Echobu et al. (2017) found a positive and significant relationship between financial leverage and the quality of financial reporting. Fathi (2013); Olowokure et al. (2016); Agyei-Mensah (2012); Uwuigbe et al. (2015); Akhtaruddin et al. (2009) did not find any statistical relationship.

2-4-7- Mandatory Auditor Change

Following the bankruptcy of Enron and WorldCom, legislators and regulators passed the Sarbanes-Oxley Act (SOX) to restore public confidence in financial reporting and audit quality. In section 203 of this law, the mandatory circulation of the auditor is discussed, and in section 207, the need for further research on the compulsory circulation of audit firms is discussed (Chi, 2011). Cameran et al. (2009) state that the European Commission's idea of forcing companies to rotate stems from the fact that forced rotations in the future will create added value for the company. This led to a change in the professional standards of auditors, and its most important goal is to increase the quality of auditing, audit independence and prevent the centralization of the auditing market. According to European Commission regulations (published on 3 November 2011), the mandatory rotation of audit firms is due to two issues; 1) reducing centralism in the auditing market and 2) preventing potential threats to auditors' independence. The auditor's mandatory change policy is an appropriate solution to increase the auditor's independence. Mandatory change limits cooperation between the auditor and the client and makes the auditor not have the long-term benefits of retaining a client. The auditor's independence is maintained, and ultimately, a high-quality audit is performed. Oliveira (2005) found that the rotation of auditing firms maintains the independence of auditors. The rotation of audit firms prevents the auditor from staying in the firm for long periods and increasing client costs.

3-1- Methodology

3-1-1- Multivariate Model

The following model is designed to assess the hypotheses, assess the effect of audit market competition and the interlock of auditor and large shareholders on financial reporting quality. The contributing variables to financial reporting quality are also inserted into the model:

$$QUA = \beta_0 + \beta_1 HHI_{i,t} + \beta_2 INT3i_{,t} + + \beta_3 CHA_{i,t} + \beta_4 OWB_{i,t} + \beta_5 CONVER_{i,t} + \beta_6 IND_{i,t} + \beta_7 GRA_{i,t} + \beta_8 TAKH_{i,t} + \beta_9 TEN_{i,t} + \beta_{10} SIZE_{i,t} + \beta_{11} LEV_{i,t} + \beta_{12} \sum INDUSTRY + \beta_{13} \sum Year + £_{I,t}$$

Where

QUA: Jones's model (1991) is used for measuring financial reporting quality. The discretionary and nondiscretionary accruals are separated in the adjusted

Jones model. Total accruals are achieved from the difference between net profit and operational cash flow.

ACC = 1/ASSET$_{T-1}$ +(REV-REC)/ASSET$_{T-1}$ + PPE/ASSET$_{T-1}$

ACC = total accruals, ASSETT-1 = assets of the previous year, REV = sales revenue, REC = accounts receivable, PPE = properties, machineries, and instrument, absolute value of obtained residuals from model estimation of adjusted Jones's model that will be considered for final fitting as discretionary accruals in the model.

Int3: large shareholders and auditor interlock. Firms with large shareholders and an audit firm 1, otherwise, 0. The dummy variable is between 1 and 0, showing the number of large shareholders and auditor's interlock (all shareholders higher than 5%).

HHI: This paper uses an auditor's concentration to measure competition in the audit market. Studies like Kalapour et al. (2010), Boone et al. (2012) have used the index of Herfindahl Index to measure concentration at an urban statistical level. Newton et al. (2013) used the Herfindahl Index to measure competition at the urban statistical level:

Herfindahl Index = $\sum_{i=1}^{N} \left[\frac{si}{S}\right]^2 *$ (-١)

3-1-2- Control variables

TAKH: the market approach is used to calculate auditor specialization. Market share is calculated based on (firm size) total properties of the firm as the following formula:

$$MS_{ij} = \frac{\sum_k R_{ijk}}{\sum_k \sum_{ik} R_{ijk}}$$

Where:

MS_{ij}=market shares for audit firm i in industru j

R_{ijk}=annual sales revenue for client k of audit firm i in industry j

Only those firms are industry specialized that market share them is more than 1 [(1/existing industry firms) * 1/2] (Palmrose, 1986).

CONVER: Basu model regression (1997) is used to calculate the variable of conservatism:

*EPSi,t /Pi,t-1 = β0 + β1 Ri,t + β2 DRi,t + β3 (R*DR)I,t +£I,t*

EPSi,t = earnings per firm i in the year t, pi, t-1 = share market value of the firm i in the year t, Ri,t = annual return of share I in the year t, Di,t = virtual variable that in case of positivity of the return 0, otherwise, 1. When the stock return is a negative value, that means bad news about the future that in such a case 1 will be assigned, and if it has a positive value, that means no bad news can be expressed about the future, and the value is 0.

In this equation, N is the number of audit firms at the urban statistical level. Si is the audit firm fee, and S is the fee of all audits in urban statistical regions.

IND: independent members (unbounded) of the audit committee to total audit committee members. The information related to the variable is collected from the Codal Website from the section related to audit committee reports.
OWB: percentage of stock possessed by board managers (Florackis et al. 2015). The percentage of stock owned by board managers is collected and inserted in the main model as the managers' ownership percentage variable.
GRA: a dummy variable that if the auditor is affiliated with authorized audit firms of the stock exchange, he/she will be placed in first class with Rank A and will be assigned 1, otherwise, 0.
SIZE: natural logarithm of total firm assets.

3-2- Sample and data collection

This paper uses secondary existing data in financial statements of listed firms on the Tehran Stock Exchange during 2012-2018 for data analysis. The financial information and fiscal year of firms under study should be within the study period. They should not be affiliated with financial and monetary intermediaries, banks and credit institutions, insurance companies, and investment funds. Hence, a total of 112 firms is selected for hypothesis testing.

4 Empirical results

4-1- Descriptive statistics

Table 1. The descriptive statistics

Sing	Variable	Mean	Median	Min.	Max.	Std. dev.
QUA	Discretionary accruals	0.10	0.07	0.0007	0.57	0.10
HHI	Auditor concentration	-0.03	-0.004	-0.68	0	0.08
INT3	Interlock	0.18	0	0	4	0.68
CHA	Mandatory change	0.23	0	0	1	0.42
OWB	Percentage of managerial ownership	62.93	70.31	0	99.42	26.57
CONVER	Conservatism	0.12	0.11	-0.04	0.32	0.09
IND	Audit committee independence	0.4	0.33	0	1	0.22
GRA	Audit firms ranking	0.85	1	0	1	0.36
TAKH	Auditor's specialization	0.44	0	0	1	0.5
TEN	Tenure	2.6	3	1	4	1.2
SIZE	Firm size	14.24	13.90	10.50	19.37	1.52
LEV	Financial leverage	0.61	0.59	0.09	4.002	0.29

Resource: research findings

Table 2. Descriptive statistics of dummy variables

Sign	Variable	Mean (percentage)
Cha	Mandatory change	0.23
Gra	Ranking	0.85
Takh	Auditor’s specialization	0.44

This paper considers accruals quality (dependent variable) a criterion for evaluating financial reporting quality. The model's residuals were provided separately for each industry and year, and the absolute value of residuals is inserted in the model. The smaller the variable, the higher is the quality. According to the table of values, the variable's value is 0.10. The minimum and maximum of that are 0.57 and 0.00007, respectively. Auditor concentration has a value of -0.03. The interlock variable is 0.16, which means that 16% of firms benefit from the interlock of the auditor and large shareholders. Mandatory change, ownership percentage, and conservatism have the respective value of 0.23, 62.39, and 0.12. The value of the mean of audit committee independence is 0.4, which means the percentage of unbounded members is 0.40, and most of the firms employ bounded members for the audit committee. Auditor’s ranking and specialization have the respective value of 0.85 and 0.44. On average, the duration of tenure is 2.6 years.

Test of research hypotheses

Before model estimation, it is required to assess the usability of panel data-based methods using the F-Limer test. We first analyze whether the model is a panel or not. In the F-Limer test, the null hypothesis is that data are not panel and the opposite hypothesis expresses a panel structure. As shown in Table 3, the model is estimated using the panel data model by rejecting the null hypothesis. After assessing the F-Limer test, we perform the Hausman test. Each fixed effects and random effects methods are useful under specific conditions. Considering the results of the Hausman test, a decision will make about selecting one of the above methods. Hausman test is applicable when data are panel, and we want to assess the dominance of fixed effects and/or random effects on panel data pattern (Gujarati, 2009; Brooks, 2019).

Table3. results F limer & Hausman

F limer	0.00
Hausman	0.6

Using the Breusch-Pagan test, we can assess the heterogeneity of variances and deal with the issue and autocorrelation problem. The Generalized Least Squares (GLS) is used (Gujarati, 2009). The obtained results from the main model are presented in Table 4.

Table 4. results from the main model

$QUA = \beta_{0} + \beta_{1}\ HHI_{i,t} + \beta_{2}\, INT3i_{,t} + \beta_{2}\, CHA_{i,t} + \beta_{3}\ OWB_{i,t} + \beta_{4}\, CONVER_{i,t} + \beta_{5}\, IND_{i,t} + \beta_{6}\ GRA_{i,t} + \beta_{7}\, TAKH_{i,t} + \beta_{8}\, TEN_{i,t} + \beta_{9}\, SIZE_{i,t} + \beta_{10}\, LEV_{i,t} + \sum INDUSTRY + £_{I,t}$

Variable	Sing	Coefficient	Chance of significance
Auditor concentration	HHI	0.07	0.06
Interlock	INT_3	-0.007	0.08
Mandatory change	CHA	0.003	0.8
Percentage of managerial ownership	OWB	-0.0001	0.6
Conservatism	CONVER	-0.1	0.07
Audit committee independence	IND	-0.008	0.6
Audit firms ranking	GRA	-0.01	0.3
Auditor’s specialization	TAKH	-0.02	0.003
Auditor’s tenure	TEN	0.001	0.7
Firm size	SIZE	0.0001	0.9
Financial leverage	LEV	0.01	0.1
Fixed value	C	0.12	0.008
$ADJ.R^2$		0.03	
D.W		1.85	
Prob		0.01	
Breusch Pagan		0.00	

Given the coefficient (0.7) and significance level of the audit market competition (0.06) in the regression model, we can conclude that the auditor’s concentration has a positive and significant relationship with accruals’ quality and a negative and significant association with financial reporting quality. Hence, the first hypothesis of the study is accepted at a 0.90% confidence level. Moreover, considering the coefficient (-0.007) and significance level (0.08) of the auditor and large shareholders’ interlock variable, there is a negative and significant relationship between the variable and accruals quality and a positive and significant one with financial reporting quality. In other words, if shared large shareholders among several should use a shared auditor, financial reporting quality will increase.

5 Conclusion

Competition in the auditing market means that auditors in the auditing market can actively and powerfully compete to provide auditing services to society. In this way, auditors can provide better quality work. Increased competition in the auditing profession allows auditors to offer a minimum fee or a higher quality audit based on client satisfaction and client orientation to remain in the auditing market. In professional markets, client satisfaction is such that experts do their professional work with high quality and minimal cost. Still, it may not matter to the client in the professional auditing market that high and desirable quality. Following significant changes in the rules and changes in the capital market and auditing, concerns were raised about the independence of the auditor and the quality of the audit. The new situation and increased competition allow the company to comment by changing the purchasing auditor, thus reducing the independence and quality of the audit. To maintain its position in the company, the auditor loses his independence and does not report the gaps and gaps in the client's accounting system and gives in to the client's wishes. The auditor loses his independence to maintain his position in the market or the client company. According to the above, the study results showed that competition in the audit market has a negative and significant relationship with the quality of financial reporting. The results of this study are consistent with the results of studies by Newton et al. (2013), Kalapour et al. (2010), Francis et al. (2013), Huang et al. (2016), Boone et al. (2012). They found that increased competition had a negative effect on the quality of financial reporting. Institutional investors are often identified as educated investors who have greater skills in acquiring and processing information than individual investors (Bushi, 1998; Bartov et al., 2000; Velury & Jenkins, 2006; Tsai and Gu, 2007; Sarikhani and Ebrahimi, 2011). Besides, Abdullah (2008) argues that institutional investors are more influential than other individual investors. Sharma (2004), on the other hand, found that if the percentage of institutional investors' independence increased, the likelihood of fraud decreased. They found that institutional investors play an active role in overseeing management opinions and controlling the reporting process. Their specific role in improving the quality of reporting is quite controversial (Brennan et al., 2008). Large shareholders have the largest shares of the company and are more concerned about their profits and capital in the company and therefore try to hire a quality auditor to defend their interests in the company. Since the large shareholders in question are joint ventures in several companies, they use the same quality auditor they hired in one company. Based on the studies conducted in this field, we expect that the correlation between the auditor and the large shareholders will positively affect the quality of financial reporting. This study showed that the correlation variable of auditors and large shareholders has a positive and significant relationship with the quality of financial reporting. Flegstein and Brantley (1992) in the United States,

Richardson (1987) in Canada, and Lincoln et al. (1996) in Japan reported a significant negative relationship between board correlation and firm performance. Ahuja (2000), Baum et al. (2000), Koka and Prescott (2002) discovered the positive effect of board correlation on company performance.
The results also indicate that the auditor's expertise negatively relates to the quality of accruals and has a positive and significant relationship with the financial reporting quality. Industry-specific auditors perform significantly better than non-industry-specific auditors in detecting errors and fraud. Industry-specific auditors are also more competent to report suspicious accounting performance (Hegazy et al., 2015). Auditors need to assess the risk of material misstatement due to error or fraud (Whittington and Pany, 2004). As a result of the impact of expertise on auditing, the industry expert auditor affects the quality of financial reporting. Industry auditors also provide high-quality reports or other benefits to their clients (Carson, 2009). This result is similar to the studies conducted by Carcelo and Naji (2003), Balsam et al. (2003), Krishnan (2003), (Rickelt & Wang, 2010), Carcelo and Naji (2004), Romanos et al. (2008); Gul et al. (2009); Ashton (1991); and Bonner & Lewis (1990) expressed a positive relationship between the expert auditor and the financial reporting quality. The results also showed that conservatism is directly related to the quality of financial statements. In other words, with increasing conservatism, the quality of financial reporting increases. The principle of conservatism states that at least the desired result should be reported. As a result, financial reports show a pessimistic outlook on the company's financial condition and performance. The general rule is to immediately identify the possible negative and positive results of delaying its identification. This principle is required to reassure users of financial statements to make their decision in uncertain situations. As a result, net assets valued at less than their carrying amount are recorded in the balance sheet, as well as profits. The information content of accounting data is somewhat distorted; to depict the worst-case scenario instead of what exists. Therefore, the quality of accounting information (profit) as a basis for predicting the company's future performance is questionable (Barzideh et al., 2015). These results are similar to the results of studies conducted by Watts (2003), Rach and Taylor (2015), Ball et al. (2000, 2003), Chen et al. (2007), and Lafond and Watts (2008). They argue that conservatism undermines financial reporting quality.

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افزایش رقابت حسابرسی، همبستگی و کیفیت گزارشگری مالی در یک بازار نوظهور

چکیده:

هدف: هدف این پژوهش بررسی رابطه بین رقابت بازار حسابرسی و همبستگی سهامداران عمده و حسابرس با کیفیت گزارشگری مالی می‌باشد.

روش انجام تحقیق: از تمرکز حسابرس برای رقابت در بازار حسابرسی و از قدر مطلق اقلام تعهدی اختیاری برای اندازه گیری کیفیت گزارشگری مالی استفاده شده است. برای انجام این پژوهش اطلاعات مورد نیاز از ۱۱۲ شرکت پذیرفته شده در بورس اوراق بهادار تهران طی سالهای ۱۳۹۱ تا ۱۳۹۷ استخراج شده است و با بکارگیری مدل رگرسیون تلفیقی مورد تجزیه و تحلیل قرار گرفتند.

نتایج: نتایج تحقیق نشان می‌دهد که، رقابت بازار حسابرسی با اقلام تعهدی رابطه مثبت و باکیفیت گزارشگری مالی رابطه منفی با اهمیتی دارد. همچنین، یافته ها نشان می دهدکه کیفیت گزارشگری مالی با کاهش رقابت بازار حسابرسی افزایش و با افزایش همبستگی سهامداران عمده و حسابرس، کاهش می‌یابد.

نوآوری: برخلاف تحقیقات انجام شده در خصوص انواع همبستگی، این پژوهش تمرکز بر همبستگی سهامداران عمده و حسابرسان در بازارهای نوظهور با رقابت فزاینده می باشد.

کلمات کلیدی: رقابت در بازار حسابرسی، کیفیت گزارشگری مالی، همبستگی سهامداران عمده با موسسات حسابرسی.