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Article information:

To cite this document:
Mahdi Salehi, Mohammad Tahervafaei, Hossein Tarighi, (2018) "The effect of characteristics of audit committee and board on corporate profitability in Iran", Journal of Economic and Administrative Sciences, https://doi.org/10.1108/JEAS-04-2017-0017
Permanent link to this document:
https://doi.org/10.1108/JEAS-04-2017-0017

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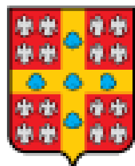

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The effect of characteristics of audit committee and board on corporate profitability in Iran

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Received 4 April 2017
Revised 23 September 2017
Accepted 10 November 2017

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Abstract

Purpose – The purpose of this paper is to evaluate the relationship between the characteristics of the audit committee and the board and profitability among the companies listed on the Tehran Stock Exchange (TSE) in Iran.

Design/methodology/approach – In this study, the companies listed on the TSE during the period from 2010 to 2015 are investigated. The Linear panel regression method is employed for this purpose. The independent variables of the study are composed of some corporate governance mechanisms including audit committee size, audit committee expertise, board size, board independence, chief executive officer (CEO) duality, and institutional ownership.

Findings – In spite of the fact that there does not exist any significant association between audit committee size and corporate financial performance, the results indicate that there is a positive and significant relationship between audit committee financial expertise and profitability. The authors found that the number of board members cannot affect corporate performance; moreover, duality of CEO role in Iranian companies does not affect company performance. However, the outcomes showed a positive and significant association between the proportion of outside directors on the board (board independence) and profitability at 99 percent confidence level. This implies that the role of non-executive directors in Iran is inconsistent with the stewardship theory. This is due to the fact that independent directors understand the status of business and market better than the board's executive members. Finally, the results indicated that there is no significant association between institutional owners and Iranian companies' performance.

Practical implications – The findings of this study will reveal more than ever the role of corporate governance mechanisms for society and users of financial statements because as tools on the CEO actions, they always have to pay attention to the implementation of corporate principles in the economic entity' operation.

Originality/value – This is one of the most important studies that simultaneously examine the impacts of characteristics of the audit committee and the board on profitability in an emerging market, and the results of the study may give strength to Iranian as well other developing countries.

Keywords Board independence, CEO duality, Board size, Audit committee financial expertise, Corporate governance mechanism

Paper type Research paper

1. Introduction

In 2002, Sarbanes-Oxley Act emphasized the importance of audit committee financial expertise for improving the quality of financial reports; in addition, the SOX Act was designed to maximize the effectiveness of the board of directors and improve some changes in requirements and regulations. Based on these changes, boards of directors should mostly be elected of independent managers (SEC, 2003). These requirements will deteriorate the position or the social status of the audit committee, in that those who were appointed are not considered for the management position (Erkens and Bonner, 2013). By the position or social status, we mean the ability of an individual to affect the consequences based on the perceived skills, qualities, and personal attributes (Pollock *et al.*, 2010). Those who are in higher position enjoy more strength and power and could collect better information. Thus, the decline of

Journal of Economic and Administrative Sciences
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1026-4116
DOI 10.1108/JEAS-04-2017-0017

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position and expertise could confine the ability of the audit committee in lessening the opportunistic financial reports because when partners face opposite objectives, financial expertise and partial position are needed for the effectiveness of the consequences (Badolato *et al.*, 2014). Sarbanes-Oxley Act passed in response to the occurrence of financial scandals in large corporates at the very beginning of twenty-first century in America, where is the origin of such disgraces. The act gives priority to auditor independence, the establishment of an Accounting Supervisory Board for public companies, some changes in the structure of accounting standards, and improvement in standardization approach from regulation-based standards to principle-based standards. Such an enactment gives rise to the audit committee to be known as a monitoring tool (Li *et al.*, 2012) and highlights the monitoring discussion on the audit committee. Given the roles the audit committee plays in an organization, it could affect all of the above-mentioned issues. In other words, we could say that the agency theory considers the creation of an audit committee as a tool for minimizing the costs of an agency and improving the internal controls and introduces it as an effective monitoring tool to cement the agency relationships. The audit committee is a significant part of a company for the implementation of vitally strategic methods.

When some people, like managers and major shareholders, are more informed than the rest of investors of the status quo and future outlook of the company, they could enjoy such an information advantage to their benefit and to the detriment of others. They could, for example, abuse their positions by distorting or managing information and increase their benefit. The existence of an audit committee is to the benefit of all financial beneficiaries of a company, including investors, creditors, board members, management, staff, and different industries and economic sections. A favorable audit committee has a significant role in improving efficiency, value creation, and profitability and increasing investors' trust. Companies could benefit from an accurate and efficient governing system, as well. In case, a company is profitable, it is more willing to apply the corporate governance and could achieve its interests directly (through an easy access to financial interests and low-cost capital) and indirectly (through earning fame and better commercial opportunities). In addition, the charter of the audit committee for the best company (public) passed by the board of directors of Securities and Exchange Organization on February 11, 2013, including 14 articles and 2 notes and entered into force since then. Therefore, realizing the effects of the audit committee on accounting information and issues like profitability is the matter of the utmost importance, which will be discussed further in this study.

In the current business structure, the separation of ownership from management is inevitable; hence, the probability of allocating inefficient resources and reducing the level of corporate financial performance will increase due to the lack of effective monitoring mechanisms for management (Johari *et al.*, 2009). A series of financial scandals in the USA like Enron and Worldcom companies, East Asian financial crises in 1997, the collapse of European companies such as Ahold and Parmalat have raised serious concerns about the board structure (Moradi *et al.*, 2012). Post-crisis conditions led to the Sarbanes-Oxley Act in the USA and similar laws in other countries; consequently, the concept of corporate governance was introduced as one of the most important business issues. A delicate point about Tehran Stock Exchange (TSE) is that since Iran country was faced with severe economic sanctions during the study period between 2010 and 2015, almost most Iranian companies had financial distress. In such economic situation, these companies are likely to engage in earnings management activities to mask their poor performances, for they are not able to attract foreign funds. At present, businesses are operating in a very competitive environment. With the development of financial markets and the prevailing competitive situation, many bankrupt companies will not be able to take part in a business rivalry. In order to protect the interests of shareholders and creditors against financial crises, the existence of powerful corporate governance mechanisms seems to be necessary.

Because the corporate governance system aligns the goals of different corporate groups and tries to create a value for the company. Hence, the Charter of the Audit Committee of Public Joint Stock Companies on February 11, 2013 approved many CG mechanisms by the Board of Directors of the TSE and came into force on the date of approval. Following this, we seek to investigate the relationship between variables of audit committee financial expertise, audit committee size, chief executive officer (CEO) duality, the proportion of non-executive directors on the board, the number of board members, and the presence of institutional owners with corporate performance. In fact, we want to know whether some of these mechanisms are effective in improving the corporate performance. On the one hand, the results of some research have shown the positive effect of corporate governance mechanisms on corporate performance (San Martin-Reyna and Duran-Encalada, 2012; Lu *et al.*, 2012). On the other hand, some studies have reported that there is no significant relationship between corporate governance and corporate financial performance (Cong and Freedman, 2011). Now, one has to see whether these mechanisms can have an effect on a country which was faced with economic sanctions.

The rest of aforementioned research is organized as follows: next section frames the study into a theoretical framework, hypotheses development, and literature. Section 3 presents the research methodology. Section 4 then presents the main results and implications drawn from statistical analyses and. Finally, Section 5 presents the conclusion.

2. The theoretical issues, hypothesis development, and literature

The audit committee is one of the committees of the board of directors. Its major function is to perform the monitoring role of the board through evaluation of presentable financial information to investors and other users of financial information, to run the internal control systems provided by management, and to conduct its subsequent audit processes. Members of the audit committee are appointed among independent and non-executive managers by the board. The audit committee, as the representative of the company board, provides the guarantee and secures the increase of shareholders' interest. Since the main duty of the audit committee is to assess the financial information and to control the managerial behavior in current affairs, it is considered as a controlling mechanism to lower the informational asymmetry among the internal and external members (management and non-management) of the board. Hence, in terms of accounting, creating an audit committee will enhance the accuracy and quality of the financial information, and this will ensure that the responsiveness of authorities for more disclosure is under more supervision and control. The literature of audit committee in America goes back to 1938s. Following the McKesson and Robbins scandal, American Stock Exchange offered all listed companies on the New York Stock Exchange that a group of independent managers on the corporate boards is in charge of introducing independent auditors and should include these auditors for making an audit contract and defining the related audit fee. The American Stock Exchange called the so-called non-executive group as the audit committee. Later in 1971, the suggestion passed by the American Stock Exchange. They believed that audit committee could be one of the most appropriate tools for supporting investors' interest in public companies. Following that, in 1987 the New York Stock Exchange made it mandatory for all listed public companies to have an audit committee. After that, the American Stock Exchange recommended the audit committee for its listed companies, but it was not compulsory. According to the latest research, more than 90 percent of large public corporates in America have an audit committee (Bedard *et al.*, 2004).

Periodical profit measurement of business units is probably the leading goal of the accounting process. The term profit is one of the most ever-changing concepts in the world of business. Accounting profit is measured according to the accrual assumptions and accepted accounting principles. Profit is the additional income in proportion to costs carried for a certain accounting period, which is indicative of a net increase in return on

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shareholders' equity and is due to continues profit-making activities, subsidiary operations, random events, and other operations. In other words, profit is a series of effective events and conditions on a business unit, which is realized and measured based on a series of accepted accounting principles. Generally, we could say that the aim of measuring profit is to determine how much the status of a business unit is improved in accordance with operations it performed within a certain period.

Financial expertise is a critical issue for legislators and academics, and its main purpose is to improve the effectiveness of audit committee in monitoring the financial reports. Section 407 of the Sarbanes-Oxley Act obliges the audit committee of listed companies (public company) to have at least a member with financial expertise or other related experts, or explain why they did not comply with such a regulation (Abernathy *et al.*, 2014). In Iran, according to the charter of the audit committee, the majority of committee members should have financial expertise. Securities and Exchange Commission proposed a comprehensive definition for the financial expertise of audit committee members, "every person who is trained and has the required expertise in accounting and auditing is called an accounting expert." He/she could either have the experience and expertise of accounting or have special expertise other than accounting "like specialization in banking and investment and specialization in financial analysis" (SEC, 2003). According to the charter of the audit committee, among the main duties of the committee are to help the board to exercise its monitoring responsibility, to improve the status quo to obtain a reasonable assurance of the effectiveness of governance processes, to manage the risks and internal controls, and to affect the corporate consistency and profitability.

The effective supervision of the audit committee requires members who have sufficient expertise in accounting and auditing to independently evaluate the different issues (Beasley and Salterio, 2001; Davidson *et al.*, 2004). Blue Ribbon Committee (1999) believes that financial expertise of the Audit Committee will increase its effectiveness. In 2002, the SOX Act forced the board of directors to create an audit committee composed of independent directors and at least one financial expert. In Iran, according to the charter of the audit committee, the majority of committee members must have financial expertise. The findings of Abbott *et al.* (2002) demonstrated that there is a meaningful relationship between the absence of expert members of the audit committee and the increase in financial statements' fraud. Badolato *et al.* (2014) focused on the effect of audit committee financial expertise on earnings management, too. They concluded that the financial expertise and high position of the audit committee have a direct relationship with the low level of earnings management, which is measured via unusual figures and illegal items. Mustafa and Ben Youssef (2010) indicated that independent directors with financial expertise are able to reduce the misappropriation of assets as well. McDaniel *et al.* (2002) and Schmidt and Wilkins (2012) also found that the financial expertise of the audit committee is positively connected with financial reporting quality. Similarly, Qin (2007) showed the financial expertise of the audit committee significantly has a positive correlation with the increase in profit quality. In addition, Abernathy *et al.* (2014) concluded that the financial expertise of the audit committee improves the timeliness of financial reporting. Abbott *et al.* (2004) also studied the relationship between audit committee characteristics and restatement. They recognized a significant negative association between an audit committee that includes at least one member with financial expertise and restatement. Another interesting point is that the financial expertise of the audit committee is considerably linked to the corporate performance (Davidson *et al.*, 2004). Garcia-Sánchez *et al.* (2017) used a sample of 159 banks from different countries over a six-year period between 2004 and 2010. They found that the existence of financial experts on audit committees is useful to cut insolvency risk. In Iran, Oradi *et al.* (2017) surveyed the effect of audit committee's features on firm performance and used ROA and Tobin's Q as proxies for corporate performance. Their findings saw a

positive and significant association between audit committee financial expertise and firm's financial position. In addition, Rezaei and Abbasi (2015) inferred that there is a positive relationship between financial knowledge of audit committee members and ROA ratio. As mentioned earlier, due to economic sanctions during the study period, many companies had financial problems. Therefore, it is expected that individuals with highly literate within the Audit Committee can provide good solutions and improve the financial condition of the company. Thus, the first hypothesis is as follows:

H1. There is a positive relationship between audit committee financial expertise and profitability.

Menon and Williams (1994) believe that composition of audit committee members is one of the indicators of having an effective committee. In this regard, based on the sample of 30 Pakistani firms listed between 2008 and 2009, Yasser *et al.* (2015) showed that there is a positive significant relationship between the audit committee and two firm performance measures (ROE and PM). Proponents of agency theory like Hillman and Dalziel (2003) argued that the larger auditing committee will eliminate the monitoring process and lower the firm performance. Furthermore, Vafeas (1999) concluded that the larger audit committee has a negative effect on the company's performance.

By contrast, proponents of resource dependency theory emphasize that a larger audit committee can hardly be overestimated. Toward this end, the committees can employ people with different specializations to control the accuracy of accounting procedures (Choi *et al.*, 2004). The larger audit committee will increase the number of meetings and result in more effective oversight (Raghunandan *et al.*, 2001). Although Wei (2007), Al Matari *et al.* (2014), and Oradi *et al.* (2017) did not find any evidence of a significant association between the audit committee size and the company performance; the outcomes of Al-Mamun *et al.* (2014) and Reddy *et al.* (2010) witnessed that the audit committee size positively affects the firm performance. Furthermore, Rezaei and Abbasi (2015) showed that the audit committee size of Iranian firms affects corporate performance. Given the financial distress of Iranian companies between 2010 and 2015, it is expected that more specialists with different knowledge and ideas in audit committee can control the accuracy of accounting techniques and improve the economic performance level of the company. According to the explanations given, the second hypothesis can be expressed in this way:

H2. There is a positive relationship between audit committee size and profitability.

The main purpose of corporate governance theories is to describe the relationship between the various features of the board of directors and the company's performance. Agency theory has been a dominant method in the financial literature. In fact, this theory relates to coordinating the interests of owners and managers, and it is assumed that there is a fundamental contradiction between the interests of the company's owners and its managers (Fama and Jensen, 1983). The board is responsible for the ultimate goal of a company, which is increasing the value of shareholders' wealth. In order to ensure that an effective strategy is implemented, the board will carefully monitor the progress by examining the management performance. There are many variables that may create criterion by which corporate governance can be measured in an organization. Some of these mechanisms such as board size, board independence, and CEO duality will be briefly discussed.

Board size is defined by the number of its members. The average number of the board members of British companies was reported by eight members (Peasnell *et al.*, 2005), while in 2002 and 2003, American companies reported an average of 12.48 and 12 members, respectively (Xie *et al.*, 2003). Based on the corporate governance codes in Iran, the board should consist of at least five members. Abdul Rahman and Heneem (2006) surveyed the effect of the board audit committee monitoring responsibility and institutional ownership on the

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decline in earnings management among 97 companies on the Main Board of Bursa Malaysia during 2002-2003. The results of this study revealed that earnings management has a positive relationship with the number of board members. Moreover, the authors noted that the reason why there is no significant relationship between corporate governance mechanisms (like the independence of the board and audit committee members) and earning management is the lack of influence of the board members to their monitoring duties, which could be affected by the management. Their findings illustrated that nationality has no effect on the intensity of earnings management, which is probably due to the existence of some personal characteristics of some managers under study. Klein (2006) studied the relationship between the audit committee, board's features, and earnings management in 687 large and high-frequency trade companies in America. His findings showed that there is a reverse nonlinear relationship between audit committee independence and earnings manipulation. Such a relationship is observable only when the audit committee has a fewer number of independent managers majority. Surprisingly, the result of Klein's (2006) research, in contrast to modern regulations, established no significant relationship between earnings management and full presence of independent managers in the audit committee. Earnings management is in direct relationship with the sameness of positions of the chairman and CEO, while there is an inverse relationship between earning management with managers' ownership and membership of major shareholder in the audit committee. His research demonstrated that the more the independence of boards of directors, probably the more their influence on the financial accounting process. Some evidence has also shown that the corporate performance is negatively correlated with the number of board members (Eisenberg *et al.*, 1998; Conyon and Peck, 1998; Carline *et al.*, 2002; Guest, 2009; O'connell and Cramer, 2010; Wang *et al.*, 2012). It can be interpreted that since there are more conflicting groups demonstrating their own various interests, the agency problems will surge when the board size increase. Moreover, Solomon (2007) stated that outside directors on the board indeed forget their key task because of their relationships with managers. To put it another way, when the independent directors on the board continue with the same board for a long time, their regulatory quality will decrease (O'Sullivan and Wong, 1999). Some studies did not find any significant association between them, too (Aggarwal *et al.*, 2007; Sarpal and Singh, 2013). Actually, both board size and firm performance were independent of each other. However, some scholars believe that smaller boards not only are faced with less collective problems but also increase decision-making efficiency (Yermack, 1996). In this regard, some researchers indicated that there is a positive and significant relationship between the board size and the firm's performance (Kathuria and Dash, 1999; Dar *et al.*, 2011; Joe Duke and Kankpang, 2011). In Iran, Moradi *et al.* (2013) suggested changes in board members have a positive relationship with firm performance. Apparently, increasing the number of board members could lead to greater use of people's thinking and expertise and increase the efficiency of financially disadvantaged companies in Iran. Hence, according to the points mentioned, we expect that the third hypothesis to be as follows:

H3. There is a positive relationship between board size and profitability.

Based on the agency theory, the presence of non-executive directors on the board and their supervisory functions as independent individuals lead to reducing conflicts of interest between managers and shareholders. In this regard, some researchers have shown that when the number of independent directors on the board increase, corporate financial performance will improve (O'connell and Cramer, 2010; Li *et al.*, 2015). Li *et al.* (2015) also realized that the impact of board independence on firm performance is stronger with Tobin's *Q* than ROA. One interpretation of this result is that the existence of different measurement of corporate performance can be effective in the previous research results. Another important point is that corporate board structure can be effective in attracting

foreign investors. In keeping with this notion, Miletkov *et al.* (2014) inferred that US and non-US foreign investors show a strong preference for companies with more independent corporate boards. In Iran, the studies of Shorvarzi *et al.* (2015) found that there is a positive connection between audit independence and profitability, while Moradi *et al.* (2013) indicated that it has a negative effect on firm profitability.

Turning to the other side of the argument, Hart (1983) represents another school of thought. His view is consistent with the stewardship theory. He believes that the market with its own mechanisms offers a workable solution to tackle the agency problems; therefore, the existence of outside directors is not necessary for the board and the market spontaneously will coordinate the interests of shareholders and managers. Moreover, Wang *et al.* (2012) showed that independent directors on the board have a negative effect on the corporate performance. Some scholars believe that when there is a good balance between the number of executive and non-executive directors, the most effective board will form. Fuzi *et al.* (2016) found a mixed relationship between proportions of independent directors and firm performance; moreover, Lu and Wang (2015) investigated the impact of board independence on corporate investment. They understood that companies with a higher degree of board independence are negatively associated with capital investments but positively associated with R&D investments. The results of some studies indicate that there is not a significant connection between the proportion of outside directors on the board and corporate financial position (Fosberg, 1989; Hermalin and Weisbach, 1991). In addition, Leung *et al.* (2014) divided the companies into two categories. They concluded that there is no significant association between the independence of corporate boards or board committees and firm performance in family companies, while board independence is positively associated with firm performance in non-family companies. In fact, since family firms have the same owners and managers, they will not struggle with agency problems. What is worth mentioning is that the relation between the board independence and firm performance is mixed. Broadly speaking, non-executive members of the board are experienced experts and highly skilled in making the decisions. Thus, it is expected that when firms have many financial problems, they can increase the level of business activities for Iranian companies. As a result, we suppose that the fourth hypothesis to be as follows:

H4. There is a positive relationship between board independence and profitability.

CEO has executive power, so there is always the possibility that he/she will dominate members of the board of directors and distort the independence of the members (Moradi *et al.*, 2012). Being managing director is a full-time organizational post that must be accountable for the company's operations, while chairman of the board of directors is responsible for monitoring and evaluating executive directors like the CEO. Drawing on agency theory, the separation of duties of the board chairman from the CEO is an important factor in creating effective supervision and reducing the company's agency problems (Johari *et al.*, 2009). It is clear that the CEO duality has a negative effect on firm performance, for the board of directors will not be able to control over the executive managers.

On the other hand, one of the good points about the non-separation of the duties of the board chairman from the CEO is that it will provide a better understanding of the company's operations, and it can be more focused on achieving organizational goals. Hence, the combination of duties of board chairman and managing director has been confirmed by the stewardship theory.

Tang (2017) found that the effect of the CEO duality was negative when the CEO had dominant power relative to other executives and the board had a block holding outside director but was no significant otherwise. In addition, the results of Yang and Zhao (2014) highlighted the benefits of the CEO duality in saving information costs and making

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immediate decisions. The studies of Wang *et al.* (2012) and Joe Duke and Kankpang (2011) showed that on the condition that the CEO is not also the chair of the board, the corporate performance will be improved, while some researchers proved that this relationship is meaningfully negative (Dar *et al.*, 2011; Duru *et al.*, 2016). For example, Duru *et al.* (2016) found that the CEO duality has statistically significant negative impacts on firm performance. Some other studies have argued that there is no significant relationship between CEO/CHAIR duality and corporate performance (Yasser *et al.*, 2015; Shorvarzi *et al.*, 2015). For instance, Abbasi and Ahmadi (2012) carried out a research entitled "Studying the effects of the duality of duties of Chief Executive Officers on the value of firms listed on TSE." Their results indicated that there is no significant association between the duality of duty of CEOs and value of firms. Likewise, Agaei *et al.* (2010) found that the CEO duality has no effect on improving the information content of earnings neither in the presence of high incentive to manage earnings nor in the presence of low incentive to manage earnings. Accordingly, even in a situation where companies have many financial problems and strong financial incentives to manage profits, it is expected that the dichotomy of the CEO's role will not be able to affect improving the corporate financial performance. Thus, the fifth hypothesis is as follows:

H5. There is not a significant relationship between CEO/chairman duality and profitability.

Institutional owners are composed of large investors such as banks, investment companies, and other legal entities with major shares. In this regard, the study of the ownership structure of companies listed on TSE indicates that approximately 66 percent of institutional owners in Iran's Stock Exchange are state-owned and quasi-governmental organizations (Moradi *et al.*, 2012). From a theoretical point of view, the status of institutional owners in a corporate governance system is very complicated. On the one hand, institutional ownership is another important mechanism of corporate governance that controls the agency's problems and improves the protection of the interests of investors (Shleifer and Vishny, 1997). Harasheh (2010) showed a positive effect of institutional ownership on the firm performance. Using a sample of Australian firms from 2006 to 2008, Hutchinson *et al.* (2015) showed a positive connotation between firm-specific risk, risk-management strategy, and performance for companies with increasing institutional shareholdings. Similarly, Lin and Fu (2017) examined the effect of institutional ownership on firm performance in the Chinese market between 2004 and 2014. Their results, in general, suggested that institutional ownership positively affects firm performance. Haider *et al.* (2017) concluded that government-owned firms face fewer financial constraints and that companies with fewer financial restrictions perform better. Lo *et al.* (2017) indicated institutional investors play a checking role in the corporate governance of companies through reducing agency problems. Nevertheless, institutional investors have incentives to opportunistically maximize their wealth by manipulating earnings when companies engage in IPOs. On the other hand, the presence of institutional owners may have negative effects, although some studies have pointed to the lack of a meaningful relationship between institutional owners and company performance (Epps and Cereola, 2008). Shin-Ping and Tsung-Hsien (2009) showed that government institutional ownership and incorporated firms ownership have a significant negative connection with firm performance. Turning to the various studies in Iran market, the results were completely different from each other, and this difference seems to be due to different time periods. For example, Fazlzadeh *et al.* (2011) examined the effect of ownership structure on firm performance among listed firms of TSE and found that there is a negative association between institutional ownership and corporate performance, while Shorvarzi *et al.* (2015) saw a positive association between them. Besides, Moradi *et al.* (2013) realized that institutional owners do not affect the corporate performance. By and large, when companies are in

financial strains, it is expected that access to confidential information gives rise to information asymmetry between institutional owners and minor shareholders. Therefore, the sixth hypothesis is as follows:

H6. There is a negative relationship between institutional investors and profitability.

3. Research methodology

The initial statistical population of the study comprises of companies listed on the TSE from 2010 to 2015. The sample of the present study regarding its title is selected through the screening of listed companies on TSE considering the following conditions:

- the end of fiscal year in Iran country is at the end of the solar year (March 20); hence, similar to most of the research in the Iranian market, the fiscal year should be ended on March 20 so as to enhance the comparability and homogeneity of companies in terms of time period;
- the company must be active during the studied period;
- the type of the business activity is productive, so the company should not be a member of investment companies, leasing, credit and financial institutions and banks; and
- the company should not have more than one trading gap within the fiscal year.

It is worth mentioning that by considering the above-mentioned conditions, 111 companies remained which were indicative of the actual statistical population under study. We assumed that the selected companies were a random sample of a time interval, so the results are extensible to similar stock exchange markets.

3.1 Procedures

In terms of objective, this paper is a practical research study and the method is scientific in terms of nature and content. The research is conducted in a deductive-inductive reasoning framework, in a way that the theoretical principles and the literature were provided through library research, articles, and websites deductively and the required information for hypotheses were gathered inductively. In this research, the provided data were from companies listed on TSE. What is worth mentioning is that in order to evaluate the corporate performance, many studies have employed the different criteria such as ROA, ROE, EVA, Tobin's *Q*, etc., apparently, type of company performance index can be effective in the results. Thus, in this study, the authors used a less familiar measure of profit-growth ratio, thereby adding to existing knowledge and advancing the use of measures (Table I).

The following methods were used to test the research hypotheses:

$$\begin{aligned}\text{PROFITABILITY}_{it} = {} & \beta_0 + \beta_1\,\text{EXPERTISE}_{it} + \beta_2\,\text{AC}-\text{SIZE}_{it} \\ & + \beta_3\,\text{BOAR}-\text{DSIZE}_{it} + \beta_4\,\text{BOARD}-\text{INDEPENDENCE}_{it} \\ & + \beta_5\,\text{CEO/CHAIR}_{it} + \beta_6\,\text{INSTITUTIONAL}-\text{OWNERSHIP}_{it} \\ & + \beta_7\,\text{LOG}\ -\text{MVE}_{it} + \beta_8\,\text{BM}_{it} + \beta_9\,\text{LEVERAGE}_{it} \\ & + \beta_{10}\,\text{ISSUANCE}_{it} + \beta_{11}\,\text{ROA}_{it} + \varepsilon.\end{aligned}$$

4. Results

In the section of descriptive statistics, data analysis was carried out using central indexes, including mean and standard deviation. The mean indicates average data, standard

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Variable	Name of variable	Measurement
Dependent	PROFITABILITY	To calculate the profitability, profit-loss growth ratio is measured. The absolute value of the profit (loss) of the current year – Profit (loss) of the previous/profit (loss) of the previous year
Independent	EXPERTISE	The proportion of audit committee members with financial expertise divided by the total number of audit committee members. (accounting specialization, financial and supervisory management)
Independent	AC-SIZE	The number of audit committee members
Independent	BOARD-SIZE	The number of board members
Independent	BOARD-INDEPENDENCE	The proportion of independent members of the board over the total number of the board members
Independent	CEO/CHAIR	We consider it as 1, but if the chairman of the board is not the CEO it would be 0
Independent	INSTITUTIONAL-OWNERSHIP	The percentage of shares held by institutional investors
Control	LOG-MVE	The natural logarithm of the stock market value
Control	LEVERAGE	Long-term debt divided by total assets
Control	ISSUANCE	We consider it as 1, but if the issued shares are more than 10 percent of the total asset during the year, it would be 0
Control	BM	BM is the book-to-market ratio of common equity at beginning of financial year
Control	ROA	Return on assets is calculated by dividing a company's annual earnings by its total assets

Table I. Calculation of research variables

deviation shows the frequency, and finally, the maximum and minimum of each variable are shown in Table II.

The following procedures were applied to conduct the research through the panel data.

The Chow test (*F*-Limer): to estimate the model, the *F*-Limer test is used initially to determine the panel data methods and realize the homogeneous or heterogeneous sections. Table III shows the results.

As can be seen in Table III, the result of the *F*-Limer test illustrates that the obtained probability for *F*-statistic is less than 5 percent, so panel data are used to test the model.

4.1 Hausman test

Table IV depicts the results of the Hausman test and the use of the fixed or random effects model.

As can be seen in Table IV, the significant level of the Hausman test is less than 0.05; hence, to estimate the coefficients of the model, fixed effects model is required.

Variable	Mean	Max.	Min.	SD
Return on asset ratio	0.104644	0.605482	−0.32742	0.113121
Profitability	2.103	82.43	−74.749	10.277
The percentage of shares held by institutional investors	0.435998	0.9902	0	0.332693
The CEO is not the Chairman	0.92006	1	0	0.271405
The natural logarithm of stock market value	13.22328	19.59693	8.175548	1.562475
The leverage size	0.922217	4.49	0.14	0.439349
The issued shares is more than 10 percent of total asset	0.104072	1	0	0.305585
The number of board members	5.040724	7	4	0.334114
The number of independent board members	0.659099	8	0	0.447419
The number of audit committee members	0.811463	5	0	1.378204
The number of audit committee members with financial expertise	0.568627	4	0	1.021393

Table II. Descriptive statistics

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4.2 Integrability test

Table V compares the result of the Hausman test (use of the fixed effects model) with the integrated model.

As can be seen in Table V, the amount of p is less than 5 percent and to estimate the coefficients of the model, the fixed effects model is required.

As it is shown in Table VI, the results of F significance level values are equal to 0.000, which is less than 0.05. Thus, it could be concluded that the null hypothesis, that is the insignificance of the regression model is rejected at 95 percent confidence level. Therefore, the proposed regression pattern is significant at 95 percent confidence level.

As can be seen in Table V, concerning the p-value of EXPERTISE variable, which is equal to 0.0044, we could conclude that there is a positive relationship between audit

Null hypothesis	F-statistic	p-value	Result
Use of panel approach	215.482	< 0.001	The null hypothesis is rejected

Table III. F-Limer test results

Null hypothesis	F-statistic	p-value	Result
Integrability is possible	2.625	< 0.001	The null hypothesis is rejected

Table IV. Integrability test results

Variable	Coefficient	t-statistic	Prob.	
ACSIZE	0.000808	0.014388	0.9885	
BM	*4.19E-09*	*0.159913*	*0.873*	
BSIZE	0.259748	0.804383	0.4215	
CEOISCHAIRT	0.06026	0.11609	0.9076	
EXPERTISE	0.439089	4.673783	0.0044	
BOARDINDEPENDE	4.01762	7.405036	< 0.001	
INSTITUTIONALOWNERSHIPT	−0.66535	−0.92264	0.3566	
ISSUANCET	0.023496	0.211188	0.8328	
LEVRAGE	0.779129	2.12189	0.0343	
LOGMVET	0.54071	8.814378	< 0.001	
ROA	6.40957	6.410751	< 0.001	
C	−10.3935	−3.74303	0.0002	
	Overall model fitting results			
R^2	Adjusted R^2	F-statistic	Prob (F-statistic)	Durbin-Watson
0.355159	0.211201	2.087711	0.000	2.365478

Table V. The results of the research model

The normality test of model residuals	Variable	Jarque-Bera test statistic	Significance level
	Residual	69.407	0.09
Autocorrelation test of model residuals	Variable	Durbin-Watson statistic	Acceptable level
	Residual	2.36	Between 1.5-2.5
Zero test of model residuals	Test	Statistic amount	Significance level
	t-statistic	1.87E-16	1.0000
Heterogeneity of variance test	Variable	F-statistic	Significance level
	Residual	3.329459	0.002

Table VI. The results of regression model assumptions

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committee members' financial expertise and corporate profitability, and this relationship is significant at 5 percent error confidence level. Moreover, since the *p*-value of BOARDINDEPENDE variable is < 0.001, it can be stated that there is a positive and significant association between the proportion of outside directors on the board (board independence) and profitability at 99 percent confidence level.

In order to be ensured of the regression model reliability, we have to evaluate its assumptions, which are depicted in Table VI.

As can be seen in Table VI, the significance level of the Jarque-Bera test is equal to 0.09, which is more than 0.05; hence, the assumption of data normality is accepted. That is, data have a normal distribution and apply flawlessly for the related hypotheses. The value of the Durbin-Watson test is equal to 2.36 (between 1.5 and 2.5) and indicates that there is no correlation among the model residuals. The *p*-value of Student's *t*-test, as it is shown in Table VI, is equal to 1. Thus, the mean error is accepted by 0. Moreover, the *p*-value of variance heterogeneity test is less than 5 percent. Accordingly, the variance of errors is not a fixed value; and a weighted fitting is required for the model.

4.3 Variation inflation factor (VIF)

In statistics, the variance inflation factor (VIF) measures the severity of multicollinearity in an OLS regression analysis. It provides an index that measures how much the variance of an estimated regression coefficient is increased due to collinearity.

With respect to the VIF value, in case the VIF of the estimated model coefficients is less than 10 there would be no linearity problem. Consequently, based on Table VII, this value is less than 10, which means that there is no linearity in relation to the research hypotheses.

5. Conclusion

The audit committee, as a representative group of the corporate board of directors, is responsible for the interests of shareholders. Members of the audit committee are selected by the board among the non-executive managers. Since the main duty of the audit committee is to assess the financial information and control the management behavior in current affairs, it is known as a controlling mechanism to decrease the information asymmetry among the internal and external members of the board. Therefore, in terms of accounting, the establishment of an audit committee will improve the quality and accuracy of financial information and will ensure the clients that the reporting and disclosure of officials are under more control and surveillance.

The accounting expertise is one of the salient features of audit committee members showing the experience or the specialization of using the financial information.

Table VII. The linearity test of model variables

Variables	Symbol	VIF
The number of the audit committee members	ACSIZE	7.402705
The book-to-market ratio of common equity	BM	1.193252
The number of the board members	BSIZE	1.022086
The role of CEO duality	CEOISCHAIRT	1.057189
Audit committee financial expertise	EXPERTISE	7.484572
Independent members of the board	BOARDINDEPENDE	1.046139
Share's percentage of institutional investors	INSTITUTIONALOWNERSHIPT	1.063261
Shares published in the year exceed 10% of total assets	ISSUANCET	1.03522
Debt to asset ratio	LEVERAGE	1.081654
Natural logarithm of stock market value	LOGMVET	1.254679
Return on assets	ROA	1.153188

According to SEC (2002), financial expertise is defined according to the following characteristics:

- education and experience as the major staff of finance, accounting, controller, governmental accountant or auditor, or the same;
- the experience of active surveillance on the staff of finance, accounting, controller, governmental accountant or auditor, or the same;
- the experience of evaluation or surveillance on the performance of governmental accountants or companies in the field of auditing; and
- other related experiences.

The higher the financial specialization levels, the more the discovery probability of earnings management by the audit committee. Therefore, the present study evaluates the effect of audit committee expertise on profitability. According to the findings, we could conclude that there is a positive and significant relationship between audit committee financial expertise and corporate profitability, and the first research hypothesis is accepted. This result is consistent with the foreign studies of McDaniel *et al.* (2002), Abbott *et al.* (2002, 2004), Qin (2007), Mustafa and Ben Youssef (2010), Schmidt and Wilkins (2012), Sánchez *et al.* (2017), as well as Rezaei and Abbasi (2015), and Oradi *et al.* (2017) in Iran context. In addition, we find that the larger audit committee cannot improve Iranian's financial corporate companies. Although this finding is consistent with Wei (2007), and Al Matari *et al.* (2014), it contradicts with research of Raghunandan *et al.* (2001), Al-Mamun *et al.* (2014), Reddy *et al.* (2010) and Rezaei and Abbasi (2015).

In the second step, the present study sought to find a relationship between the characteristics of the board of directors and the corporate performance among the companies listed on TSE. For this purpose, the variables of the board size, board independence, CEO duality, institutional ownership were considered as some of the corporate governance mechanisms. Drawing on current research results, increasing the number of board members in Iranian companies is positively connected with the corporate profitability; nevertheless, this association is not significant and *H3* is failed to accept. We can probably conclude that when the size of the board is larger, there are more conflicting groups which show their own various interests; hence, the agency problem will increase and the companies' financial position will be worse. The outcome of the third hypothesis is similar to the studies of Aggarwal *et al.* (2007), Sarpal and Singh (2013), whereas it is inconsistent with researches Eisenberg *et al.* (1998), Conyon and Peck (1998), of Kathuria and Dash (1999), Carline *et al.* (2002), Guest (2009), O'connell and Cramer (2010), Dar *et al.* (2011), Joe Duke and Kankpang (2011), Wang *et al.* (2012).

Looking at the details, as regards board independence, the amount of *p*-value for Board-Independence variable is < 0.001. This means that there is a positive and significant association between the proportion of outside directors on the board (independent variable) and profit-loss growth ratio (dependent variable) at 99 percent confidence level. Even though this finding is opposite of Fosberg (1989), Hermalin and Weisbach (1991), Yasser (2011), and Moradi *et al.* (2013), it is similar to O'connell and Cramer (2010), Li *et al.* (2015), and Shorvarzi *et al.* (2015). In fact, the results of this study indicate that the role of non-executive managers in Iran is inconsistent with the stewardship theory. This is due to the fact that non-executive directors understand the status of business and market better than the board's executive members. Moreover, based on the results of this research, the duality of the managing director's role in Iranian companies has also not led to an effective role in increasing the company performance level because our evidence suggests that there is no meaningful relationship between CEO duality and the company performance. Our findings are opposite of the stewardship theory, and the studies of

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Dar *et al.* (2011), Duru *et al.* (2016), while the results of this study with Agaei *et al.* (2010), Abbasi and Ahmadi (2012), and Shorvarzi *et al.* (2015) in Iran and Yasser *et al.* (2015) in Pakistan are alike. Finally, the last hypothesis of the study examined the impact of institutional ownership on the firm profitability. Institutional ownership is considered as a corporate governance mechanism that reduces the agency problems by using ownership concentration and management supervision. However, our results indicate that there is no significant relationship between institutional owners and the Iranian companies' performance. As noted earlier, almost 66 percent of institutional owners in Iran's Stock Exchange are state-owned and quasi-governmental organizations (Moradi *et al.*, 2012). Hence, the difference between government and quasi-government structures and private structure can be a factor in reducing the incentive to oversee the management. As a result, the ownership structure and the mismanagement have led to the lack of influence of this important factor on the performance of companies listed on TSE.

At first, this research will warn investors and stakeholders that some CG mechanisms might not be effective in reducing the agency problems and promoting the corporate performance in emerging markets, particularly those markets struggling with financial sanctions like Iran. Second, this paper will make users of financial statements aware of effects of CG mechanisms' types on the profitability, so that they can make a better assessment of financially indigent companies.

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