Corporate governance and earnings quality: the Iranian evidence

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Abstract

**Purpose** - The main question in this study is whether there is any relationship between corporate governance variables and earnings quality. The size of the board and audit committee, the number of stockholding managers and non-executive directors, and management quality are considered as independent corporate governance variables in the hypotheses.

**Research design, data, and methodology** - Earnings quality is used as the dependent variable. Input from the abovementioned variables are drawn from 94 listed companies in the Tehran Stock Exchange for the period between 2006 and 2010.

**Results** - This study examines corporate governance aspects such as the size of the board of directors, the number of shares held by the board, the board’s independence, and the percentage of non-executive directors. The results show that establishing an audit committee has a significant role in ensuring higher quality reported earnings.

**Conclusions** - The regression statistics output reveals a meaningful relationship between earnings quality and the size of the board of directors, the number of non-executive directors, and the size of the audit committee. This result indicates that improving earnings quality requires that the size of the board of directors be taken into account.

**Keywords** : Audit Committee, Corporate Governance, Discretionary Accruals, Earnings Quality, Management Quality.

**JEL Classifications** : M41, M42, M51.

1. Introduction

One of the key elements of financial reports is net profit. The net income reported in financial statements is known as an important performance evaluation criterion and determinant of firm’s value which always is used by a large number of professional users such as accountants, financial managers, stock market analysts, investors and shareholders. The net profit value lacks various features related to past and future and so financial analysts usually distinguish between the reported net income and profits that can reasonably estimate future profits and cash flows of a firm (real profit). The impact of various factors affecting the real profit calculations are evaluated in terms of earnings quality. Directors’ independence in using principles of realization, adjustment, estimations and forecasts is one of the factors affecting earnings quality. On the one hand, they are expected to prepare and present information in such a way that reflects the status of the company at best, because most of them having good knowledge about the company. On the other hand, the director may willingly or unwillingly overestimate the firms’ financial status due to some reasons such as reinstatement and receiving a reward. Therefore, the quality of corporate earnings will be affected by the fundamentals of reporting and management discretion. Net profit is considered as an important factor in the development of dividend policy. Accounting scandals and the collapse of Enron, WorldCom and other companies in the United States have caused serious concerns about earnings management, reported profit and ethical issues of those who prepare and audit these reports. To defeat against frauds and failures of companies, legislatives in the United States and Australia responded through improving corporate governance principles. In this way, it is expected that there is a significant association between the earnings quality and corporate governance principles. Improving and ensuring the quality of the financial reporting process is one of the most important functions of corporate governance (Cohen et al., 2004). This research also aims at confirming or rejecting such a relationship. A part of firms’ operation is related to agency relationships between shareholders and managers. Indeed, the stock ownership structure and management control over company operations may lead to the conflict of interests and create agency costs due to the conflict of interest between managers and shareholders. The corporate governance principles are one of the strategies which reduce the agency problem. The corporate governance mechanisms can limit the opportunities for earnings management and thus increase the quality of earnings. A key element in the corporate governance process of any organization is its audit committee. According to the research purpose, the earnings quality is defined as the degree of continuity in the firm's ability to create earnings i.e. the current earnings’ ability to predict future earnings. Continuity of earnings is considered as a function of accruals. Accruals have been calculated using the balance sheet approach and modified Jones model. In this respect, the hypotheses development was based on the relationship between corporate governance variables and earnings quality.
1.1. Board of directors

In addition to the shares ownership by directors and shareholders focusing on control measures of managers’ performance, the board role is important as an internal control mechanism for solving agency problems in today’s companies. The board of directors is one of the significant organizational control tools. The board is able to diminish the agency incongruities by splitting the management and control aspects of decision making. Management aspects include the initiation and implementation of decisions while the control aspects relay on approval and supervision of decision making. The board of directors has needed authority to control and approve major projects and policies for hiring, firing and determining the salaries of high level executives. The board can dismiss the managers with poor performance and is legally and morally accountable to the owners.

1.2. Non-executives in the board composition

Since the responsibilities required for non-executive members of board have close ties with the CEO, it is expected that the task of overseeing the management to be the primary duty of non-executive members of the board, thus, non-executive members of the board have an important role in solving the agency problem between the managers and owners.

In this respect, some researchers have found that boards with higher dominance of non-executive members are more focused on the interest of shareholders and more likely prevent poor performance of board members. It has been clear that companies with boards mostly containing non-executive members are less engaged in accounting fraud. The reasons that are mentioned in the probability of getting non-executive members affected by executives include: (1) lack of sufficient knowledge and expertise in management decisions and (2) lack of motivation to challenge decisions. Following the agency theory’s perspective, the presence of non-executive members in the board and their regulatory function as independent individuals can help to reduce conflicts of interest between shareholders and company executives in board meetings. Non-executive directors make their judgments about the executives’ decisions with professional and impartial views. In this way, the company’s board of directors having the expertise, independence and necessary statutory powers is considered as a potential powerful mechanism in the company.

1.3. Reward of board

Besides monitoring the CEO, another method that gives shareholders more protection is the CEO rewarding based on his/her goals alignment with of the shareholders’.

1.4. Board size

In addition to the board composition, it seems that board size is effective on the company’s financial performance. Theoretically, there is an optimum size of the board for every company. Organizational behavior researchers argue that greater board reduces the total efficiency. Proponents of smaller board argue that the small size board is more likely successful in achieving the full consensus and allows users to talk and engage in real interactions.

1.5. Audit Committee

Audit committee is one of the firm’s board committees consisting of 3 to 5 and in some cases, 7 non-executive members and is responsible for overseeing all financial activities of the company. Selecting committee members from outside the organization increases the independence of committee members. In another words, the absent of executive members in the audit committee makes it possible for auditors to more explicitly share some of the issues with audit committee such as internal control weaknesses, disagreement with management about accounting principles and methods, possible signs of abuse or other illegal acts by officials of the company. The main function of an audit committee is to assist the board in carrying out its supervision responsibilities such as reviewing the financial information, monitoring the internal controls systems, and more importantly, overseeing the company’s accounting and financial reporting processes (McMullen, 1996). Communication between the audit committee and auditors provides timely information about financial status of the firm as well as information necessary to properly evaluate the management efficiency and good practices for board of directors. Among the responsibilities of the audit committee are helping the selection of auditor, managing audit process, reviewing audit results and helping board members to obtain better understanding about audit results as well as cooperating with management and independent auditor in resolving internal control problems or weaknesses identified during the audit process. If the audit committee is organized and used correctly it can bring very significant benefits for all interested groups. Audit committee can strengthen the reporting stewardship duty of the board; it also improves communication between the independent auditor and the board and increases auditor’s independence through serving as a shield between the auditor and management. Audit committee helps taxpayers and creditors to ensure that audit practices maximize their benefits. Defond and Jiambalvo (1991) find that firms with accounting errors are less likely to have an audit committee. McMullen (1996) suggests that firms committing financial fraud are less likely to have audit committees at the time of the fraud than other firms. Dechow et al. (1996) support these results and conclude that firms that manipulate earnings are less likely to have audit committees.

2. Related literature

Extensive researches have been focused on corporate governance and earnings quality. Among them, the most important are as follows. In 2006, Klein examined the relationship between the audit committee and board characteristics and earnings management at 687 high transaction large companies in the United States. The results of this study showed that there is an inverse linear relationship between audit com-
mittee independence and earnings manipulation. The relationship can be seen only when the audit committee contains fewer independent directors. Interestingly, unlike the new rules, the results of this study revealed a significant relationship between earnings management and 100% presence of independent directors in audit committee. Earnings management has a direct relationship with board chairman serving as CEO while shows an inverse relationship with managers ownership and membership of major shareholder in audit committee. The research indicated that more independent boards are more probably efficient in overseeing financial accounting process.

Stanwick and Stanwick (2010) concluded that overall performance of the board has an impact on corporate performance. Companies with high level of accountability of the board show better financial performance. There is a significant inverse relationship between the board independence and financial performance. Corporate governance plays a critical role in the company's ability to enhance its financial position. A board consisting of internal members has better function for the company. Gürbüz et al. (2010) concluded that corporate governance and institutional ownership have positive impacts on company performance. The influence of institutional investment is more obvious on performance indicators of listed companies. Cornett et al. (2010) revealed that there is a strong relationship between changes in corporate governance and stock returns.

Lantz et al. (2011) indicated that shareholder wealth depends on past performance measured according to book ratio or insurance future opportunities for investors. Liu et al. (2010) concluded that government departments with weak performances in pre-crisis period show better performances during the occurrence of crisis particularly when they rely on bank debts. Government ownership diminishes financial constraints during the crisis. Park and Shin (2004) examined the board composition and earnings management in Canada and evaluate the impact of board composition on earning management procedure. They found that financial managers play an important role in reducing the earn management activities and representatives of active institutional investors reduce it to a greater extent. Ultimately, the results revealed that adding non-executive directors to the board will not cause an improvement in governance practices especially when the governance is largely centralized and non-executive directors (position) market is not well developed.

Alishah et al. (2009) used the modified Jones model to calculate voluntary accruals and through regression method they found that there is a positive relationship between the corporate governance and earning management. One of the reasons for the result is disclosure of corporate governance methods by firms.

Khajavi and Nazmi (2005) examined the relationship between earnings quality and stock returns emphasizing the role of accrual values. Results indicate that average stock returns of companies are under the influence of accruals and its components.

Carson (2002) finds that around 84% of 361 top Australian companies adopted audit committees in 1997. Passaros and Semar (2004) find that approximately 95.20% of top 250 listed companies had audit committees in 1998 and this percentage slightly increased to 95.60% in 2001. They explain that the high percentage of the adoption of audit committees among large firms is because large firms believe that the presence of audit committees (1) enhances their corporate governance practice, or (2) appears to external stakeholders that good corporate governance mechanisms are in place. Knapp (1987) finds that the independence of the audit committee is significant in enhancing auditor independence. Rachumandan et al. (1998) suggest that audit committees which have at least one member with accounting and finance background are more likely to have longer meetings with the chief internal auditor, meet privately with the chief internal auditor, scrutinize the internal auditing program, and review the management’s interaction with the internal audit. Abbott et al. (2000) examined the association between audit committee characteristics and audit fees, which is argued as a proxy for audit quality. They find that audit committees composed solely of independent directors that meet at least four times a year are significantly, positively associated with audit fees. Carcello et al. (2002) and Lee and Mande (2005) also find the similar results. Chen et al. (2005) examined the association between audit committee composition and audit quality (measured by industry specialization). Their results support the link between a higher proportion of non-executive directors in an audit committee and the use of an industry specialist audit firm. Davidson et al. (2005) find that the presence of non-executive directors on the audit committee and the board are significantly associated with a lower likelihood of earnings management (measured by the absolute level of discretionary accruals). Zahn and Tower (2004) investigated the link between audit committees and earnings management using Singapore evidence. Their findings indicate that firms with more diligent and independent audit committee members are more effective in constraining earnings management. Chtourou et al. (2004) and Klein (2006) examined whether audit committee and board characteristics are related to earnings management. They find a significant relationship between audit committee independence and earnings management (abnormal accruals). Bradbury, Mak and Tan (2004) examined the association between corporate governance (measured by board and audit committee characteristics) and accounting quality (measured by abnormal accruals). They discover that (1) both board size and audit committee independence are related to higher quality accounting (i.e., lower abnormal working capital accruals), and (2) the relationship between audit committee independence and higher quality accounting exists only when the abnormal accruals are income increasing. Chtourou et al. (2004) also examined the relationship between audit committee characteristics (financial expertise and independence) and the extent of corporate earnings management which is measured by the level of income-increasing and income-decreasing abnormal accruals. Their study finds a significant association between these two variables. Karamanou and Vafeas (2005) examined how corporate boards and audit committees are associated with voluntary financial disclosure practices. They find that in firms with more effective board and audit committee structures, managers are more likely to make or update the earnings forecast, and their forecast is more accurate, which elicit more favorable market responses. Felo et al. (2003) find that the size of the audit committee and the percentage of audit committee members having expertise in accounting or financial management are positively related to financial reporting quality. Bryan et al. (2004) indicate that an audit committee with financial literacy would reduce the likelihood of
both fraud and no fraudulent misstatement and increase the quality of reported earnings.

3. Research Methodology

The research sample includes the companies listed in Tehran Stock Exchange. At the end of 2010, about 475 companies were listed in the Stock Exchange but regarding the present research’s presumptions, the initial statistical sample was reduced to 125 listed companies. In this respect, 94 companies were selected as the research sample using Cochran's formula for five-year period from 2006 to 2010.

With respect to this aim, this research is classified as an applied research and the selected research method is according to correlation methodology. The research is carried out using inductive-deductive method. To explain the research hypotheses using the considered variables, the inductive method is applied and to test the hypotheses, the deductive method is employed.

3.1. Research hypotheses

According to the objectives of the study the following hypotheses are postulated in the study:

H1. There is a meaningful relationship between earnings quality and size of the board.

H2. There is a meaningful relationship between earnings quality and stock ownership of managers.

H3. There is a meaningful relationship between earnings quality and non-executive directors.

H4. There is a meaningful relationship between earnings quality and management quality.

H5. There is a meaningful relationship between earnings quality and size of audit committee.

3.2. Data collection

In order to collect the required data and information, the library-based method is used which provides theoretical base of the research. Then, the survey data is collected referring the financial statements and explanatory notes of the sample companies.

3.3. Research variables and their calculations

3.3.1. Independent variables

Number of board members, the percentage of shares held by the board from total shares issued , number of non-executive members of board, ratio of board’s compensation to company's total assets, number of audit committee members.

3.3.2. Dependent variable

Earnings quality is the dependent variable in this study which is defined and calculated using discretionary accruals.

3.3.3. Measurement of total accruals:

\[ T_{Ai,t} = (C_{Ai,t} - \Delta \text{cash}_{i,t}) - (\Delta \text{CL}_{i,t} - \Delta \text{STD}_{i,t}) - \text{DEP}_{i,t} \]

Where:

\[ T_{Ai,t} = \text{total accruals for firm } i \text{ in year } t \]

\[ \Delta \text{C}_{Ai,t} = \text{changes in current assets for firm } i \text{ in year } t \]

\[ \Delta \text{cash}_{i,t} = \text{changes in cash and cash equivalents for firm } i \text{ in year } t \]

\[ \Delta \text{CL}_{i,t} = \text{change in current liabilities for firm } i \text{ in year } t \]

\[ \Delta \text{STD}_{i,t} = \text{current portion of long-term debt change for firm } i \text{ in year } t \]

\[ \text{DEP}_{i,t} = \text{cost of asset depreciation (tangible and intangible) for firm } i \text{ in year } t \]

After measurement of total accruals, the coefficients utilized in the estimation of non-discretionary accruals are determined using the following equation:

\[ \text{NDA}_{i,t} = \alpha_1 \left( \frac{1}{A_{i,t-1}} \right) + \alpha_2 \left( \frac{\Delta \text{REV}_{i,t} - \Delta \text{RECI}_{i,t}}{A_{i,t-1}} \right) + \alpha_3 \left( \frac{\text{PPE}_{i,t}}{A_{i,t-1}} \right) \]

\[ \text{NDA}_{i,t} = \text{non-discretionary accruals for firm } i \text{ in year } t \]

\[ A_{i,t-1} = \text{total assets of firm } i \text{ in year } t-1 \]

\[ \Delta \text{REV} = \text{change in net income for firm } i \text{ in year } t \text{ divided by the total assets of firm } i \text{ at the end of year period (1-t)} \]

\[ \Delta \text{REC} = \text{change in net accounts receivable for firm } i \text{ in year } t \text{ divided by total assets of firm } i \text{ at the end of year period (1-t)} \]

\[ \text{PPE} = \text{the amount of property, machinery and equipment for firm } i \text{ in year } t \text{ divided by the total assets of firm } i \text{ at the end of year period (1-t)} \]

\[ \alpha_1, \alpha_2 \text{ and } \alpha_3 \text{ are company-specific parameter estimates and are calculated from the following relationship:} \]

\[ T_{Ai,t} = \alpha_1 \left( \frac{1}{A_{i,t}} \right) + \alpha_2 \left( \frac{\Delta \text{REV}_{i,t}}{T_{Ai,t-1}} \right) + \alpha_3 \left( \frac{\text{PPE}_{i,t}}{A_{i,t}} \right) \]

Finally, after obtaining the non-discretionary accruals, discretionary accruals are measured using the following equation:

\[ \text{DA} = T_{Ai,t} - \text{NDA} \]

Model 1:

\[ \text{DA}_{i,t} = \beta_0 + \beta_1 \text{BRDSIZE}_{i,t} + \beta_2 \text{SIZEAUDCOM}_{i,t} + \beta_3 \text{BRDHOLDI}_{i,t} + \beta_4 \text{PCTINDBRDI}_{i,t} + \beta_5 \text{PCTNONEXEC}_{i,t} + \beta_6 \text{DQUALITY}_{i,t} + \beta_7 \text{EXECHAIRI}_{i,t} + \beta_8 \text{BIG04}_{i,t} + \beta_9 \text{CEOINBRDI}_{i,t} + \beta_{10} \text{CEOEDUALITY}_{i,t} \]

\[ \text{DA}_{i,t} = \text{absolute value of discretionary accruals for firm } i \text{ in year } t \]

\[ \text{BRDSIZE}_{i,t} = \text{number of board members for firm } i \text{ in year } t \]

\[ \text{SIZEAUDCOM}_{i,t} = \text{number of audit committee members for firm } i \text{ in year } t \]

\[ \text{BRDHOLDI}_{i,t} = \text{percentage of shares held by the board from total shares issued} \text{ for firm } i \text{ in year } t \]

\[ \text{PCTNONEXEC}_{i,t} = \text{ratio of non-executive directors (non-executive) for firm } i \text{ in year } t \]

\[ \text{PCTINDAUD}_{i,t} = \text{proportion of independent directors (non-executive) in the audit for firm } i \text{ in year } t \]

\[ \text{DQUALITY}_{i,t} = \text{total compensation of executives from the company’s total asset for firm } i \text{ in year } t \]

\[ \text{EXECHAIRI}_{i,t} = \text{chairman serving as executive director (executive member) for firm } i \text{ in year } t \]

\[ \text{BIG04}_{i,t} = \text{company audited by the Big 4 audit firms for firm } i \text{ in year } t \]
4. Testing of the hypotheses

4.1. The first hypothesis

H1. There is a meaningful relationship between earnings quality and size of the board.

Table 1 provides the results of the first hypothesis.

<table>
<thead>
<tr>
<th>correlation coefficient</th>
<th>Determination coefficient</th>
<th>Adjusted determination coefficient</th>
<th>F-statistics</th>
<th>t-statistics</th>
<th>Sig. level</th>
<th>Error level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.372</td>
<td>0.138</td>
<td>0.128</td>
<td>12.987</td>
<td>3.604</td>
<td>0.001</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Dependent variable: quality of earnings (total accruals DA)
Independent variable: number of board members

Pearson correlation coefficient is 0.372 which shows the relationship between two variables at the error level of 5%. The calculated determination coefficient of 0.138 indicates the change of the dependent variable (earnings quality) from the independent variable (board members). Given the significant level of 0.001, which is less than 0.05 error level (0.05 > 0.001), H0 is rejected and H1 is accepted. In other words, there is a meaningful relationship between earnings quality and number of board members.

4.2. The second hypothesis

H2. There is a meaningful relationship between earnings quality and stock ownership of managers.

Table 2 illustrates the results of the study.

<table>
<thead>
<tr>
<th>correlation coefficient</th>
<th>Determination coefficient</th>
<th>Adjusted determination coefficient</th>
<th>F-statistics</th>
<th>t-statistics</th>
<th>Sig. level</th>
<th>Error level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.027</td>
<td>0.001</td>
<td>-0.012</td>
<td>0.058</td>
<td>-0.240</td>
<td>0.811</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Dependent variable: quality of earnings (total accruals DA)
Independent variable: number stock holder managers

Pearson correlation coefficient is 0.027 which shows the relationship between two variables at the error level of 5%. The calculated determination coefficient of 0.001 indicates the change of the dependent variable (earnings quality) from the independent variable (stock holder managers). Given the significant level of 0.811, which is more than 0.05 error level (0.05 > 0.811), H0 is accepted and H2 is rejected. In other words, there is not any meaningful relationship between earnings quality and number of stock holder managers.

4.3. The third hypothesis

H3. There is a meaningful relationship between earnings quality and non-executive directors.

Table 3 portrays the results of the third hypothesis.

<table>
<thead>
<tr>
<th>correlation coefficient</th>
<th>Determination coefficient</th>
<th>Adjusted determination coefficient</th>
<th>F-statistics</th>
<th>t-statistics</th>
<th>Sig. level</th>
<th>Error level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.287</td>
<td>0.083</td>
<td>0.071</td>
<td>7.298</td>
<td>2.701</td>
<td>0.008</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Dependent variable: quality of earnings (total accruals DA)
Independent variable: non-executive directors (pctnonexec)

Pearson correlation coefficient is 0.287 which shows the relationship between two variables at the error level of 5%. The calculated determination coefficient of 0.083 indicates the change of the dependent variable (earnings quality) from the independent variable (non-executive directors). Given the significant level of 0.008, which is less than 0.05 error level (0.05 > 0.008), H0 is rejected and H3 is accepted. In other words, there is a meaningful relationship between earnings quality and non-executive directors.

4.4. The fourth hypothesis

H4. There is a meaningful relationship between earnings quality and management quality.

Table 4 shows the details of the test.

<table>
<thead>
<tr>
<th>correlation coefficient</th>
<th>Determination coefficient</th>
<th>Adjusted determination coefficient</th>
<th>F-statistics</th>
<th>t-statistics</th>
<th>Sig. level</th>
<th>Error level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.044</td>
<td>0.002</td>
<td>-0.010</td>
<td>0.157</td>
<td>0.396</td>
<td>0.693</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Dependent variable: quality of earnings (total accruals DA)
Independent variable: management quality (dquality)

Pearson correlation coefficient is 0.044 which shows the relationship between two variables at the error level of 5%. The calculated determination coefficient of 0.002 indicates the change of the dependent variable (earnings quality) from the independent variable (management quality). Given the significant level of 0.696, which is more than 0.05 error level (0.05 > 0.693), H0 is accepted and H4 is rejected. In other words, there is not any meaningful relationship between earnings quality and management quality.

4.5. The fifth hypothesis

H5. There is a meaningful relationship between earnings quality and...
and size of audit committee.

The results of hypothesis testing are presented in Table 5.

<table>
<thead>
<tr>
<th>correlation coefficient</th>
<th>Determination coefficient</th>
<th>Adjusted determination coefficient</th>
<th>F-statistics</th>
<th>t-statistics</th>
<th>Sig. level</th>
<th>Error level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.231</td>
<td>0.053</td>
<td>0.041</td>
<td>4.548</td>
<td>2.133</td>
<td>0.036</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Dependent variable: quality of earnings (total accruals DA)
Independent variable: size of audit committee (sizeaudcom)

Pearson correlation coefficient is 0.231 which shows the relationship between two variables at the error level of 5%. The calculated determination coefficient of 0.053 indicates the change of the dependent variable (earnings quality) from the independent variable (size of audit committee). Given the significant level of 0.036, which is less than 0.05 error level (0.05- 0.036), H0 is rejected and H5 is accepted. In other words, there is a meaningful relationship between earnings quality and size of audit committee.

5. Conclusion

It is hoped that effective corporate governance mechanisms improve the managers’ stewardship thus increase the quality of the reported financial statements. The corporate governance aspects examined in this study include the size of the board of directors, board holdings of shares in the company, board independence and percentage of nonexecutive directors. The results show that the establishment of an audit committee has a significant role in ensuring a higher quality reported earnings. This is because it is the responsibility of an audit committee to ensure that a company’s financial reports are free from manipulation and errors. It is concluded that there is a meaningful relationship between earnings quality and size of board members, non-executive directors and size of audit committee.

References


Carson, E. (2002), "Factors Associated with the Development of Board Sub-committees", Corporate Governance an International Review, 10, 4-18.


Khajavy, S. and Nazemi, A. (2005), “Examination of relationship be-


