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Can Corporate Governance Mechanisms Improve Earnings Quality? Evidence from IRAN

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ABSTRACT: The aim of this study is to find an answer to this question that can corporate governance mechanisms improve earnings quality? Earnings quality calculated by Dechow and Dichev (2002) accrual estimation error model is used as the dependent variable and corporate governance mechanisms such as independent outside directors on the board, Percentage of institutional ownership, ownership centralization, free float and auditor type as the independent variables. In this study, the numbers of 140 firm-year observations (TSE) have been investigated during the years 2003-2009. To analyze the data has been used EViews software. Our findings show that among corporate governance mechanisms, only relation between PIO & EQ is positive but other variables (such as OC, FF, OBD and AT) have negative relations with EQ. Findings too show that the bigger companies have more quality earnings but companies with more liability ratio (LEV) and less percentage of institutional ownership have less quality earnings. It should be mentioned that about 67% of changes EQ be explained by corporate governance mechanisms in during the study period and this amount increases to 69% by adding control variables to regression model and only relation OBD and LEV with EQ is significant statistically.

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INTRODUCTION

Quality accounting information and particularly, quality earnings information are important to market efficiency. The generation of quality earnings information depends on a whole set of guarantee mechanisms, for instance, a governance mechanism capable of efficiently supervising the process of accounting information reporting. The board of directors, as the core of corporate governance, will undoubtedly play a key role in supervising listed companies' financial reporting process and the quality of financial reporting. Strengthening the board of directors, such as enhancing the board's independence, improving its capabilities of detecting problems in financial statements, and clarifying explicitly directors' responsibilities, is regarded as an efficient way to ameliorate the corporate governance practices and the quality of financial reporting (Qinghua, et al., 2007).

Corporate governance is defined by the Public Oversight Board as "those oversight activities undertaken by the board of directors and audit committees to ensure the integrity of the financial reporting process" (POB, 1993). One of the most important functions of corporate governance is to ensure the quality of the financial reporting process. The issue of corporate governance has become more important due to the highly publicized financial reporting frauds at Enron, WorldCom, Adelphia and Parmalat, in particular, and a very high level of earnings restatements (Core et al., 1999; Loomis, 1999; Palmrose & Scholz 2004). Academic researches have found an association between poor corporate governance and greater earnings management, implying lower quality. Prior studies have also found an association between poor corporate governance and weaker financial controls and higher levels of financial statement fraud (Beasley, 1996; DeChow, Sloan, & Sweeney, 1995; Klein, 2002). Overall, empirical researches have documented a direct link between governance mechanisms and the reliability of financial reporting (Jiang, et al. 2008)

This paper was designed to answer this question that Can corporate governance mechanisms improve earnings quality? Based on samples of listed companies in TSE, we systematically examined the interrelation between the elements of corporate governance and the earnings quality.

Literature review

Corporate Governance: Owing to the separation of ownership and control (and the resulting agency problems) in the modern business world, a system of corporate governance is necessary, through which management is overseen and supervised to reduce the agency costs and align the interests of management with those of the investors. While there is no generally accepted definition, corporate governance may be defined as a system 'consisting of all the people, processes and activities to help ensure stewardship over an entity's assets' (Messier et al., 2008). A good corporate governance structure helps ensure that the management properly utilizes the enterprise's resources in the best interest of absentee owners, and fairly reports the financial condition and operating performance of the enterprise. The role of the corporate governance structure in financial reporting is to ensure compliance with generally accepted accounting principles (GAAP) and to maintain the credibility of corporate financial statements. The corporate governance mechanisms that are the focus of recent regulations and prior studies are attributes related to the organization and functioning of the board in general and its audit committee in particular (Lin & Hwang, 2010).

The very nature of accounting accruals gives managers a great deal of discretion in determining the earnings a firm reports in any given period because of information asymmetry between managers and owners. Managers can manipulate earnings in order to maximize their own interests or to signal their private information, thus influencing the in formativeness of earnings (Chung et al., 2002; Gul et al., 2003; Healy, 1985; Holthausen et al., 1995). Accounting earnings are more reliable and more informative when managers' opportunistic behavior is controlled through a variety of monitoring systems (Dechow et al., 1996; Wild, 1996). After several recent financial scandals, such as Enron, Xerox, or WorldCom, there has been an international trend towards developing and implementing corporate governance mechanisms to fight against the opportunistic behaviors that have undermined investors' credibility in financial information. Watts & Zimmerman (1986) state that Corporate governance attributes help investors by aligning the interests of managers with the interests of shareholders and by enhancing the reliability of financial information and the integrity of the financial reporting process (Meca & Ballesta, 2009).

Earnings quality literature using governance indices

Bowen et al. (2008) note that there are two theories with regard to manager behavior. The Efficient Contracting Theory asserts that managers in general, exercise accounting discretion in an efficient manner. In the long run, due to efficient managers, shareholder value is maximized (Christie & Zimmerman 1994). In contrast, the Opportunist Theory assumes that managers act with a short-term self-interest motive and use loopholes, for example, poor corporate governance structures, to manage earnings for short-term benefit (Frankel et al., 2002; Klein, 2002). In this background, Bowen et al. (2008) sought to obtain a greater understanding of manager behavior. Their findings appear to indicate that, in accordance with Opportunistic theory; managers manipulate earnings and act in their own self-interest in the short-term. They then examined the association between accounting discretion and subsequent firm performance and noted a positive association. They conclude that, overall, the association between poor corporate governance and accounting discretion (i.e., the Opportunistic theory) can be discounted because subsequent firm performance is positive (quoted by Jiang, et al. 2008).

Corporate governance mechanisms

Corporate governance variables have been shown in other contexts to affect firm behavior. Such variables include percent of independent outside directors on the board (Henceforth OBD), ownership structure, covering percent of institutional ownership (PIO) and ownership centralization (OC) and finally, audit type (AT) and free float of a firm in capital market (Henceforth FF). A firm's use of governance mechanisms determined by the relative benefits and costs of each as they align the interests of managers with those of shareholders. Thus, it is likely that governance mechanisms are not independent, but are endogenously chosen to maximize firm performance. We discuss these next.

Percent of independent outside directors on the board

There is considerable literature regarding the effect of the composition of the board of directors (i.e., inside versus outside directors) on firm performance. Boards dominated by outsiders are arguably in a better position to monitor and control managers (Dunn, 1987). Outside directors are independent of the firm's manager, and in addition bring a greater breadth of experience to the firm (Firstenberg and Malkiel, 1980; Vance, 1983). A number of studies have linked the proportion of outside directors to financial performance and shareholder wealth (Brickley et al., 1994; Byrd and Hickman, 1992; Subrahmanyan et al., 1997; Rosenstien and Wyatt, 1990). These studies consistently find better stock returns and operating performance when outside directors hold a significant percentage of board seats. Consequently, if outside directors on the board enhance monitoring they should also be associated with lower use of earnings management to inflate earnings (Cornett, et al., 2009).

Kanagaretnam et al. (2007) examined the relationship between the quality of corporate governance and information asymmetry in the equity market around quarterly earnings announcements and found that changes in bid–ask spreads at the time of earnings announcements are significantly negatively related to board independence, board activity, and the percentage

stock holdings of directors and officers. They also find that depth changes are significantly positively related to board structure, board activity, and directors' and officers' percentage stock holdings.

The research result of Dimitropoulos & Asteriou (2010) regarding the role of the size and composition of the board of directors on the informational quality of annual accounting earnings show that firms with a higher proportion of outside board members proved to be more conservative when reporting bad news but on the contrary they do not display greater timeliness on the recognition of good news. Also, firms with a higher proportion of outside directors report earnings of higher quality compared to firms with a low proportion of outside directors.

Machuga & Teitel (2009) in a research titled "Board of director characteristics and earnings quality surrounding implementation of a corporate governance code in Mexico" find firms that do not have concentrated family ownership or share directors have greater increases in earnings quality than firms that have concentrated family ownership or share directors. They conclude that applying board-level corporate governance reforms, without considering cultural and legal environments, may limit the desired effects of the change.

Ownership Structure

Agency theory predicts that low levels of insider ownership imply a poor alignment of interests between management and shareholders (Jensen & Meckling, 1976); that is, managers with little ownership may have incentives to manage accounting numbers so as to increase earnings-based compensation, relax contractual constraints, or avoid debt covenants (Healy, 1985; Holthausen et al., 1995). Insider ownership can be seen as a way to constrain the opportunistic behavior of managers, so the level of discretionary accruals is predicted to be negatively associated with insider ownership (Warfield et al., 1995). The entrenchment hypothesis states on the other hand that high levels of insider ownership may be ineffective in prompting insiders to make value maximizing decisions, which may result in an increase in earnings management (Cornett et al., 2008). In this paper, percent of institutional ownership and ownership centralization are the components of ownership structure.

Jaggi, et al. (2009) document that independent corporate boards of Hong Kong firms provide effective monitoring of earnings management, which suggests that despite differences in institutional environments, corporate board independence is important to ensure high-quality financial reporting.. Xie et al. (2003) find a negative association between corporate board independence and discretionary accruals.

Audit-Committee

There is a long-standing assumption that stronger corporate governance is conducive to higher quality accounting information (Dey, 2005), and it follows that the market will react favorably to better quality accounting reporting. However, several studies using U.S. samples to examine this issue have found mixed results regarding the relationship between earnings informativeness and audit-committee independence. For example, Anderson et al. (2003) find that audit-committee independence does not have a greater correlation to earnings informativeness over board independence in the period 2001–2002. In contrast, Bryan et al. (2004) find that a fully independent audit committee is positively related to earnings informativeness over the period from 1996 to 2000. Chang and Sun (2008) find that the earnings informativeness of U.S. firms is positively associated with the post-SOX disclosure of audit-committee independence and some other corporate governance function (Chang & Sun, 2009). In this paper, auditor type is a dummy variable and a component of corporate governance mechanisms.

Guthrie & Sokolowsky (2010) present empirical evidence that firms inflate earnings around seasoned equity offerings in the presence of large outsider block holdings, but not in their absence. Also, they conclude that strengthening shareholder power to alleviate the conflict between shareholders and management can have the unintended consequence of intensifying the conflict between current and future shareholders.

Cornett, et al. (2009) find that CEO pay-for-performance sensitivity (PPS), board independence, and capital are positively related to earnings and that earnings, board independence, and capital are negatively related to earnings management.

Lo, et al. (2010) in a research title "Can corporate governance deter management from manipulating earnings? Evidence from related-party sales transactions in China" found that firms with a board that has a higher percentage of independent directors or a lower percentage of parent directors (i.e., directors who are representatives of the parent companies of the listed firms), or have different people occupying the chair and CEO positions, or have financial experts on their audit committees, are less likely to engage in transfer pricing manipulations.

Ahn & Choi (2009) focused on the role of bank monitoring in corporate governance and showed that a borrowing firm's earnings management behavior generally decreases as the strength of bank monitoring increases.

The findings of Chalevas & Tzovas (2010) indicate that the mandatory corporate governance mechanisms decrease firms' weighted average cost of capital, increase firm's financing and have no impact on firms' effectiveness and earnings manipulation.

Research Hypotheses

Corporate governance mechanisms affect earnings quality in Tehran Stock Exchange.

Sub Hypothesis

1. Percentage of independent outside directors on the board affects earnings quality in Tehran Stock Exchange.
2. Percentage of institutional ownership affects earnings quality in Tehran Stock Exchange.
3. Ownership centralization affects earnings quality in Tehran Stock Exchange.
4. Free float stock owned to shareholders affects earnings quality in Tehran Stock Exchange.
5. Auditor type of addressed company affects earnings quality in Tehran Stock Exchange

MATERIAL AND METHODS

Sample & statistical population

The statistical population in this study includes the accepted companies in Tehran Stock Exchange in the period of 2003-2009. Existence of some heterogeneousness among the accepted companies in Tehran Stock Exchange led to consider some special conditions for selection of studied companies as follows:

1. Companies selected must be accepted in Tehran Stock Exchange since the year 2002.
2. Companies should not be changed the financial period in the study period.
3. Companies should not be members of any financial investment and mediators.

With regard to the above conditions, 140 firm-years were selected as the statistical sample.

Measurement of variables

Dependent variable: In this paper, earnings quality is the dependent variable. For the measurement of earnings quality (EQ) has been used the cross-sectional version of the Dechow and Dichev (2002) accrual estimation error model used by Francis et al. (2005).

$$\Delta WC_t / Ave(TA_t) = \beta_0 + \beta_1 CFO_{t-1} / Ave(ATA_t) + \beta_2 CFO_t / Ave(TA_t) + \beta_3 CFO_{t+1} / Ave(TA_t) + \varepsilon_t$$

Where:

ΔWC_t = Changes in working capital in year t, i.e. ΔAccounts receivable + ΔInventory –ΔAccounts payable – ΔTaxes payable + ΔOther assets (net);

CFO_{t-1} = Cash flows from operations in year t – 1;

CFO_t = Cash flows from operations in year t;

CFO_{t+1} = Cash flows from operations year in year t + 1;

$Ave(TA_t)$ = Average of total assets in end of year t.

$|\varepsilon_t|$ = Adverse criteria of earnings quality.

This measure of earnings quality captures the extent to which accruals map into cash flow realizations in past, present and future cash flows.

Independent variables

1. Percent of independent outside directors on the board (OBD): Independent directors refer to those directors who have been explicitly and clearly announced as independent directors in a listed company's annual report. We used OBD to stand for the percentage of independent directors on board, i.e. the ratio of independent directors to total number of directors on board.
2. Percent of institutional ownership (PIO): This variable is owned stock by institutional organizations divided by issued stocks of a firm.
3. Ownership centralization (OC): This variable is calculated by summing stock percentage owned by 3 major stockholders.
4. Free float (FF): Free float is stock that belongs to the minority shareholders and easily and without any limitation on the market can be traded.
5. Auditor type of company (AT): In this research, if company is audited by auditing organization, indicator variable is equals to one and otherwise zero is considered.

Control variables

We include several control variables that the literature documents could potentially influence earnings management.

Size

Watts and Zimmerman (1978) suggest that large firms face greater political costs relative to small firms since larger firms are more subject to scrutiny from financial analysts and investors due to their larger market capitalization and, hence, greater influence on the stock market. If this is true, then larger companies would have a greater incentive to decrease earnings. However, Lobo and Zhou (2006) note that large firms may have more opportunities to overstate earnings because of the complexity of their operations and the difficulty for users to detect overstatement. Either way, size is a variable that could potentially bias the coefficients of the variables of interest in our study. Hence, we include a size variable to control for potential earnings overstatement, but, as in Lobo and Zhou we make no prediction on the sign of the coefficient. Firm size is measured as the natural log of market value of equity in end of financial period.

Cash flow from operating activities (CFO)

Lobo and Zhou (2006) and Becker, DeFond et al. (1998) note that firms with strong operating cash flow performance are less likely to employ income increasing discretionary accruals to boost earnings because they are performing well. Conversely, firms with poor operating cash flow are more likely to employ income increasing discretionary accruals to send a positive signal to investors. Similar to Lobo and Zhang and Becker et al., we include a variable to control for the effect of poor operating cash flow. We expect the coefficient to be negative.

Financial leverage (LEV)

Financial leverage may also be associated with discretionary accruals. DeFond and Jiambalvo (1994) presents evidence that managers of highly leveraged firms have incentives to make income increasing discretionary accruals to avoid debt covenant violation. However, according to DeAngelo et al. (1994), troubled companies have large negative accruals related to contractual renegotiations that provide incentives to reduce earnings. Financial leverage is measured as the ratio of total liabilities to market value of capital in beginning of per year and is included to control for the possible effects (positive or negative) of firm risk. We make no prediction on the sign of the coefficient.

This study is an archival research. In terms of purpose, this study is applied research that its results can be useful for extensive range of users including stockholders, auditors, and Tehran Stock Exchange and standard setters. Companies' information collected through the Stock Exchange official website and then data analyzed by the econometrics software EViews.

RESULTS

Descriptive statistics for total companies (140 firm-year observations) have been represented in Table 1. Findings show that SIZE variable among variables has had the lowest variation coefficient (Std. Dev. Divided by Mean) but EQ variable was of the most variation coefficient in study period. This means that investigated companies have had instability earnings quality in during research period, whereas independent and control variables have approximately been stable. This subject indicates that earnings quality in TSE is a function from different factors and it's necessary to investigate in future studies. It should be mentioned that among investigated companies, only 35 percents of these companies are audited by auditing organization.

The results of general regression model in Table 2 show that among corporate governance mechanisms, PIO & AT are positively related to EQ and OC, FF & OBD negatively. These relationships except relation between EQ & OBD aren't significant statistically. Value of determination coefficient shows that approximately 67% of changes EQ can be explained by corporate governance variables in during the study period. In general, regression model is significant with respect to F-statistic and Durbin-Watson statistic shows that the model hasn't autocorrelation problem. Because of reciprocal relations between corporate governance mechanisms, it should be investigated relations these factors with earnings quality separately.

The results of general regression model in Table 3 show that among corporate governance mechanisms, PIO & AT are positively related to EQ and OC, FF & OBD negatively. These relationships aren't significant statistically. Findings too show that SIZE has positive relation with EQ but LEV & CFO have negative relation with EQ. It should be mentioned that only relation between LEV & EQ is significant statistically. Value of determination coefficient shows that approximately 69% of changes EQ can be explained by corporate governance and control variables in during the study period. In general, regression model is significant with respect to F-statistic and Durbin-Watson statistic shows that the model hasn't autocorrelation problem.

The regression model between EQ & PIO in Table 4 shows that relation between these variables is positive but no significant statistically. Determination coefficient shows that approximately 65% of changes EQ can be stated by PIO in during the study period. In general, regression model is significant with respect to F-statistic and Durbin-Watson statistic shows that the model hasn't autocorrelation problem. The positive relation between above variables indicates that PIO as one of corporate governance mechanisms causes to increase earnings quality in Iranian companies accepted in Tehran Stock Exchange.

The regression model between EQ & OC in Table 5 shows that relation between these variables is negative but no significant statistically. Determination coefficient shows that approximately 64% of changes EQ can be explained by OC in during the research period. In general, regression model is significant with respect to F-statistic and Durbin-Watson statistic shows that the model hasn't autocorrelation problem. The negative relation between above variables indicates that OC as one of corporate governance mechanisms causes to decrease earnings quality in Iranian companies accepted in Tehran Stock Exchange. This means that perhaps major stockholders by manipulating earnings to access to personal benefits decrease earnings quality in financial reports.

Table 1. Descriptive Statistics

Date: 08/01/10 Time: 06:08
Sample: 2005 2009
Individual samples

	EQ	PIO	OC	FF	AT	OBD	LEV	SIZE	CFO
Mean	0.149866	0.483002	0.702101	0.255357	0.350000	0.613271	1.475737	11.74150	0.163792
Median	0.071821	0.490000	0.705000	0.250000	0.000000	0.600000	1.115443	11.72283	0.150968
Maximum	1.134776	0.950000	0.978400	0.600000	1.000000	1.000000	14.12761	13.17362	0.695000
Minimum	0.001144	0.146500	0.242000	0.050000	0.000000	0.400000	0.080552	10.15632	-0.190302
Std. Dev.	0.196304	0.178043	0.162316	0.122136	0.478682	0.175316	1.529536	0.645482	0.149031
Skewness	2.410714	0.077586	-0.748829	0.579692	0.628971	0.389964	4.730896	-0.069888	0.714302
Kurtosis	9.216793	2.762000	3.634365	3.169282	1.395604	2.327570	36.13954	2.840763	4.142735
Jarque-Bera	358.4734	0.470879	15.43148	8.008169	24.24627	6.185964	6928.568	0.261881	19.52273
Probability	0.000000	0.790223	0.000446	0.018241	0.000005	0.045366	0.000000	0.877270	0.000058
Sum	20.83135	67.62025	98.29420	35.75000	49.00000	85.85800	206.6031	1643.810	22.93091
Sum Sq. Dev.	5.317873	4.406215	3.662147	2.073482	31.85000	4.272278	325.1879	57.91387	3.087211
Observations	139	140	140	140	140	140	140	140	140

Table 2. General Regression Model (without control variables)

Dependent Variable: EQ
Method: Pooled Least Squares
Date: 08/01/10 Time: 06:11
Sample: 2005 2009
Included observations: 5
Cross-sections included: 28
Total pool (unbalanced) observations: 139

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.480325	0.325118	-1.477387	0.1425
PIO	-0.293552	0.235833	-1.244744	0.2160
OC	0.453742	0.336234	1.349486	0.1801
FF	0.749189	0.571358	1.311243	0.1926
AT	-0.001731	0.024894	-0.069529	0.9447
OBD	0.429067	0.205894	2.083926	0.0396

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.671603	Mean dependent var	0.149866
Adjusted R-squared	0.572464	S.D. dependent var	0.196304
S.E. of regression	0.128356	Akaike info criterion	-1.064236
Sum squared resid	1.746373	Schwarz criterion	-0.367562
Log likelihood	106.9644	F-statistic	6.774381
Durbin-Watson stat	2.221485	Prob(F-statistic)	0.000000

Table 3. General Regression Model (with control variables)

Dependent Variable: EQ
Method: Pooled Least Squares
Date: 08/01/10 Time: 06:17
Sample: 2005 2009
Included observations: 5
Cross-sections included: 28
Total pool (unbalanced) observations: 139

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.080418	0.780304	0.103060	0.9181
PIO	-0.245677	0.234004	-1.049882	0.2962
OC	0.438761	0.335752	1.306800	0.1942
FF	0.800445	0.580091	1.379862	0.1706
AT	-0.001332	0.025100	-0.053052	0.9578
OBD	0.401956	0.207865	1.933733	0.0559
LEV	0.026369	0.011765	2.241264	0.0272
SIZE	-0.051967	0.063440	-0.819154	0.4146
CFO	0.008068	0.131256	0.061467	0.9511

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.689491	Mean dependent var	0.149866
Adjusted R-squared	0.583978	S.D. dependent var	0.196304
S.E. of regression	0.126616	Akaike info criterion	-1.077080
Sum squared resid	1.651248	Schwarz criterion	-0.317072
Log likelihood	110.8571	F-statistic	6.534667
Durbin-Watson stat	2.409303	Prob(F-statistic)	0.000000

Table 4. Regression Model between EQ & PIO (without control variables)

Dependent Variable: EQ
Method: Pooled Least Squares
Date: 08/01/10 Time: 06:18
Sample: 2005 2009
Included observations: 5
Cross-sections included: 28
Total pool (unbalanced) observations: 139

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.264553	0.101816	2.598342	0.0107
PIO	-0.236808	0.208986	-1.133133	0.2596

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.647512	Mean dependent var	0.149866
Adjusted R-squared	0.557788	S.D. dependent var	0.196304
S.E. of regression	0.130540	Akaike info criterion	-1.050997
Sum squared resid	1.874485	Schwarz criterion	-0.438768
Log likelihood	102.0443	F-statistic	7.216699
Durbin-Watson stat	2.146987	Prob(F-statistic)	0.000000

Table 5. Regression Model between EQ & OC (without control variables)

Dependent Variable: EQ
Method: Pooled Least Squares
Date: 08/01/10 Time: 06:18
Sample: 2005 2009
Included observations: 5
Cross-sections included: 28
Total pool (unbalanced) observations: 139

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.090915	0.198464	0.458090	0.6478
OC	0.083833	0.281786	0.297506	0.7666

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.643684	Mean dependent var	0.149866
Adjusted R-squared	0.552986	S.D. dependent var	0.196304
S.E. of regression	0.131247	Akaike info criterion	-1.040196
Sum squared resid	1.894840	Schwarz criterion	-0.427968
Log likelihood	101.2936	F-statistic	7.096970
Durbin-Watson stat	2.107819	Prob(F-statistic)	0.000000

The regression model between EQ & FF in Table 6 shows that relation between these variables is negative but no significant statistically. Determination coefficient shows that approximately 64% of changes EQ can be stated by FF in during the research period. In general, regression model is significant with respect to F-statistic and Durbin-Watson statistic shows that the model hasn't autocorrelation problem. The negative relation between above variables indicates that FF as one of corporate governance mechanisms causes to decrease earnings quality in Iranian companies accepted in Tehran Stock Exchange. Being high mean of OC represented in Table 1 and the reason mentioned in interpreting negative relation between OC & EQ can be probable cause of the negative relation between above variables.

The regression model between EQ & AT in Table 7 shows that relation between these variables is negative but no significant statistically. Determination coefficient shows that approximately 64% of changes EQ can be explained by AT in during the research period. In general, regression model is significant with respect to F-statistic and Durbin-Watson statistic shows that the model hasn't autocorrelation problem. The negative relation between above variables indicates that AT as one of corporate governance mechanisms causes to decrease earnings quality in Iranian companies accepted in Tehran Stock Exchange. This finding indicates that perhaps the manipulation of earnings in companies audited by auditing organization is more than other auditing enterprises.

The regression model between EQ & OBD in Table 8 shows that relation between these variables is negative and significant statistically. Determination coefficient shows that approximately 66% of changes EQ can be stated by OBD in during the research period. In general, the regression model is significant with respect to F-statistic and Durbin-Watson statistic shows that the model hasn't autocorrelation problem. The negative relation between above variables indicates that OBD as one of corporate governance mechanisms causes to decrease earnings quality in Iranian companies accepted in Tehran Stock Exchange. This finding indicates that perhaps low understanding of outside board of directors from company position continuously or their inattention to the company decrease earnings quality in such companies.

The regression model between EQ & OBD with control variables in Table 9 shows that relation between EQ & OBD variables is negative and significant statistically. Determination coefficient shows that approximately 68% of changes EQ can be stated by OBD and control variables in research period. In general, the regression model is significant with respect to F-statistic and Durbin-Watson statistic shows that the model hasn't autocorrelation problem. The negative relation between above variables indicates that OBD as one of corporate governance mechanisms causes to decrease earnings quality in Iranian companies accepted in Tehran Stock Exchange. This finding indicates that perhaps low understanding of outside board of directors from company position continuously or their inattention to the company decrease earnings quality in such companies. Findings too show that among control variables, only relation between LEV & EQ is negative and significant. This means that increasing of leverage ratio causes decreasing the earnings quality. On the other hand, relations SIZE & CFO are positive with EQ, this is, the bigger companies and companies with more cash flow from operating have more quality earnings.

Table 6. Regression Model between EQ & FF (without control variables)

Dependent Variable: EQ
Method: Pooled Least Squares
Date: 08/01/10 Time: 06:19
Sample: 2005 2009
Included observations: 5
Cross-sections included: 28
Total pool (unbalanced) observations: 139

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.029250	0.131911	-0.221742	0.8249
FF	0.701327	0.514683	1.362639	0.1758

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.649317	Mean dependent var	0.149866
Adjusted R-squared	0.560053	S.D. dependent var	0.196304
S.E. of regression	0.130206	Akaike info criterion	-1.056131
Sum squared resid	1.864886	Schwarz criterion	-0.443902
Log likelihood	102.4011	F-statistic	7.274066
Durbin-Watson stat	2.119836	Prob(F-statistic)	0.000000

Table 7. Regression Model between EQ & AT (without control variables)

Dependent Variable: EQ
Method: Pooled Least Squares
Date: 08/01/10 Time: 06:20
Sample: 2005 2009
Included observations: 5
Cross-sections included: 28
Total pool (unbalanced) observations: 139

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.146108	0.014169	10.31196	0.0000
AT	0.010660	0.024882	0.428424	0.6692

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.643992	Mean dependent var	0.149866
Adjusted R-squared	0.553372	S.D. dependent var	0.196304
S.E. of regression	0.131191	Akaike info criterion	-1.041059
Sum squared resid	1.893206	Schwarz criterion	-0.428831
Log likelihood	101.3536	F-statistic	7.106488
Durbin-Watson stat	2.111946	Prob(F-statistic)	0.000000

Table 8. Regression Model between EQ & OBD (with control variables)

Dependent Variable: EQ
Method: Pooled Least Squares
Date: 08/01/10 Time: 06:20
Sample: 2005 2009
Included observations: 5
Cross-sections included: 28
Total pool (unbalanced) observations: 139

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.137631	0.123828	-1.111467	0.2688
OBD	0.469821	0.201576	2.330738	0.0216

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.660180	Mean dependent var	0.149866
Adjusted R-squared	0.573680	S.D. dependent var	0.196304
S.E. of regression	0.128173	Akaike info criterion	-1.087596
Sum squared resid	1.807121	Schwarz criterion	-0.475368
Log likelihood	104.5879	F-statistic	7.632163
Durbin-Watson stat	2.238519	Prob(F-statistic)	0.000000

Table 9. Regression Model between EQ & OBD (with control variables)

Dependent Variable: EQ
Method: Pooled Least Squares
Date: 08/01/10 Time: 06:21
Sample: 2005 2009
Included observations: 5
Cross-sections included: 28
Total pool (unbalanced) observations: 139

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.441091	0.729530	0.604623	0.5467
OBD	0.444276	0.201686	2.202806	0.0298
LEV	0.027305	0.011682	2.337309	0.0213
SIZE	-0.050967	0.062757	-0.812130	0.4185
CFO	-0.029641	0.119902	-0.247209	0.8052

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.679137	Mean dependent var	0.149866
Adjusted R-squared	0.586177	S.D. dependent var	0.196304
S.E. of regression	0.126281	Akaike info criterion	-1.101834
Sum squared resid	1.706307	Schwarz criterion	-0.426272
Log likelihood	108.5775	F-statistic	7.305679
Durbin-Watson stat	2.421857	Prob(F-statistic)	0.000000

In this study, for investigating relations between variables in during research period is used from pooled data that in this status, it's necessary to investigate stability of all variables in research period. To specify the stability of variables in pooled state is applied pool unit root test such as Levin, Lin & Chu t statistic and Im, Pesaran & Shin W-statistic. Results in Tables 10-18 show that all variables have been stable in during research period.

Table 10. Pool unit root test on EQ

Pool unit root test: Summary
Date: 08/01/10 Time: 06:28
Sample: 2005 2009
Series: EQ
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-146.553	0.0000	28	111
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-19.4533	0.0000	28	111

Table 11. Pool unit root test on PIO

Pool unit root test: Summary
Date: 08/01/10 Time: 06:30
Sample: 2005 2009
Series: PIO
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-25.6224	0.0000	21	84
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-5.31982	0.0000	21	84

Table 12. Pool unit root test on OC

Pool unit root test: Summary
Date: 08/01/10 Time: 06:30
Sample: 2005 2009
Series: OC
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-579.841	0.0000	28	112
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-126.252	0.0000	28	112

Table 13. Pool unit root test on FF

Pool unit root test: Summary
Date: 08/01/10 Time: 06:31
Sample: 2005 2009
Series: FF
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-7.3E+14	0.0000	13	52
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.7E+12	0.0000	13	52

Table 14. Pool unit root test on AT

Pool unit root test: Summary
Date: 08/01/10 Time: 06:36
Sample: 2005 2009
Series: AT
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-28.2357	0.0000	28	18
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.E+154	0.0000	28	18

Table 15. Pool unit root test on OBD

Pool unit root test: Summary
Date: 08/01/10 Time: 06:36
Sample: 2005 2009
Series: OBD
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.35304	0.0004	6	18
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.E+154	0.0000	6	18

Table 16. Pool unit root test on LEV

Pool unit root test: Summary
Date: 08/01/10 Time: 06:38
Sample: 2005 2009
Series: LEV
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-28.2357	0.0000	28	112
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-4.97277	0.0000	28	112

Table 17. Pool unit root test on SIZE

Pool unit root test: Summary
Date: 08/01/10 Time: 06:38
Sample: 2005 2009
Series: SIZE
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-14.7890	0.0000	28	112
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.26676	0.0005	28	112

Table 18. Pool unit root test on CFO

Pool unit root test: Summary
Date: 08/01/10 Time: 06:38
Sample: 2005 2009
Series: CFO
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic selection of lags based on SIC: 0
Newey-West bandwidth selection using Bartlett kernel
Balanced observations for each test

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-8.67465	0.0000	28	112
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.34812	0.0004	28	112

DISCUSSION AND CONCLUSION

The aim of this study is to find an answer to this question that can corporate governance mechanisms improve earnings quality? To implement this study 140 firm-years in period 2003-2009 have investigated. It should be mentioned that data in years 2003 & 2009 only used to measure regression residuals in Dechow and Dichev (2002) accrual estimation error model as adverse criteria of earnings quality. The results of this study have summarized in bellow:

1. Among research variables, EQ variable was of the most variation coefficient in study period. This means that investigated companies have had instability earnings quality in during research period, whereas independent and control variables have approximately been stable. This subject indicates that earnings quality in TSE is a function from different factors and it's necessary to investigate in future studies.
2. Among investigated companies in this research, only 35 percents of them have been audited by auditing organization.
3. The result shows that approximately 67% of changes EQ can be explained by corporate governance variables in during the study period and this amount increases to 69% by adding control variables to regression model.
4. There is a positive and no significant relation between EQ & PIO.
5. There is a negative and no significant relation between EQ & OC.
6. There is a negative and no significant relation between EQ & FF.
7. There is a negative and no significant relation between EQ & AT.
8. There is a negative and significant relation between EQ & OBD and determination coefficient shows that approximately 66% of changes EQ can be stated by OBD in during the research period.
9. There is a positive and no significant relation between EQ & SIZE.
10. There is a negative and significant relation between EQ & LEV.
11. The effect CFO on EQ is conflict (in general regression model is negative and in regression model between EQ and OBD is positive).
12. The results of this research in relation to the effect LEV on EQ is similar to DeFond & Jiambalvo (1994) result and discordant to DeFond, DeAngelo & Skinner (1994) result.
13. In relation to OBD & AT on EQ, the result in this research is discordant to Lo, et al. (2010), cornett, et al. (2009) and Xie, et al. (2003) and Dimitropoulos & Asteriou (2010) results.

This study has investigated relationship between corporate governance mechanisms and earnings quality in financial reporting during the period 2003-2009 in Tehran Stock Exchange. To measure earnings quality in financial reporting used Dechow and Dichev (2002) accrual estimation error model. In this research, absolute vale of regression residuals of mentioned model applied as adverse criteria of earnings quality in financial reporting. Findings indicate that among corporate governance mechanisms, only relation between BOD and EQ has been significant statistically. It should be stated that only PIO has positive effect on earnings quality in financial reporting.

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