

INVESTIGATING THE RELATIONSHIP BETWEEN CORPORATE GOVERNANCE RANKING AND EARNINGS MANAGEMENT IN COMPANIES LISTED IN TEHRAN STOCK EXCHANGE

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Abstract

Joint stock companies play a major role in the economy and their success depends on willingness of investors and creditors to invest in these companies. Managers' tendency to apply earnings management and abusing it which leads to providing false information can seriously destroy the trust of shareholders and cause thousands of shareholders to be harmed and run away from the stock market. Hence, due to the importance of keeping shareholders, the present paper seeks ways based on which financiers are assured that they will get good returns on their investment in the company. Shareholders play an essential role in the system of corporate governance, because they are the suppliers of companies' capital and maintaining their trust is of utmost importance. Among the principles of corporate governance whose impact on earnings management is investigated by the present study, it can be pointed to institutional ownership of major shareholders and the ratio of non-executive directors to total directors. In this study, discretionary accruals using the modified Jones model has been applied as an index for determining earnings management. In this regard, the information of 98 companies during 2005-2011 has been used. To rate the mechanisms of corporate governance, TOPSIS ranking method which is one of the MCDM approaches has been used. After ranking, companies were divided into two groups including high-rank and low-rank companies. According to the results of this study, less earnings management is observed in companies with high rates of corporate governance; namely, the lower the rate of corporate governance is, the higher the earnings management will be. In the companies with high-rate corporate governance, due to the increased managerial control (earnings management) and transparency of financial information, the trust of shareholders and the amount of investment increase.

Keywords: corporate governance, earnings management, ranking, TOPSIS

Introduction

Due to the conflict of interests between shareholders and managers in the past few decades such as the loss of trust of shareholders towards the reports provided by managers, the amount of

investment in the stock has been declined. Earnings management is one of the methods sometimes used to arrange a company's situation to the desired shape. In fact, earnings management is defined as the general intervention of management in the process of determining the profit which is usually performed in line with management desired goals. It is of utmost importance to identify mechanisms that are effective in the reduction of earnings management and conflicts of interest between beneficiaries. This has led to numerous debates of which the issue of corporate governance is the most important. Actually, corporate governance seeks to promote fairness, transparency, and accountability in the company. Since the calculation of net profits of an enterprise is affected by accounting methods and estimates as well as management goals are not always in harmony with the objectives of shareholders, according to the agency theory, there is the possibility of earnings manipulation. In this regard, the system of corporate governance is one of the mechanisms used to reduce the agency (Ahmed and Jaggi, 2008). Thus, it is expected that the mechanisms of corporate governance could reduce the opportunities of earnings management and as a result, increase the earnings quality and information provided. Hence, the present study attempts to answer the question whether the corporate governance ranking affects the reduction of earnings management or not?

The research literature

The issue of corporate governance addresses the necessity of monitoring the company's management, the separation of economic units from their ownership, and finally protecting the rights of investors and shareholders. The corporate governance system with emphasis on reinforcing culture of accountability, honesty, and trusteeship among managers and promoting information transparency limits the opportunistic and abusive behaviors of managers, so it improves the quality and reliability of financial reporting. In fact, such supervision over the activities of managers is provided by various mechanisms of corporate governance.

Beatty (2002) defines earnings management as an informed decision-making process in compliance with accepted accounting principles to increase the reported earnings to the level desired by the management.

According to the definition provided by Organization for Economic Cooperation and Development (OECD) in 2001, corporation governance is a strategy for modifying agency costs and transactions as well as systematic structures of the company, which it facilitates achieving the company objectives.

Meggison (2000) defines corporate governance as all laws and regulations, institutions, and procedures that determine how and for whose benefits the companies are managed. Accordingly, corporate governance is a management method based on which joint stock companies are managed and controlled; in other words, it is a system protecting the company against the risks of fraud and abuse of managers and supporting the rights and interests of shareholders.

There are several researchers such as Abed et al. (2012) studied the relationship between corporate governance and earnings management in the companies listed in the Jordan stock exchange. The results of their study show that there is a negative and significant relationship between board size and earnings management; also, the results indicate that there is a positive and significant relationship between "the role of duality and company size" and earnings management. Also, there is a negative relationship between "financial leverage and type of industry" and earnings management. The other result obtained from this study is that there is not a significant relationship between non-executive directors and earnings management.

There is another study conducted by Mife (2010) investigating the relationship between corporate governance and earnings management during the fiscal period of 2004-2005. The

study examines the French stock exchange using the data collected from 117 companies newly listed in this stock exchange. In this study, earnings management and corporate governance mechanisms have been respectively considered as the dependent and independent variables. Also, the control variables include the company size, financial leverage, and the company growth. The results of this study showed that there is a positive relationship between board size and earnings management, but there is a negative relationship between the ratio of non-executive directors in the board and earnings management.

In Iran, several studies have been also conducted on the relationship between corporate governance and earnings management, among which it can be pointed to the following cases:

Nikoomaram and Mohammadzadeh (2010) studied the relationship between corporate governance and earnings management in companies listed in Tehran Stock Exchange. The results of this study indicate that there is a significant relationship between the adequacy of corporate governance (compared to the ability of corporate governance) and earnings management. Thus, the results show the fact that the adequacy of corporate governance is one of the determining factors affecting earnings management.

Kordtabar and Rasayian (2010) studied the relationship between earnings management (based on total discretionary accruals) and some tools of corporate governance system in companies listed in Tehran Stock Exchange. The results of this study showed that high incentive to manipulate earnings causes non-executive directors and major institutional investors to play a weak role in the reduction of earnings management.

Earnings management: An informed and active manipulation of accounting results to make changes in commercial status reported from the economic unit, which is resulted from the general intervention of management in the process of determining the profit (usually performed in line with management desired goals). Earnings management is also defined as an informed decision-making process in compliance with accepted accounting principles to increase the reported earnings to the level desired by the management.

Corporate governance: all laws and regulations, institutions, and procedures that determine how and for whose benefits the companies are managed.

Non-executive directors in the board: part-time members of the board who only monitor the activities of executive directors without any executive responsibility in the company.

Major shareholders: persons or entities that own more than 50% of a company's outstanding shares but here, it means block shareholders whose share is equal to the total percentage of shares owned by three major shareholders.

Block ownership (institutional shareholders): a strong corporate governance mechanism that can monitor the company's management. Institutional shareholders include large investors such as banks, insurance and investment companies, funds, and so on.

The agency theory: The separation of ownership and management in public joint stock companies caused directors to be the representative of shareholders in the companies. In this regard, the conflict between the interests of managers and shareholders led to a problem called the agency theory.

The research hypotheses

The main hypothesis

- There is a relationship between corporate governance ranking and earnings management.

The research sub-hypotheses

The first sub-hypothesis

- There is a relationship between high rates of corporate governance and the reduction of earnings management.

The second sub-hypothesis

- There is a relationship between low rates of corporate governance and the increase of earnings management.

The research model and variables

The present study is aimed at investigating the issue whether ranking the corporate governance mechanisms can reduce the amount of earnings management practices or not. Here, earning management is calculated by discretionary accruals; for this purpose, the Jones model is used as follows:

$$TACC_{it} = OI_{it} - CFO_{it}$$

$$DACC_{it} = TACC_{it} - NDACC_{it}$$

$$TACC_{it}/A_{it} - 1 = \alpha^1 (1/A_{it} - 1) + \alpha^2 (\Delta REV_{it} - \Delta REC_{it})/A_{it} - 1 + \alpha^3 PPE_{it} + \varepsilon_{it}$$

$$NDACC_{it}/A_{it} - 1 = \alpha^1 (1/A_{it} - 1) + \hat{\alpha}^2 (\Delta REV_{it} - \Delta REC_{it}) + \hat{\alpha}^3 PPE_{it} + \varepsilon_{it}$$

In above model:

TACC: total accruals

DACC: discretionary accruals

NDACC: non- discretionary accruals

CFO: cash flow from operating activities

ΔREC : Changes in net income of enterprise

ΔREV : Changes in net receivable accounts and commercial documents of enterprise

PPE: the value of fixed assets such as properties and equipment for enterprise

ε : The final price/non-independent assets

The main model:

$$EM_{it} = \alpha_0 + \beta_1 rating_{it} + \beta_2 size_{it} + \beta_3 lev_{it} + \varepsilon_{it}$$

The first sub-model:

$$EM_{it} = \alpha_0 + \beta_1 rating(up)_{it} + \beta_2 size_{it} + \beta_3 lev_{it} + \varepsilon_{it}$$

The second sub-model

$$EM_{it} = \alpha_0 + \beta_1 rating(down)_{it} + \beta_2 size_{it} + \beta_3 lev_{it} + \varepsilon_{it}$$

In above models, EM stands for earnings management.

The independent variable

Ranking: The ranking of corporate governance calculated using TOPSIS ranking method consists of three variables including the ratio of non-executive directors to total directors, the ownership percentage of institutional shareholders, and the percentage of institutional ownership.

The independent variable mechanism

INED: the ratio of non-executive directors to total directors.

INST: here, the percentage of major shareholders is equal to the total percentage of shares owned by three major shareholders.

BH: the total squares of the ratio of capital held by each shareholder to all shareholders

The control variables

LEV: it is obtained from dividing the total liabilities by total assets

Size: the natural logarithm of total assets book value

The methodology

According to the scope of the research, it is considered an empirical study; however it is an applied and correlational research considering its purpose and method. The data have been collected using the library method. The information related to the research literature and

theoretical foundations have been gathered through library studies and searching electronic journals. The data related to the earnings per share and control variables have been provided using the Rahavard Novin software. The reports (extracted from the website of the Stock Exchange) related to the summary of decisions made by Ordinary General Assembly, the activities of the board of directors, and annual financial statements have been used to collect the information of non-executive directors, major shareholders, and institutional ownership.

The data analysis methods

Considering the multi-criteria nature of corporate governance ranking resulted from rating the three mechanisms of corporate governance including non-executive directors, major shareholders, and institutional ownership, it is needed to use multi-criteria decision-making methods to calculate the rate of corporate governance. Among the methods available for decision making, MCDM method has drawn the attention of researchers of various industries in the field of evaluating, measuring, and ranking the options. Among many MCDM approaches developed for solving decision-making problems in the real world, the Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) has been successfully used in various applicable areas. In this regard, after collecting the data, they are classified as panel data using the Excel software; then, the software Eviews7 and multiple-regression model using ordinary least squares (OLS) are applied to analyze the data and extract the descriptive statistics.

The research population

The research population consists of all companies listed in Tehran Stock Exchange during 2005-2011, from which the companies including the following conditions and criteria are selected as the statistical sample:

- 1- The company's fiscal year should end on March 20.
- 2- The company must not have changed its fiscal year during the mentioned period.
- 3- The company should be active in stock exchange during the study period and the book value of equity should not be negative for any year.
- 4- Funds should not have been interrupted for more than 6 months.
- 5- The information related to the time period of 2005-2011 (for being used by the study) should be fully provided. Also, the company should be profitable and not be in the scope of investment and financial companies.
- 6- The information required for calculating variables in the time period of 2005-2011 as well as the financial statements and the explanatory notes related to them should be completely available.
- 7- During the mentioned fiscal years, they should not have experienced any financial losses.

The research findings

The data description

Table 1 shows the descriptive statistics of the research variables. The descriptive statistics include central parameters (mean, maximum, and minimum) and dispersion parameters (standard deviation), which have been extracted using the Eviews7 software.

Table 1: the descriptive statistics of the research variables

Variables	Observations Number	Mean	Maximum	Minimum	Standard Deviation
EM	686	0.032760	0.98493	-0.816502	0.186883
Ranking	686	0.585394	0.997	0.138017	0.156557
Size	686	13.29328	19.61	10.54	1.438615
LEV	686	0.59723	1.217330	0.096415	0.164565

Ranking: the rate of corporate governance	EM: Earnings Management
LEV: Financial Leverage	Size: the size of the company (company's assets)

According to table 1, the mean value of earnings management is 0.032760, indicating that earnings management has been weakly applied. The maximum and minimum values of applying earnings management are respectively equal to 0.98493 and -0.816502, which respectively indicates the 98.49% and -81.6% of applying earnings management. The negative percentage of earnings management shows the reduction and appropriate control of this variable. The value of standard deviation is reported equal to 0.186883, which indicates the amount of earnings management deviation from its mean value. The values obtained for mean, maximum, minimum, and standard deviation of corporate governance ranking are respectively equal to 0.585394, 0.997, 0.138017, and 0.156557. The mean value obtained for corporate governance ranking is equal to 0.585394, which indicates that the corporate governance is applied in more than 50% of sample companies. The highest and lowest rates of corporate governance applied for the sample companies are respectively equal to 99% and 13.80%.

The values obtained for mean, maximum, minimum, and standard deviation of control variables (Size and LEV) are respectively equal to 13.29328, 19.61, 10.54, 1.438615, 0.59723, 1.217330, 0.096415, and 0.164565.

Testing the hypotheses

To test the research hypotheses, three regression models were used as follows:

Model 1: $EMit = \alpha_0 + \beta_1 rating_{it} + \beta_2 size_{it} + \beta_3 lev_{it} + eit$

Model 2: $EMit = \alpha_0 + \beta_1 rating(\text{up})_{it} + \beta_2 size_{it} + \beta_3 lev_{it} + eit$

Model 3: $EMit = \alpha_0 + \beta_1 rating(\text{down})_{it} + \beta_2 size_{it} + \beta_3 lev_{it} + eit$

To test the first hypothesis, a rate from 1 to 98 was assigned to companies based on the corporate governance mechanisms; then, it was tested using the following regression model:

Table 2: the coefficients obtained from the regression and the significance of coefficients

$EMit = \alpha_0 + \beta_1 rating_{it} + \beta_2 size_{it} + \beta_3 lev_{it} + eit$				
Variable	Variables Coefficients	t-statistic	Significance Level	Results
C	0.320339	1.5737	0.1162	Insignificant
Ranking	-0.122721	-3.602257	0.0003	Significant
Size	-0.019784	-1.258536	0.2088	Insignificant
LEV	-0.159063	-2.708653	0.0070	Significant
The coefficient of determination: 0.365761		The significance level of F statistic: 0.000		
Adjusted coefficient of determination: 0.233954		F-Limer Test: 0.000		

Table 3: the significance of regression

Regression	The Durbin-Watson statistic	Results
The linear regression	2.119390	No successive correlation

Table 4: the linearity of regressions

Regression	Significance Level	t statistic Value	Confidence Level	Arrangement
Linear Regression	0.000	2.774974	99%	Panel/Constant Effects

According to table 2, the probability of F-Limer statistic is reported equal to 0.000, showing the panel method as the appropriate way of arrangement. The coefficient and t statistic values obtained for the rank of corporate governance are respectively equal to -0.122721 and 3.602257, indicating that there is a significant and inverse relationship between corporate governance and earnings management at a 99% confidence level. In other words, the changes in corporate governance ranking cause earnings management to change. The coefficients obtained for control variables, namely Size and LEV, are respectively reported equal to -0.019784 and -0.159063; also, the t statistic obtained for these two variables are equal to -1.258536 and -2.708653. The results show that statistically, there is no significant relationship between the size of the company and earnings management. According to the obtained coefficient of determination, 36.5761% of changes in earnings management occur by the rank of corporate governance and control variables. According to table 4, there is a significant relationship between the control lever and earnings management. The value of F-statistic in regression model is equal to 2.774974 and considering the probability of F-statistic which is lower than 0.001 as well as the values presented in table 4, the confirmation of H_1 , and rejection of null hypothesis (H_0), the arrangement pattern is estimated as the panel data with constant effects. The whole estimated model is confirmed at a 99% confidence level. To investigate the correlation between errors, the Durbin-Watson test is used. In the case of obtaining a value of 1.5-2.5 for the Durbin-Watson statistic, there will be no correlation between the observations. According to table 3, the value obtained for the Durbin-Watson statistic is reported equal to 2.119390, indicating the lack of successive correlation; thus, the main hypothesis is confirmed.

Conclusions

In this study, companies were divided into two groups (including high-rank and low-rank companies) using the corporate governance ranking which is resulted from the ratio of three independent variables, namely major shareholders, institutional ownership, and the ratio of non-executive directors to total directors. The higher the rank of companies is, the higher the reliability and quality will be in the companies. In such companies, less earnings management is observed; as a result, the level of shareholders' investment in the company increases. The purpose of this study is to increase the rank of corporate governance and reduce applying earnings management. In this regard, the relationship between the rank of corporate governance and earnings management was investigated. For this purpose, three hypotheses tested. The main hypothesis assessed the relationship between corporate governance ranking and earnings management. The results of testing this hypothesis showed that there is a significant and inverse relationship between corporate governance and earnings management; in other words, the changes in corporate governance cause earnings management to change.

The first sub-hypothesis investigated the relationship between the high ranks of corporate governance and the reduction of earnings management. The results of this study showed that there is a significant and inverse relationship between the rank of corporate governance and earnings management; in other words, the increase in the rank of corporate governance leads to the reduction of earnings management.

Regarding the second sub-hypothesis, the results showed that there is a significant and inverse relationship between the low ranks of corporate governance and the increase of earnings management; in other words, in the low-rank companies due to the reduction of corporate governance adequacy, the opportunities for earnings management increase.

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