

# Investigating the Relationship between Board Characteristics and the Sustainable Development of Companies Listed at Tehran Stock Exchange

**Mina Zare**

Department of Accounting, Science and Research Branch, Islamic Azad University, Yazd, Iran  
Safaieeh, Shoahadegomnam Road, Zip code: 89195/155, Yazd, Iran  
Email: Zare.mina68@gmail.com

Corresponding Author: **Mahmoud Moeinadin**

Department of Accounting, Yazd Branch, Islamic Azad University, Yazd, Iran  
Safaieeh, Shoahadegomnam Road, Zip code: 89195/155, Yazd, Iran  
Email: Mahmoudmoein@gmail.com

**Forough Heyrani**

Department of Accounting, Yazd Branch, Islamic Azad University, Yazd, Iran  
Safaieeh, Shoahadegomnam Road, Zip code: 89195/155, Yazd, Iran  
Email: Heiranyforough@gmail.com

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## Abstract

The main objective of this paper is to investigate the relationship between board characteristics and the sustainable growth of companies listed at Tehran Stock Exchange. Board characteristics in this study include the size of the board, number of board meetings, the share of non-bound managers of the board, duality of managing director duties and maintaining shares of the Board of Directors. According to previous similar studies, firm size and financial leverage are considered as control variables. In this study, statistical population includes all companies listed at Tehran Stock Exchange. Some restrictions applied on the Statistical population and a sample consisted of 54 companies was selected. Data analysis was conducted on data collected from 2006 to 2012. Multiple linear regression analysis and correlation coefficient methods were used for data analysis and obtaining hypothesis test results. The results indicate that there is no significant relationship between the size of the board, share of non-bound managers of the board, number of board meetings, maintaining shares of the Board of Directors and sustainable growth while there is a significant negative relationship between Managing Director duality of duties and sustainable growth rate.

Keywords: Board of Directors size, number of meetings, non-duty managers, maintaining board share, sustainable growth.

## **1- Introduction**

Agency issue is main topic of Board of Directors discussion. This is because conflict of interest between managers and shareholders leads to the creation of agency costs. Distributed ownership (decentralized) causes agency problems because ability and incentives of shareholders to control management will be reduced due to their small shares. In addition, shareholders can often invest in several companies to reduce risk through diversification. They are investing in their stock portfolio for the hope of future profits not for the hope of a better future in a particular company. In addition, dispersed shareholders have no the ability to control management effectively because they do not have sufficient information and expertise necessary to make correct decisions. On the other hand, centralized ownership significantly motivates the major shareholders. Accordingly, they also will have more motivation to improve the company operations and management control as their share in the company increases. There are obvious benefits of centralized ownership but some arguments against this issue are also true. First, shareholders are generally risk averse. Second, when excessive control by centralized ownership occurs, internal stakeholders (managers and employees) will be discouraged of costly investments. Third, centralized ownership may cause agency problems in another way, i.e. conflict arise between major shareholders and other stakeholders. Major shareholders will have necessary incentives to use their control situation in order to obtain their specific interests at the expense of minority shareholders (Fazlzadeh, 2010). Growth and development of capital markets requires attraction of capital owners's trust. Managers as agents of shareholders control the company. On the other hand, there is a conflict between interests of managers and owners because of differences in their attitudes toward risk and the dividends. Therefore, managers may make decisions which adversely affect the interests of owners. Theoretical analysis and empirical evidence indicates that there is a direct relationship between increased information asymmetry and decreased number of investors, lower power of liquidity of securities, decreased turnover, and general loss of social benefits. Corporate governance is a system that improves agency problems between managers and shareholders. The establishment of an effective system of corporate governance causes interests of managers and owners can be along the same direction, the company's operating performances improve and companies develop and spread. The results of empirical research conducted in other countries shows that good corporate governance leads to better corporate performance (Nikbakht et al, 2010).

One of the performance measures is concept of Sustainable Growth Rate (SGR). It is expected that the measure to be influenced by establishment of proper corporate governance mechanisms. The concept of sustainable development is defined as the maximum speed at which a company can grow without the completion of financial resources. Sustainable growth is a valuable factor because it combines the operational (profit margin and return on assets) and financial (capital structure and maintaining the ratio) performance. Managers and investors can examine whether the company's future growth plans are realistic and based on its current performance

and policies or not. Therefore, they provide a general understanding and insight about large companies growth leverage. In the sustainable growth theory it is suggested that there should be increased cooperation between companies and each source in the company (Haiying, 2012). According to what mentioned before, this study investigates how board characteristics affects sustainable growth of companies listed at Tehran Stock Exchange and answers the question whether board characteristics affects sustainable growth of companies listed at Tehran Stock Exchange or not?

## **2- Theories and development of hypotheses**

### *2-1- Concept of sustainable growth rate*

Growth rate has challenged managers for many years. For the implementation of the company's growth, companies are looking to create value for customers through different products and services. However, the growth in sales and assets is neither the key objective of a company nor the field value. In addition, the unrestrained growth may be in conflict with fiscal policies. If there is no interaction between strategic planning objectives and financial management objectives, then fiscal policies will be inconsistent (Daszynska & Słonski, 2010).

For many years, analysts considered benefit as a key tool to measure business performance. However, interest rate (Healthier and safer tool) is also considered as a tool to measure organization's financial fitness. Sustainable growth rate model can provide an excellent structure for describing business growth path. Sustainable growth rate is the highest growth rate of a company, without having to increase its financial leverage. Higher level of the growth indicates more financial flexibility of the company for development. When financial resources are obtained through company's internal sources, market signaling to the market about investment plans will be avoided (Brealey, 2004).

### *2-2- Board Characteristics*

#### *2-2-1 Size of board of directors*

Board of Directors is considered as the most important factor in controlling and monitoring the company's management and protection of shareholder resources. Results of conducted studies indicate that the board plays an important role to improve performance and value. Sizes of the board of directors, is another tool for company's guidance system investigated in different studies. Lipton and Lorsch (1992) found a significant relationship between capital structure and size of the board. Berger et al (1997) showed that companies with higher number of the board members have less debt ratio. However, Wen et al (2002) and Abor (2007) found a positive relationship between the Size of board and capital structure (krivogorsky, 2006). A too large board will lose its ability to perform its duties efficiently and it is in a symbolic position (Hermalin & Weisback, 2003). A smaller board is deprived of advantages of comments and specialized diversified suggestions available in the big board. In addition, a larger board has an advantage in areas such as experience, skills, gender, nationality, etc. while the small board uses less non-duty managers and has little time to perform monitoring tasks and decision-making.

The empirical research done on the relationship between board size and firm performance support the first view (Dalton & Dalton, 2005). O-Connell and Cramer (2010) found no significant relationship between the size of the board and company performance. Green (2005) suggested that number of members of board should be limited to create the possibility of discussion about company problems. Larger board of directors enjoys less power. In such board of directors, agreement and consensus on a particular issue is very difficult Yermack (1996) in a review of 452 major American corporation from 1987 to 1991 investigated a negative relationship between board size and firm profitability in the small and medium-sized Finnish companies and found similar results. Vafeas (1999) also concluded that a company with smallest board (at least 5 members) has more knowledge of revenues and profitability and therefore it has more controlling ability. Mak and Yuanto (2003) showed the value of the companies listed in Singapore and Malaysia has no significant effect on the company performance when the board members are less than 5. But when board members are more than 7, a negative relationship between these two groups will be observed.

Bennedsen et al (2004) concluded that a board with less than 6 members has no significant impact on firm performance, but when the number of board members increases to seven or more, a negative relationship between these two groups will be observed. One study by Wu (2000) showed that number of board members declined from 1991 to 1995 due pressure of institutional investors. On the other hand, results of a number of studies revealed the existence of a positive relationship between board members and the company's performance or lack of relationship between the two. Therefore, the following hypothesis is proposed:

H1: there is a direct significant relationship between the size of board and sustainable growth of companies listed at Tehran Stock Exchange.

### *2-2-2 Share of non-duty managers of the board*

According to agency theory, the company managers (agents) may maximize the utility function of the company in the expense of shareholder interests. Therefore, shareholders delegate - management the control of the board (Fama & Jensen, 1983). One of the issues raised related to the board matter will focus on the composition of the board. In England and Australia, at least three members are required for the composition of the board is required. Moreover, according to the laws of America, companies are required to have at least two-thirds of the composition of the board consisting of non-duty members. Code Berry report (1992) suggested that board of directors should have at least three non- duty or non executive to enable the mentioned members influence decisions made by Board of Directors. Moreover, in the report it was mentioned that non-duty managers should have independent views on strategy, performance, resources, selections, and standards of company operations (Bhagat & Bernard, 2002).

Fama and Jensen (1983) showed that board of directors is the biggest strategy for company internal controls that is responsible for supervision of high management acts. According to importance of the presence of internal- external organizational members (non-duty managers), effective control of management by Board of Directors is dependent on the internal- external composition of managers in the organization. Their main focus is the role of non-duty members to conduct controlling duties of the board. Due to the independence of directors of

management of the company, it seems that they are in better position than corporate executives to protect the interests of shareholders against managerial opportunism (Fama & Jensen, 1983). Duty and non-duty managers ratio in each company was investigated for several times due to its great impact on business unit and level of performance. In several theories including agency and stakeholder theories, it is emphasized that the ratio of non-duty managers has a great impact on the company performance. For example, proponents of stakeholder theory argued that duty and non-duty managers have different orientation towards shareholders. Duty managers are required to focus on decisions that will protect and improve the management position. Moreover, it was found that the executives reward is possibly considered based on short-term decisions that are observed more in projects with a more immediate financial return (Anne & Williams, 2003). Therefore, the following hypothesis is proposed:

H2: There is a positive direct relationship share of non-duty board managers and sustainable growth rates of companies listed at Tehran Stock Exchange.

### *2-2-3 Duality of managing director duties*

The situation of available Managing Director, Chairman or Vice-Chairman of the Board is called duality of managing director duties. In this case, managing director has potentially more authority. Moreover, dual structure allows the manager to control information available to other members of the Board more effectively. The role of chairman of the Board is to control the managing director. Chairman of the board has more control power on meetings orders and guidance of the Board of Directors. If the interests of the managing director to be different with the interests of stakeholders, then managing director influence will be problematic. The necessary Managing Director impact does not weaken the performance and it may influence market perception of the degree of control exercised over the management and financial reporting process (Aghayi et al, 2009). The power of centralized decision making obtained from duality of manager duties may decrease the Managing Director authority and natural tendency for optional disclosure of information (Sabzalipoor et al, 2012)

Fosberg (2004) found a negative relationship between duality of director duties and debts of the company. Other the other hand, Aber (2007) found that there is a positive relationship between the company debt ratio and duality of director duties (Rsayian, 2010). In many countries, Managing Director has simultaneously the role of the Chairman of the Board. For example, in 70 to 80 percent of American companies, Managing Director and Chairman of the Board are the same person. But in the procedure of corporate governance prevalent in Europe, these two roles are separated and only in 10 percent of English companies, Managing Director has simultaneously the role of the Chairman of the Board. In Asia, this situation exist between America and Europe (Coles et al, 2001). Theoretically, when Managing Director has simultaneously the role of the Chairman of the Board, there be a conflict of interests. Moreover, in such a case, the supervisory act of the board decreases. Combined role of chairman of the board and Managing Director (CEO) indicates that there is no separation between management control and supervision. Hence, the theoretical literature expresses the separation of the Managing Director and Chairman of the Board causes better performance of the company. However, empirical research on this issue indicates different results. Rüdiger et

al (2010) showed separation of the combined role of chairman of the board and managing director has no significant relationship with firm performance.

Cools et al (2001) examined a sample of 144 companies from 1987 to 1994. They found that in the companies in which the same person is not both managing director and chairman of the board, the better performance can be observed. Balatbat et al (2004) reviewed 213 cases of early release of Australian company shares from 1976 to 1993. They concluded that separation of the managing director and chairman of the board has a relationship with higher operational performance. On the other hand, separation of the roles of managing director and chairman of the board imposes expenses such as lack of coordination and lower decision making power which has a reverse impact on firm performance. Rachdi et al (2008) showed that there is a negative relationship between firm performance and combination of managing director and chairman of the board. Boyd (1995) used data collected from 192 companies in 12 industries. They came to the conclusion that in good corporate governance conditions, corporate performance increases when Managing Director has simultaneously the role of the Chairman of the Board.

Dalton et al (1998) reviewed 69 studies performed over 40 years. They found similar results. Results of Brickley et al study (1997) indicated that there is no performance advantages for the separation of the roles of managing director and chairman of the board, so it can be said that:

H3: There is a significant relationship between duality of managing director duties and sustainable growth rates of companies listed at Tehran Stock Exchange.

#### *2-2-4 Board of Directors meetings*

Number and frequency of Board of Directors meetings are considered as important factors to perform supervisory duties effectively. It is obvious that a board of directors that repeatedly attempted to organize work meetings has more time to spend on discussions about financial reporting. Therefore, it helps increased quality of the reports. In regulations letter of corporate governance system it is declared that board of directors of companies listed at Stock Exchange should held work meetings at least once a month (Mashayekhi and Mohammadabadi, 2011). Board of directors meetings is a place where executives and board members provide and share information about the company's performance, politics and plans. Various meetings help to improve relationship between managers and board members. But excessive board meetings, in addition to the imposed costs (such as time management, travel expenses and remuneration of board meetings) causes deviation of company managers from operational and daily responsibility. Therefore, the board of directors should balance between cost, benefit and number of meetings.

If the board can held the board meetings, it can obtain economic benefits based on agency theory, depending on the company environment (Nikbakht et al, 2010). A study by Adams and Daniel (2004) showed that more board meetings will increase the firm value. Vafeas study (1991) concluded that increasing the number of board meetings after the company's poor performance causes faster returning of bad performance which increases the unit commercial performance. Studies showed that holding board meetings can increase productivity of the director (Haiying, 2012). So:



H4: There is a significant relationship between the presence of Board of Directors in meetings over a year with sustainable growth rate of companies listed in Tehran Stock Exchange.

#### *2-2-5 Maintaining (ownership) shares of the Board of Directors*

Agency theory describes all various problems related to the issue of separation of ownership and management as well as mechanisms to eliminate the problems. Some of these problems are lack of efforts to act in the best way towards interests of the owners and lack of symmetry between information of managers and owners. Management ownership indicates the percentage of shares held by the Board of Directors members. Stock ownership is among mechanisms that seem to have motivational effects for aligning the interests of owners and managers. However, if the level of ownership of Board members allow for concentrated power with low motivational factors, a conflict of interest occurs again (Pergola et al, 2004). Studies conducted by Varfield et al (1995) indicated that companies with higher value of management ownership have profits with high explanatory power of returns as well as smaller accrual accounting adjustments. Jensen and Meckling (1976) suggested that when management has little shares in the company, incentives for non value-maximizing behavior, such as failure to perform the duties and to obtain additional benefits, will be increased. It is expected that financial data quality and management performance to be improved by increased management ownership level. Wu (2006) suggested that management's willingness for timely and relevant disclosure of information to reduce costs arising from information asymmetry will be increased by increased management ownership level. Mashayekh and Esmayili (2006) found no relationship between ownership of Board members and quality of interests. Because of this power and authority, managers would be able to create new jobs, new motivation and new strategies.

Oovyt and Miniyard (1993) also stated that managers ownership, especially duty managers, has a positive relationship with the performance because the share ownership enables to better allocation of resources to the various stakeholders. This enables managers to maintain the image and reputation of the company related to foreign shareholders as the aspect of intellectual capital of each business unit (Ahmadpoor et al, 2012). Mueller and Spitz (2006) analyzed the relationship between managerial ownership, including shares held by board family members and performance of private German medium and small size companies by motivational hypothetical experiment. They used a sample of 356 firms in the service center that are associated with trading from 1997 to 2000. Results of this study demonstrate that performance of firms with management ownership percentage above 40 percent is improving. Therefore, it can be said that:

H5: There is an inverse relationship between maintaining sustainable growth of share of board of directors in companies listed at Tehran Stock Exchange.

### **3- Methodology and research design**

The present study is an applied and descriptive-correlational study in terms of purpose and describing the present situation. Moreover, it is a non-experimental study in terms of researcher control over variables. Since past data are used in this study, so in terms of the data type, Ex post facto methodology is used. The data for this study collected in a 7 years' time

period from 2006 to 2012 by statistical population including all companies listed at Tehran Stock Exchange.

#### Population, sample and sampling method

This study was conducted using data of 430 companies listed at Tehran Stock Exchange. Following limitations were conducted and number of companies limited to 54 companies:

1. Companies separated from each other based on their financial reporting (end of March) and companies with other financial reporting date were eliminated.
2. Leasing companies, banks, financial intermediaries which played no role in the outcome of the research excluded from the study.
3. Not all companies in the Exchange provide the same information. Certain financial information of the companies in the study did not present data related to variables which eliminated from the statistical population.
4. Data related to companies that have been active during the study period are used in the study.

#### **Content analysis**

Required information for literature review were collected from Persian and Latin Professional journals and articles extracted from Internet. Data required for testing the research hypotheses collected from stock reports (annual financial statements and explanatory notes) and stored in a database to compute variables. Moreover, Stock exchange organizational information software such as Rahavard Novin was used for data collection. Collected data were entered in to Excell software to compute the study variables. Results of the measurement of variables entered Eviews software for statistical computations.

#### **Evaluation of variables**

According to the research hypotheses testing using regression analysis models, these hypotheses are discussed based on three groups of variables, including dependent ,independent and control variables.

Main variables (dependent variables) and their method of calculation using the the research hypotheses are:

1. Net Profit Margin on Sales, NP: obtained by dividing the profit after tax reduction to net sales. This ratio represents the percentage of the net profits of each sale representing percentage of net profit to sales
2. Assets Turnover, AT, obtained by dividing the net profit to average total assets.
3. Revenue Retention Rate, RR, obtained by subtracting the number 1 from the ratio of cash dividends per share to dividend of per share
4. Equity Multiplier, EM ratio: obtained by ratio of total assets to shareholders' equity
5. Sustainable growth rate: obtained by multiplying the net profit margin in asset turnover at the rate of maintenance income in shareholders' equity. It is calculated according to the following equation:



$$SGR = NP \times AT \times RR \times EM$$

Independent variables (explanatory variables) of the study and their calculation method are:

1. The size of the board of directors: the number of board members in each of years of the study.
- 2 Proportions of independent directors, DR (board independence): obtained by the ratio of non-duty managers to sum of members of the board.
3. CEO duality, DU (Dummy variable): This variable is zero if Managing Director has simultaneously the role of the Chairman of the Board and it is 1 if the role are different.
4. Board Meeting, BM: Number of meetings held by the Board at any time of the years of study.

Finally, the control variables and their calculation methods are as follows:

1. Company Size, CS: is obtained by the log of total assets on the balance sheet date.
2. Asset-liability Ratio, DEBT: ratio of debt to total assets.

### **Models of the research**

The first hypothesis was considered on the relationship between board sizes (BS) and sustainable growth rate (SGR) and tested by the following model:

$$SGR_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 LeV_{it} + \beta_3 Size_{it} + \varepsilon_{i,t}$$

The second hypothesis was considered on the relationship between the proportions of independent directors and sustainable growth rate (SGR) and tested by the following model:

$$SGR_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 LeV_{it} + \beta_3 Size_{it} + \varepsilon_{i,t}$$

The third hypothesis was considered on the relationship between MO and sustainable growth rate (SGR) and tested by the following model:

$$SGR_{it} = \beta_0 + \beta_1 MO_{it} + \beta_2 LeV_{it} + \beta_3 Size_{it} + \varepsilon_{i,t}$$

The fourth hypothesis was considered on the relationship between the presence of board of directors (BM) in board meetings and sustainable growth rate (SGR) and tested by the following model:

$$SGR_{it} = \beta_0 + \beta_1 BM_{it} + \beta_2 LeV_{it} + \beta_3 Size_{it} + \varepsilon_{i,t}$$

The fifth hypothesis was considered on the relationship between the maintenance of the proportions of board of directors (DU) and sustainable growth rate (SGR) and tested by the following model:

$$SGR_{it} = \beta_0 + \beta_1 DU_{it} + \beta_2 LeV_{it} + \beta_3 Size_{it} + \varepsilon_{i,t}$$

#### 4- Results and findings of the study

##### Results of testing the first hypothesis

With regard to the combined data of the study, F-test (Chow test) will be conducted in order to choose the estimation method of the model between two alternative ways of Pooling and Panel. In this study, according to the model type, the fixed cross-sectional and time effects have been tested. Probability of the fixed cross-sectional effects is less than 0.05 according to Chow test in all hypotheses and probability of the fixed time effects is greater than 0.05 according to Chow test in all hypotheses. Therefore, the fixed cross-sectional effects model is preferred. Moreover, for all hypotheses, the results of Durbin- Watson statistics showed the relative independence of the data.

The first hypothesis was considered on the relationship between board sizes (BS) and sustainable growth rate (SGR) and tested by the following model

$$SGR_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 Lev_{it} + \beta_3 Size_{it} + \varepsilon_{i,t}$$

Table 1 shows the results of testing the first hypothesis.

Table (1): The first hypothesis analysis

0.259545					Adjusted determination coefficient
0.31263					Regression deviation
3.359751					F-test
0					Prob (Probability)
2.003723					Durbin-Watsun statistic
Confidence level	Probability	t-test	Standard error	Coefficient	Explanatory variable
Insignificant	0.4081	0.828377	0.011355	0.009407	BS
%99	0.0038	2.911589	0.054712	0.1593	lev
%95	0.0327	-2.145	0.009659	-0.02072	SIZE
Insignificant	0.0952	1.673734	0.066891	0.111959	C

According to table 1, the adjusted determination coefficient of the model is 0.26. Therefore, on average, 26% of the changes in dependent variable (sustainable growth rate (SGR)) is explained by this model. According to F-test and its probability that is less than 0.05, the hypothesis of the linearity of the relationship between dependent and independent variables is confirmed. Therefore, it can be concluded that the overall model of regression is significant at 99% level of confidence. Table 1 shows the partial coefficients of the regression. With regard to the probability of the variables, board size (BS), which has a probability of greater than 0.05, is significant at 95% level of confidence. Moreover, of the covariates, financial leverage and firm size respectively have a probability less than 0.01 and less than 0.05. Thus, the above-mentioned covariates are significant in the model at 99% and 95% level of confidence, respectively. As a result, according to insignificance of the variable of BS, which is the main variable of the model, it can be claimed that there was no significant relationship between the

board size and sustainable growth rate of the company. Therefore, the first hypothesis of the study is rejected.

**Results of testing the second hypothesis**

The second hypothesis was considered on the relationship between the proportions of independent directors (DR) and sustainable growth rate (SGR) and tested by the following model:

$$SGR_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 Lev_{it} + \beta_3 Size_{it} + \varepsilon_{i,t}$$

Table 2 shows the results of testing the second hypothesis.

Table (2): The second hypothesis analysis

0.293829					Adjusted determination coefficient
0.323136					Standard deviation of regression
3.801168					F-test
0					Prob (Probability)
1.988515					Durbin-Watson statistic
Confidence level	Probability	t-test	Standard error	Coefficient	Explanatory variable
Insignificant	0.2585	-1.1319	0.0469	-0.05309	DR
<b>%95</b>	0.0201	2.336827	0.06597	0.15416	lev
Insignificant	0.327	-0.98162	0.018295	-0.01796	SIZE
<b>%99</b>	0.0006	3.476911	0.052706	0.183255	C

According to table 2, the adjusted determination coefficient of the model is 0.29. Therefore, on average, 29% of the changes in dependent variable (sustainable growth rate (SGR)) is explained by this model. According to F-test and its probability that is less than 0.05, the hypothesis of the linearity of the relationship between dependent and independent variables is confirmed. Therefore, it can be concluded that the overall model of regression is significant at 99% level of confidence. Table 2 shows the partial coefficients of the regression. With regard to the probability of the variables, proportions of independent directors (DR), which has a probability of greater than 0.05, is not significant at 95% level of confidence. Moreover, of the covariates, financial leverage has a probability less than 0.05. Thus, it is significant in the model at 95% level of confidence. As a result, according to insignificance of the variable of DR, which is the main variable of the model, it can be claimed that there was no significant relationship between the proportions of independent directors (DR) and sustainable growth rate of the company. Therefore, the second hypothesis of the study is rejected.

**Results of testing the third hypothesis**

The third hypothesis was considered on the relationship between MO and sustainable growth rate (SGR) and tested by the following model:

$$SGR_{it} = \beta_0 + \beta_1 MO_{it} + \beta_2 LeV_{it} + \beta_3 Size_{it} + \varepsilon_{i,t}$$

Table 3 shows the results of testing the third hypothesis.

Table (3): The third hypothesis analysis

0.305264					Adjusted determination coefficient
0.354979					Standard deviation of regression
3.958073					F-test
0					Prob (Probability)
2.006122					Durbin-Watson's statistic
Confidence level	Probability	t-test	Standard level	Coefficient	Explanatory variable
%95	0.0253	-2.24803	0.019149	-0.04305	(MO)
%99	0.005	2.823835	0.06528	0.184339	lev
Insignificant	0.0805	-1.75333	0.01153	-0.02022	SIZE
%99	0.0004	3.598695	0.04036	0.145244	C

According to table 3, the adjusted determination coefficient of the model is 0.30. Therefore, on average, 30% of the changes in dependent variable (sustainable growth rate (SGR)) is explained by this model. According to F-test and its probability that is less than 0.05, the hypothesis of the linearity of the relationship between dependent and independent variables is confirmed. Therefore, it can be concluded that the overall model of regression is significant at 99% level of confidence. With regard to the probability of the variables, the variable of duality of the board of directors' duties, which has a probability less than 0.05, is significant at 95% level of confidence. Moreover, of the covariates, financial leverage has a probability less than 0.01. Thus, it is significant in the model at 99% level of confidence. However, the variable of the company size has a probability greater than 0.05. Therefore, it is not significant at 95% level of confidence. As a result, according to significance of the variable of MO, which is the main variable of the model, it can be claimed that there was a significant relationship between MO and sustainable growth rate of the company. Therefore, the second hypothesis of the study is accepted. Since the sign of the coefficient is negative in this relation, the relationship between MO and SGR is reverse. Therefore, if there is a duality of the board of directors' duties, sustainable growth rate will be decreased.

**Results of testing the fourth hypothesis**

The fourth hypothesis was considered on the relationship between the presence of board of directors (BM) in board meetings and sustainable growth rate (SGR) and tested by the following model:

$$SGR_{it} = \beta_0 + \beta_1 BM_{it} + \beta_2 LeV_{it} + \beta_3 Size_{it} + \varepsilon_{i,t}$$

Table 4.7 shows the results of testing the fourth hypothesis.

Table (4): The fourth hypothesis analysis

0.300515					Adjusted determination coefficient
0.355959					Standard deviation of regression
3.892282					F-test
0					Prob (Probability)
2.002661					Durbin-Watson's statistic
Confidence level	Probability	t-test	Standard error	Coefficient	Explanatory variable
Insignificant	0.5108	-0.65828	0.00805	-0.0053	(BM)
<b>%99</b>	0.0014	3.220062	0.051734	0.166585	lev
<b>%95</b>	0.0234	-2.27779	0.008227	-0.01874	SIZE
Insignificant	0.0687	1.826675	0.123136	0.22493	C

According to F-test and its probability that is less than 0.05, the hypothesis of the linearity of the relationship between dependent and independent variables is confirmed. Therefore, it can be concluded that the overall model of regression is significant at 99% level of confidence. Coefficient of determination shows the degree of variability in dependent variable that can be explained by regression. According to table 4.7, the adjusted determination coefficient of the model is 0.30. Therefore, on average, 30% of the changes in dependent variable (sustainable growth rate (SGR)) is explained by this model. With regard to the probability of the variables, the variable of the presence of the board of directors in the board meetings, which has a probability greater than 0.05, is not significant at 95% level of confidence. Moreover, of the covariates, financial leverage and the size of the company have probabilities less than 0.01 and less than 0.05, respectively. Thus, the above-mentioned covariate variables are significant in the model at 99% and 95% level of confidence. However, according to the significance of the variable of BM, which is the main variable of the model, it can be claimed that there was no significant relationship between BM and sustainable growth rate of the company. Therefore, the fourth hypothesis of the study is rejected.

**Results of testing the fifth hypothesis**

The fifth hypothesis was considered on the relationship between the maintenance of the proportions of board of directors (DU) and sustainable growth rate (SGR) and tested by the following model:

$$SGR_{it} = \beta_0 + \beta_1 DU_{it} + \beta_2 Lev_{it} + \beta_3 Size_{it} + \varepsilon_{i,t}$$

Table 4.8 shows the results of testing the fifth hypothesis.

Table (5): The fifth hypothesis analysis

0.316681					Adjusted determination coefficient
0.355212					Standard deviation of regression
4.111702					F-test
0					Prob (Probability)
2.023989					Durbin-Watson's statistic
Confidence level	Probability	t-test	Standard error	Coefficient	Explanatory variable
Insignificant	0.765	0.299153	0.000139	4.17E-05	DU (Maintenance of the board's shares)
%95	0.0252	2.248764	0.054189	0.121858	lev
Insignificant	0.2096	-1.25706	0.010771	-0.01354	SIZE
%99	0.0004	3.60524	0.039234	0.141449	C

According to table 4.8, the adjusted determination coefficient of the model is 0.31. Therefore, on average, 31% of the changes in dependent variable (sustainable growth rate (SGR)) is explained by this model. According to F-test and its probability that is less than 0.05, the hypothesis of the linearity of the relationship between dependent and independent variables is confirmed. Therefore, it can be concluded that the overall model of regression is significant at 99% level of confidence. With regard to the probability of the variables, the maintenance of the board of directors' shares, which has a probability less than 0.05, is not significant at 95% level of confidence. Moreover, of the covariates, financial leverage has a probability less than 0.05. Thus, it is significant in the model at 95% level of confidence. However, the variable of the company size has a probability greater than 0.05. Therefore, it is not significant at 95% level of confidence. As a result, according to the insignificance of the variable of DU, which is the main variable of the model, it can be claimed that there was no significant relationship between maintenance of the board of directors' shares (DU) and sustainable growth rate of the company. Therefore, the fifth hypothesis of the study is rejected.

### Discussion and conclusion

The first hypothesis was considered and tested on the effectiveness of board sizes (BS) on sustainable growth rate (SGR). The results indicated that there was no significant relationship between board sizes (BS) and sustainable growth rate. The possible reason for this may be that board sizes has been not a factor influencing sustainable growth rate of our selective companies and the number of board members is based on the Iranian law, which has large variations in different companies. Thus it cannot an effective factor in sustainable growth. This result is incompatible with the result reported by Lio (2012). The conducted studies have attended to the role of board sizes in the increased performance and there has been no other study on the relationship between the board size and sustainable growth rate of the companies.

The second sub-hypothesis was considered and analyzed on the relationship between the proportions of independent directors and sustainable growth rate (SGR) of the companies. Results indicated that there was no significant relationship between proportions of



independent directors and sustainable growth rate. In other words, the role played by the board of directors was not compatible with the representative theory and the ability of such supervision instrument is poor for sustainability of the company growth. In general, all conducted studies, including the present study have viewed the ratio of independent members of board of directors as the index of board independence whereas it may be that independent members are not actually independent due to the factors, such as family relationships, work dependencies, and so forth and interests of the company are tied to their interests. The possible reason of this may be synchronous membership of independent members in board of directors of several companies. This result is incompatible with Lio's (2012) study. Previous studies have investigated the effect of independent members on a range of the board's decisions, including CEO dismissal (Weisbach, 1988), negotiations of auction and bids (Byrd and Hickman, 1992), conservatism (Bix et al., 2004), and performance of the company (Baysingr and Bolter, 1985). However, there were studies on the relationship of this variable and sustainable growth. The third hypothesis was considered and tested on the relationship between MO and sustainable growth rate (SGR). The results indicated that there was an inverse significant relationship between MO and sustainable growth rate. Therefore, if there is duality in the board's duties, the growth rate will be decreased. It may be that when the chairman and CEO of a company is the same person, his control reduces, his independence will be also questioned, and it will have a negative effect on the sustainability of the company's growth. This result is compatible with the result reported by Lio (2012). Moreover, other studies, such as Rudiger et al. (2010) showed that there was not a significant relationship between the separation of the combined role played by CEO and managing director. Cools et al. (2001), Taylor et al. (2004), Rochdi et al. (2008), and Brickley et al. (1997) found that those companies, in which CEO and managing director is not the same person, have a better performance than the companies with different persons.

The fourth hypothesis was considered and tested on the relationship between the presence of board of directors (BM) in the board meetings and sustainable growth rate (SGR). The results indicated that there was no significant relationship between the number of the presences of board of directors in the board meetings during a year and sustainable growth rate. The possible reason may be that the board meetings are only hold to meet the obligation and observe the legal provisions in amendments to the Commercial Code and thus they may have not a great efficiency. This result differs from the finding of Lio (2012) who has found an inverse significant relationship between the presence of board of directors in the board meetings during a year and sustainable growth rate. In addition, previous studies have been conducted on the number of valuable board meetings of the company (Adams and Ferira, 2004) and return of the poor performance (Vafias, 1991).

The fifth hypothesis was considered and tested on the relationship between the maintenance of the proportions of board of directors (DU) and sustainable growth rate (SGR). Results indicated that there was not a significant relationship between the maintenance of the proportions of board of directors and sustainable growth rate. The reason may be that board of directors did not use this situation effectively and efficiently. This result is different from Lio's (2012) study. Moreover, previous studies have examined the relationship between the management ownership (the maintenance of the proportions of board of directors) and accrual

adjustments (Warfield et al., 1995) and the performance of Jenson and McLing's company and quality of the profit (Mashayekh & Esmaeili, 1385).

### **Recommendations of the study**

According to the results of the study, the variable of the dual duty of the managing director had an inverse significant relationship with sustainable growth rate of the companies. It means that if there is a duality of the board of directors' duties, sustainable growth rate will be decreased. Therefore, since sustainability of the company's growth is an effective factor for the investors, it is recommended that the companies separate the role of the chairman of the board of directors from the role of managing director. Moreover, according to the supervision role and function of independent members, the presence of at least one financial independent member in board of directors has been emphasized by the corporate governance. Thus, it is expected that such supervision instrument has greater ability in sustainable growth of the companies.

In addition, it is expected that the companies do not hold the board meeting just to meet their legal obligations. In general, the results of the study indicated that board of directors has a symbolic role in Iran and does not efficiently perform his duties in order to reduce the problems in the representatives and sustain the growth of the companies. Hence, with regard to the process of privatization and downsizing of government, which is one of the most important economic issues, it is necessary to adopt and implement the corporate governance regulations more quickly so that it can pay special attention to the corporate governance system and board of directors.

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