



## The Relationship between Board Independency and Return on Owners Equity

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### Abstract

Board independency as a corporate governance mechanism has been investigated in many studies. Since board of directors is considered as one of the most important management performance monitoring tools, board independency is very important. This study aims to investigate the relationship between board independency and return on owners equity of companies listed on Tehran Stock Exchange. To achieve this goal, the influence of other variables that may affect the return on owner's equity was controlled. These variables include firm size, firm age and financial leverage. The research sample included 89 companies within the period of 2009-2013. The statistical method used to test the research hypotheses was regression model based on the panel data. The results of hypotheses testing show that there is no significant relationship between board dependency and return on owner's equity.

**Keywords:** Board Independency, Return On Owners Equity, Firm Performance.

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### Introduction

Firm ownership had a significant effect on companies control method through stock ownership. Therefore, owners delegated corporate governance to managers and the stock exchange was formed. One of the tools for optimal allocation of resources is the securities market.

Therefore, any problem that arises in the market is not only an economic issue but also a social problem in which the public interest of the society will be jeopardized. To resolve this problem, one of the important concepts introduced in the past two decades is corporate governance (Hassas Yeganeh et al., 2009). Shleifer and Vishny (1997) define corporate governance as a means through which funders of firms ensure the return on their investment. As shareholders hire managers to handle their investment in the firms' activities,

kind of information asymmetry occurs between managers and shareholders. Managers within the company enjoy competitive information advantage rather than share holders (Zubaidah et al., 2009). Such a position enables managers to use the firm's wealth in favor of their own benefits. Therefore, agency theory introduces corporate governance as a mechanism to reduce such conflicts by monitoring managers' performance (Brickley and James, 1987). According to agency theory, the importance of corporate governance is to mitigate agency conflict between managers and shareholders. In other words, corporate governance is a mechanism to align the objectives of management and shareholders (Fooladi and Zaleha, 2012).

Board independency as a corporate governance mechanism has been investigated in many studies. Since board of directors is considered as one of the

most important management performance monitoring tools, board independency is very important (Abdollah, 2004). Board independency is as a proportion of the total number of board of directors that have non-executive roles. It is stated that board of directors with non-executive members control opportunistic behavior of managers more and thus the shareholders' interests will be maintained better than the board of directors with dependent members (Zubaidah et al., 2009).

The presence non-executive managers in the board of directors of firms and their supervising function as independent individuals greatly contribute to the reduction of conflicts of interest between shareholders and managers of firms (Rahimian et al., 2009). The relationship between corporate governance and firm performance (as function includes not only economic benefits but also performance management) has been the main topic of the studies associated with corporate governance (Kumar and Zattoni, 2013). With the separation of ownership from management and development of a huge conflict of interest between owners and managers, evaluation of firms' performance and their managers and leaders are interesting topics for various classes such as creditors, owners, government, and even managers. Developing the value and increasing the wealth of shareholders over the long term are some of the most important objectives of firms and the increase of wealth is only achieved through good performance (Kashanipoor and Rasaeian, 2009). Firm performance is the result of its activities and the return on its investments in a specific period of time. In financial literature different criteria are used to measure performance such as return on assets, Tobin index, return on investment, return on owners equity, economic value added and earnings per share each one of which has some advantages and limitations (Hosseini et al., 2010).

Given the above points, the main research question is expressed as follows:

Is there any relationship between return on owners equity of companies listed on Tehran Stock Exchange and board independency?

### **Board Independency**

Board independency is as a proportion of the total number of board of directors that have non-executive roles. It is stated that board of directors with non-executive members control opportunistic behavior of managers more and thus the shareholders' interests will be maintained better than the board of directors with dependent members (Zubaidah et al., 2009). The presence non-executive managers in the board of directors of firms and their supervising function as

independent individuals greatly contribute to the reduction of conflicts of interest between shareholders and managers of firms (Rahimian et al., 2009).

Bound board of directors is usually equivalent to managing director. Managing director is the highest executive authority of the firm and has full power in selecting the chief executives (bound). Thus, according to the implied connections between bound members of the board and CEO, the responsible managers may not be able to effectively carry out their regulatory duties. Meanwhile, bound managers might exploit their position through the control of benefits and job security plans. Unlike bound managers, non-executive directors are independent of firm management and therefore act more effectively in playing their monitoring role.

Therefore, theoretically, when the board is independent and composed of a high proportion of non-executive members, company performance will be upgraded. In Australia and England at least three non-executive members are required on the board (Nikbakht et al., 2010: 255).

Non-executive members of the board control the decision of executive managers by monitoring them. As a result, combination of the board could affect financial performance of the firms.

If a majority of the board is made up of independent non-executive directors, the board of directors will be more efficient.

To increase board independence from management, agency theory supports the idea that the board should be under the control of external (non-executive) managers because the opportunistic behavior of managers should be under the control and supervision by non-executive managers. Such managers can affect the quality of management decisions and provide appropriate measures that should be taken by management to improve the company's performance (Yeganeh et al., 2008).

The effectiveness of the separation of decision-making by the management and control by the board of directors results from the fact that non-executive directors because of their interests are not willing to conspire with executives. Since outside directors are often holding executive positions in management or decision-making in other companies, they are highly motivated to earn a reputation as the expertise to make decisions and to enjoy better job opportunities in the future. Lack of consistency between managers' incentives to use owners' wealth for their personal interests and non-executive directors' incentives to earn fame will improve monitoring over the firm management and will reduce the agency costs (Jensen, 1993).

## Review of Literature

Many studies have been carried out on the effect of the board of directors in terms of its executive and non-executive members on the financial performance of companies.

Livnat et al. (2016) in a study entitled, "Do directors have a use-by date? Examining the Impact of Board Tenure on Firm Performance" began to investigate whether experienced boards, due to their growing knowledge of the firm environment, would do their supervision and consulting tasks better or because of deterioration of technical knowledge and loss of independence, they would have poor performance. Using an extensive data collection (including 3000 firms over a period of 18 years), they came to the conclusion that the tenure of the board of directors at first has a positive impact on the company's market value, but after a period of 9 years, the effect is reversed. They also showed that the adverse effect of the tenure of the board on the company's performance is more intense for companies with high growth. They believed that this result is related to deterioration in the ability of managers in - technical fields.

Zehir et al. (2015) in an article entitled "The effects of the structure of the board of directors on the performance of small to medium scale enterprises" investigated the effect of board of director and its structure on performance of small and medium scale Turkish enterprises. In this study, 703 firms (204 manufacturing firms, 347 service firms, and 152 manufacturing- service firms) were used as samples. The findings of the research indicate that small and medium scale enterprises that have board of directors have better performance than those without board of directors. Moreover, education level of the board has a positive effect on firm performance. Regression analysis and analysis of variance were used to analyze the data. Mohd Ghazali (2014) in a research entitled "Board of directors and performance of Malaysian companies" concluded that independence of the board and percentage of state ownership have a positive and significant impact on the performance of Malaysian companies. Other findings of the study suggest that since in Malaysia, major businesses are family ones, separating the role of CEO from the head of the board of directors may not improve market performance of the companies. In this study, only the financial data for 2010 were used. In addition, regression analysis was used for hypothesis testing.

Agyemang et al. (2014) in a research entitled "Board of directors and firm performance of banking institutions: A Ghanaian experience" showed that the percentage of non-executive directors positively affected the performance of Ghanaian banking in the period of 2007- 2012. The

findings also showed that the number of annual meetings of the board of directors had a positive impact on the performance of these institutions. However, there was no significant relationship between the board size and performance.

Bhagat and Black (2002), investigated the relationship between the board and four measures of financial performance of firms including Tobin's Q ratio, return on assets, asset turnover and return on long-term securities in 8280 American companies. The results of their study show that the presence of non-executive members on the board will not improve the financial performance of companies. They also stated that there is no significant relationship between the board and long-term financial performance criteria.

Qalibaf Asl and Rezaei (2007) examined the effect of the board on the performance of companies listed on Tehran Stock Exchange. The results indicated there is no significant relationship between that the proportion of outside board members and firm performance.

## Research Method

According to available categories in research method, the present study is an applied research in terms of objective and a descriptive and correlational research in terms of research method. According to the study of companies listed in Tehran Stock Exchange over a period of five years, the structure of the data used in the study is panel data which is a combination of cross sectional and time series data.

In this study, 85 companies were studied over a period of five years (2009-2013). Therefore, there are totally 445 observations for each of the variables in the research. In other words, 445 years of companies were analyzed.

Given that in this study we investigate the effect of one of the mechanisms of corporate governance on firm performance, the research hypothesis has been developed as the following:

**The main hypothesis of the research:** There is a positive relationship between board independency and owners equity of companies listed on Tehran Stock Exchange.

## Research Variables

In this study, three groups of dependent, independent and control variables are used. The variables include:

### Dependent variable

Firm performance plays the role of the dependent variable. To measure the performance of the firms, the following variable has been used:

- Return on owners equity (profit before tax on owners equity)

## Independent variable

One of the mechanisms of corporate governance is considered as independent variable:

- Board independency: the number of non-executive members over the total number of board members

## Control variables

In order to remove other variables that may affect the relationship between independent and dependent variables, the following variables are used as control variables:

1. Firm size **FSize**: Natural logarithm of total assets
2. Firm **Age**: The difference between this year and the year firm was established
3. Financial Leverage **Lev**: Total debt to book value of owners equity

## Results

### 1. Descriptive Statistics

Since there are 89 firms in this study in a time period of five years (2009-2013), there are totally

445 observations for each variable of the research. In other words, 445 years of firms have been analyzed. According to the above table, the average life of the studied firms is 36 years with a standard deviation of 13 years. The average value obtained for the fiscal lever shows that the sample companies mainly use debt rather than share to finance their own projects. With respect to return on asset indices, the rate of profitability of sample companies for shareholders is approximately 14% with standard deviation of 14%. The findings show that the studied companies are weak in terms of profitability. In Table 1-10 the descriptive indices of independency are also displayed as internal corporate governance mechanism. According to the results, non-executive members make up more than 50% of the total members of the board of the surveyed companies (68% with a standard deviation of 19%). In each sample year-firm, 5 people are the members of the board in average.

**Table 10.1:** Descriptive indices of the main variables of the research

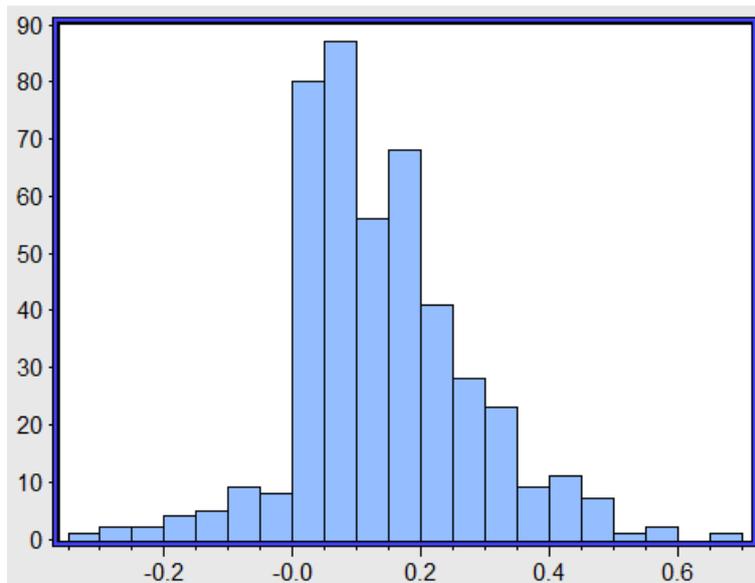
Variable	Number of observations	Mean	Median	standard deviation	minimum	maximum
Company Age	445	36.090	38.000	12.875	11	62
Financial Leverage	445	1.593	1.537	8.004	-64.25	120.84
Firm size	445	13.729	13.601	1.380	10.50	18.82
Board independency	445	0.681	0.667	0.190	0	1
Return on owners equity	445	0.138	0.121	0.137	-0.30	0.69

## 2. Evaluation of Infrastructural Tests

In order for the results of the estimation of regression models to be valid and reliable, a number of basic assumptions need be established that will be reviewed in this section. First, the normality of dependent variables will be tested using Jarkko-Bra test. Then, co-linearity between explanatory variables will be checked out using Pearson correlation test. Finally, the consistency of residuals variance will be examined using Bartlett, Brown-Forsythe tests.

### 2.1. Normality Assessment

One of the most important basic assumptions in linear regression models is the normality of dependent variable. In this study, return on owners equity plays the role of dependent variable. Therefore, in this case, the normality of the mentioned variables is emphasized. One of the best tools for judging the distribution of variables is the use of rectangular graphs or histograms. Figure 1-10 shows rectangular charts for return on assets.



**Figure 10.2:** Rectangular chart of owners equity

As can be seen, the rectangular chart of return on assets is highly symmetric and the rectangular chart in the right side is skewed. In this figure, remote points in both sides of the distribution are well evident. Such observations in financial studies are very common and prevent the normality of the studied variable (Momeni et al., 2010: 453).

There are a variety of techniques to normalize a variable. One of the most common ways is to remove remote points. As for the skewed to right distributions, logarithmic transformations are usually used. Studies show that removal of outliers is effective for returns on assets. Therefore, 0.02 of the largest and smallest observations were excluded from the data set.

The results of Jarkko-Bra test are displayed in Table 3-10 for better investigation of the assumption of normality of dependent variable before and after normality conversions. Statistical hypotheses in this test are expressed as follows:

$H_0$ : The desired variable is normally distributed.

$H_1$ : The desired variable is not normally distributed.

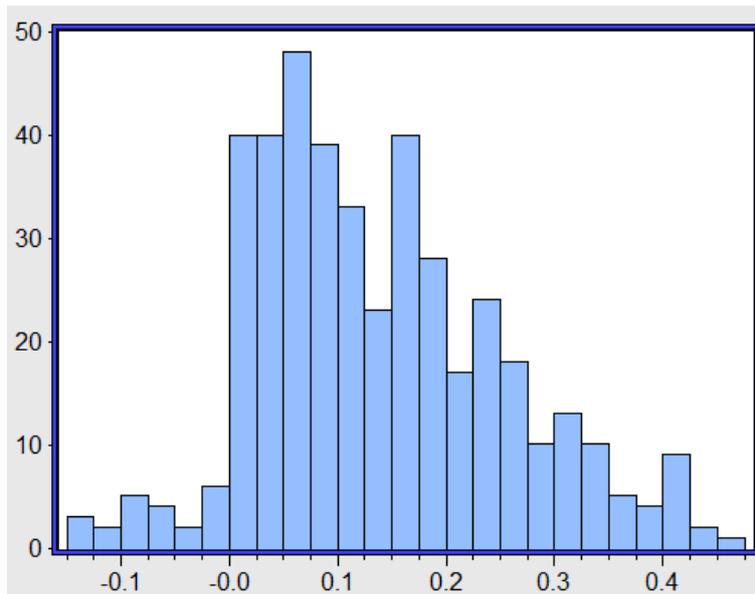
As can be seen, after revision the statistic value of Jarkko-Bra test for ROA has decreased greatly. Therefore, the normality of return on owners equity cannot be accepted ( $JB=39.740$ , Sig.  $<0.05$ ), but it can at least be accepted at error level of 0.0001 (Sig=0.0002).

**Table 10.3:** Results of Jarkko-Bra test for checking the normality of the dependent variables

Variable	Number of observations	Jarkko-Bra statistics - (JB)	Significance level (Sig.)	Coefficient of skewness (SK)	Prominence coefficient (KU)
Return on owners equity	445	39.740	0.000	0.392	4.237
Return on owners equity (After amendments)	427	16.696	0.000	0.483	2.926

In addition to Jarkko-Bra test results mentioned above, the coefficients of skewness and prominence for making judgments about the effectiveness of reforms on the characteristics of the distribution have been reported in Table 10-3. In theory, coefficients of skewness and prominence for a normal distribution are 0 and 3, respectively. As can be seen in the table, the coefficients of

skewness and prominence of each performance index after transformations are closer to corresponding amounts of a normal distribution. For visual judgments about the success made in transformations, the rectangular graph of return on assets after conversion is displayed in Figure 10-4.



**Figure 10.4:** Rectangular graph of return on owners equity after removing remote points

### 2.2 Evaluation of Co-Linearity

Another basic assumption in regression models is the lack of co-linearity between explanatory variables. To check this point, different methods have been introduced in statistical sources. Here, Pearson correlation test is used. Statistical hypotheses in this test are expressed as follows:

H<sub>0</sub>: There is no correlation between the two variables.

H<sub>1</sub>: There is a correlation between the two variables.

The results of correlation test between the explanatory variables are reported in Table (10. 5). Significant correlation coefficients are specified by \*. As can be seen, all correlation coefficients are small. Therefore, it can be accepted that there is no serious co-linearity problem between the explanatory variables.

**Table 10-5:** Pearson correlation coefficients between explanatory variables

	Firm age	Financial leverage	Firm size	Board independency
Firm age	1			
Financial leverage	0.138*	1		
Firm size	-0.004	-0.003	1	
Board independency	-0.050	-0.052	0.050-0.006	1

\*: Significance at 0.05 error level

### 2.3. Variance Consistency Test

Another basic assumption in regression models is the consistency of residual variance. To check this matter, the results of Bartlett and Brown-Forsythe tests are reported in Table (10.6). Statistical hypotheses in each test are expressed as follows:

H<sub>0</sub>: Residual variances are consistent.

H<sub>1</sub>: Residual variances are not consistent.

According to the results of Bartlett and Brown-Forsythe tests, the null hypothesis of consistency of residuals' variance in the estimated model is not rejected (Sig>0.05).

**Table 10.6:** Test results of the residuals' variance consistency

Model	Bartlett's test		Brown - Forsythe Test	
	Test statistic	Significance level	Test statistic	Significance level
Performance based on the return on assets	86.691	0.519	0.617	0.996

### Main Hypothesis

There is a positive relationship between board independency and return on owners equity. Statistical hypotheses corresponding to the first hypothesis are expressed as follows:

H<sub>0</sub>:  $b_1 \leq 0$

H<sub>1</sub>:  $b_1 > 0$

The results of testing the first hypothesis are displayed in Table (10.7). According to the results

of the regression coefficient related to board independency, there is no significant relationship between this variable and return on owners equity (  $t = -1.642$ , Sig.>

0.05 ). Therefore, the first hypothesis indicating a significant relationship between board independency and return on owner's equity is not confirmed.

**Table 10.7:** Hypothesis test result for return on owners equity

Independent variable	Regression coefficient	t Statistic	Significance level	Hypothesis	Result
Board independency	-0.057	-1.642	0.101	First	Rejected

### Conclusion

In this study the effect of a kind of corporate governance mechanism named board independency on return on owner's equity of companies listed on Tehran Stock Exchange was investigated. The board independency is studied as an external corporate governance mechanism. To achieve this goal, the influence of other variables that may affect return on owner's equity was controlled including firm size, firm age, and financial leverage.

The research was related to the period of 2009 to 2013. According to sample selection criteria, 89 firms listed on Tehran Stock Exchange were selected as the research sample using systematic elimination method. Therefore, 445 observations (year-firm) were selected for each variable. In other words, the structure of the data used in the study is panel data which is a combination of cross sectional and time series data. The required data for calculating variables were collected from two major sources. Internal corporate governance mechanisms were collected from the notes along with financial statements that are released in Codal network<sup>1</sup> together with the financial statements of firms. Furthermore, the data related to performance and control variables were extracted from Modern Rahavard application. To calculate the firm age which required the establishment year, the financial statements of the firms were directly referred to.

After collecting raw data from abovementioned sources, they were used in Excel 2007 environment to calculate the main variables of the research and Eviews 6 software was used to test the research hypotheses. Multiple regression models were used to test the hypotheses. - Limer and Hausman tests were applied to determine appropriate estimation method (equal effects, fixed effects, random effects). Moreover, to ensure the regression assumptions, basic tests including dependent variable normality test (Jarkko-Bra), linearity test between explanatory variables (Pearson correlation coefficient), residuals variance consistency test (Bartlett and Brown-Forsythe) were implemented.

<sup>1</sup>. www.codal.ir

According to the results of descriptive analyses, more than 50% of the total members of the board of directors in the studied firms are non-executive members. In addition, the number of the board members in these firms is equal to five persons in average.

In the research hypothesis, the relationship between board independency and firm performance was investigated based on the return on owners equity. The results of hypothesis testing indicate that there is no significant relationship between board independency and return on owners equity in companies listed on Tehran Stock Exchange. In their study on capital market in Malaysia, Fooladi and Zaleha (2010) didn't find any significant relationship between board independency and firm performance based on ROA, either. Vaffis and Theodor (1998) also concluded that the presence of non-executive members in the board of British firms didn't have a significant effect on the firms' performance. Lack of a significant relationship between board independency and firm performance in Iran capital market has already been reported in studies such as those conducted by Qaemi and Shahriari (2009), Qalibaf Asl and Rezaei (2007). Some of the reasons for the ineffectiveness of board independency on firm performance of companies listed on Tehran Stock Exchange can be outlined as follows (Qaemi and Shahriari, 2009).

- Simultaneous membership of non-executive members of the board in several companies might reduce their efficacy.
- Level of experience, education, and time management of people are different. The reason for this contradiction in results can be attributed to different time intervals.

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