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A Study of the Relationship Between the Independence of the Board of Directors and the Corporate Risk in the Companies Listed in the Tehran Stock Exchange

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Abstract: The common principles of corporate governance in the world often recommend a board of directors be composed of independent members. The key mission for the independent members of the board of directors is to make sure of this substantial matter that the conflict on agency among the shareholders and management must be candidly solved; this requires the proper evaluation of the balance between risks and rewards, short-term benefits versus long-term benefits and the conflict of interests. Therefore, the independent members of the board of directors should be not only qualified but also conscious enough in order to be able to ensure of the stability of the company and resolve it. In addition to that, this should not be done with interference in the tasks of the executive management but it should be accomplished indirectly in order to make sure of the fact that the management of the company would decide and fulfill the required measures based on that awareness. The objective of this research is to study the effects of the corporate governance mechanisms (board of directors' independence) on the risk in the companies listed in the Tehran Stock Exchange. For that aim, 80 companies enacting in the Tehran Stock Exchange were selected as the statistical samples in the time period 2010-2014 by the removal method and the data was analyzed. The present study is practical in terms of objectives and it is a descriptive-correlation research. The statistical method applied for testing the hypotheses is the multivariate regression.

Key words: Independence of the board of directors, corporate governance, systematic risk, concentration of ownership, correlation

INTRODUCTION

Concentration of ownership indicates a structure through which the objectives of the company are determined and the methods of achieving goals and the measures of performance observation will be specified. The more the concentration of ownership, the more powerful the senior managers will be for the optimal decisions and the more coherent the independence of the board of directors will be. With regard to the importance of these two elements and the mechanism of the corporate governance (concentration of ownership and independence of the board of directors), the accurate and efficient corporate governance must provide the appropriate incentives for the board of directors and the management. The corporate governance is not only important for the executives of companies who desire to be aware of the structure of the corporate governance and its adaptation with the best methods and regulations but it is also attractive for the participants in the market who are likely to invest there, because the objective of the corporate governance is to ensure of a framework by which an appropriate balance will be created between the freedom of action of managers and the different beneficiaries' interests, including the shareholders (Hasas Yeganeh, 2005)

Therefore, the relationship between these two elements of the corporate governance and the key role of the corporate risk will be extremely critical and functional for the relief and assurance of the shareholders and beneficiaries. Since there is always a factor called risk in the financial and non-financial trades, the role of risk in people's decision making cannot be ignored. Interaction of these two factors of the corporate governance (concentration of ownership and independence of the board of directors) with the permanent systematic risk must be studied and tested. The corporate governance

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has been introduced as a discussion that emphasizes on the issue of strategy in corporations and shareholders' rights and it has a role in decreasing the difference between the interests of shareholders and managers. This contrast in the interests is related to the agency issues which are derived from two main reasons: the first is differentiation of objectives and preferences of contributors in the company and another one is the incomplete information of the participants about the operation, knowledge and preferences of each other. In theoretical viewpoint of the agency, the presence of independent non-executive directors in the board of directors of companies that have the required expertise, independence and legal power to observe the company's performance can be regarded as an enabling mechanism in the corporate governance (Badavar Nahandi, 2011).

On the other hand, the existence of the institutional shareholders as another corporate governance mechanism can lead to the alignment of the shareholders' interests and this may result in increasing the influence of the shareholders on the management; concentration of ownership which derives from the absolute control of the major shareholders on running the corporate affairs can also decrease the agency issues for the major shareholders; because of having enough information, it can have a better control on the performance of the managers (Badavar Nahandi, 2011).

Corporate governance: Studying numerous authentic texts shows that the first and oldest concept of the phrase corporate governance has derived from the Latin word Gubenire meaning lead that is used in steering and it implies that the priority of definition of the corporate governance is mainly focused on the governance rather than control. There is no accepted definition for the corporate governance or the significant differences in its definitions based on the cultural, economic situations in any countries (Hasas Yeganeh and Baghoumian, 2005).

The existing definitions of the corporate governance have a wide spectrum. The constricted views are on the one hand and the widespread views on the other hand of this spectrum. In the constricted views, the corporate governance is limited to the relationship between the company and the shareholders. This is a pattern that is expressed in the theory of agency. On the other hand, the spectrum of the corporate governance can be viewed as a network of the relationships not only between the corporate and its owners (shareholders) but also between the corporate and a large number of beneficiaries involving the staff, customers, sellers, owners of the bonds and etc. Such a view can be found in the theory of beneficiaries.

The corporate governance deals with the mechanisms by which the beneficiaries of the corporate can control the managers and the internal members of the board of directors such that the beneficiaries' interests can be saved and these beneficiaries involve the investors, creditors and others including employees, customers, providers and the state (John Vasenbet, 1998). The corporate governance is in fact a series of laws, regulations, structures, processes, cultures and systems that end in satisfying the objectives of responsiveness, clarity, justice and respect for the rights of stakeholders (Hasas Yeganeh, 2005). In this research, the effect of corporate governance mechanisms is taken into consideration; the variable of concentration of ownership is studied and analyzed.

Independence of the board of directors: The degree of independence of the members of the board of directors is one of the factors adding to the efficiency of the board of directors. In several researches on accounting by now, the ratio of the outside managers to the total number of the board of directors has been used for quantification of this indicator. The outside members of the board of directors are some elite experts who are also skilful in the control and decision making. These individuals have no executive responsibility in the company. In many of the studies it has been proved that the presence of the non-executive directors in the board of directors has positive effects on the performance and value creation in the companies (Baradaran-e-Hasanzadeh *et al*., 2012).

The concept of risk: "Risk is whatever that guarantees the present or future properties of or the ability to achieve revenue for a company, an institute or an organization." Uncertainty is one of the characteristics of all the daily affairs that can affect the decision making process for different reasons. Therefore, risk measurement arises as one of the most important factors of decision-making in the field of finance and investment. Proper measurement of risk would help the investors in the identification and selection of the investment options. The financial information of the companies is mainly revealed in the form of statements, a summary of the financial statements and/or the quantitative analyses. The historical financial information is extracted from the events happened in the past and their future financial information is some predictions of the future events and these two types of information are complementary to each other.

The judgments and estimations applied in preparing the published historical financial information will be frequently used in the future financial information. The companies would use the future financial information, for that this information which is the so-called budget information must be adapted with the historical financial information and it must also be determined whether the historical financial information is matched with the previous estimations and predictions or not? And the reasons of deviation must also be specified. Preparing the future and historical financial information is an influential method for running an effective management, investment decisions and better responsiveness. Competition in the business environment requires the ability of the trading companies for optimal absorption of the restricted environmental resources including customers, qualified human force and the optimal financial resources.

The optimal use of these resources is the second factor that enjoys an influential role in earning the competitive advantage for companies. In this regard, in spite of all the planning and precision comments of the experts in the companies, some factors are still out of the control of the companies that with varying degrees of probability would increase the possibility of not satisfying each of the operational objectives by the company. In this way, the probability of lack of access to the pre-determined objectives is expressed as risk. On the basis of the objectives influenced by risk and with regard to the factors effective on the probability of access to the goals, the risk in companies is divided into different branches. This can include the cases as financial risk, business risk, systematic risk and etc. (Behzadi, 2010).

Systematic risk: The risks before a company to achieve more efficiency, on the one side, depend on the community and the market conditions (political changes, economic conditions, chaos and war, economic periods and etc.) in general are called systematic. On the other hand, this risk cannot be deleted through diversification. The most important measurement method of the systematic risk is the so-called value at risk. In relation to calculating the value at risk, there are two parametric (variance-covariance method) and non-parametric (historical simulation and Monte Carlo) methods (Behzadi, 2010).

The literature review: Min and Smith (2013) in a research dealt with studying the corporate governance and company productivity. They benefitted from the Korean companies data in the period 1990- 2007. In their research, they divided the influences of variables on efficiency into two direct and indirect types. Results of the research indicated that the positive effect of ownership of equity on the company productivity is strengthened when a company improves its corporate governance.

Hao Lee *et al*. (2012) in a research dealt with studying the relationship between corporate risk and corporate governance. The study period for them was 1998-2006 in the US. The variables of corporate governance in this study involve concentration of ownership, ownership structure, board of directors' size and size of the company. The research results show that all the variables mentioned except the board of directors' size have a significant effect on the corporate risk.

There are no studies in Iran on the corporate governance influence on the systematic risk and almost no studies were found directly engaging in this topic, however evaluations have been done on the corporate governance and its relationship with performance, efficiency and value created for the shareholders and the present research is one of the first studies on the mentioned topic in our dear country.

Namazi and Kermani (2008) in a study dealt with the effects of ownership structure on performance. The findings of the research showed a significant and negative relationship between the institutional ownership and the corporate performance.

Hasas Yeganeh and Moazez (2010) dealt with the effect of corporate governance on the financial performance of the companies listed in the Tehran Stock Exchange. In that study, the relationship between the indicators of financial performance and the ownership percentage of the institutional shareholders was tested as the corporate governance mechanism in the companies listed in the Tehran Stock Exchange in the years 2005-2009 and the regression test and panel data method were applied for evaluating the relationships. The experimental evidence obtained indicated a significant relationship between the institutional shareholders and the indicators of financial performance involving return on sales index, return on assets index, indicator of the operating profit to assets and return on equity.

Badavar Nahandi *et al*. (2011) evaluated the relationship between the corporate governance mechanisms for the shareholders and the economic value added. The statistical population of their study involved the companies listed in the Tehran Stock Exchange, 69 companies were put in this research using the sampling method of systematic elimination. The period of study was 2006-2010. For testing the hypotheses the multivariate regression was used. Results showed that four mechanisms (penetration and state ownership, ownership extent of the institutional shareholders, capital structure and the number of free float) out of eight mechanisms of corporate governance studied in this research have a relationship with the value created for shareholders. Also, three mechanisms (penetration and state ownership, ownership extent of the institutional shareholders and the number of free float) out of eight mechanisms studied in this study have a relationship with the economic value added.

Research hypothesis: A Hypothesis is a testable phrase that states an expected relationship precisely and clearly between two or more variables. The hypothesis is called testable since its accuracy must be evaluated through a test (Moemeni, 2003). The objective of the present study is to evaluate the impact of independence of the board of directors on the risk in the companies listed in the Tehran Stock Exchange. Accordingly, the following hypothesis has been developed: Hypothesis: independence of the board of directors has a significant effect on the systematic risk.

MATERIALS AND METHODS

The Methodology and the Related Variables. Since in the present study the objective is to evaluate the mechanisms of the corporate governance on the systematic risk, the method conducting the present study is correlation and for testing the relationship between the variables the multivariate regression has been used. In this research, the systematic risk has been regarded as the dependent variable and the corporate governance mechanism (independence of the board of directors) has been considered as the independent variable.

The statistical population, the period of test and the sampling method: In this research, the companies listed in the Tehran Stock Exchange were selected as the statistical population. The reason for that selection is mainly consideration of the investors and accessibility of information and the data clarity of the calculation information in those companies. The stock requirements for the early release of the financial statements have provided a more appropriate information environment for the scholars. On the other hand, the shares of companies listed in the stock market and containing a wide range of users of financial statements have caused the companies listed in the Tehran stock exchange to be evaluated.

The statistical sample was selected from the companies listed in the stock exchange. The sampling method was elimination, thus among all the companies listed in the Tehran Stock Exchange the companies that meet the following requirements have been selected:

- The aforementioned company has been listed before 2010.
- The aforementioned company has put its financial year in the early March per year
- The aforementioned company has not changed the financial year in the study period
- The evaluated data of the aforementioned company are available
- The investing companies, banks and insurances have also been omitted from samples
- The period of study involves a 5 years span 2010-2014
- The 80 companies were selected for this period

The data required by the research was obtained from the financial statements delivered to the stock organization and also the data related to the company shares in the Stock Exchange. In this study the library method has been used in the section of literature review.

Data collection tools and data analysis: After collecting data, the researcher should deal with categorizing and analyzing them and then test the hypotheses that have helped him up to this stage of the research in order to find an answer to the research questions. For testing the research hypothesis, the information contained in the financial statements of companies, Rahavard Novin software and the stock organization software have been used. The data analysis is a multi-stage process through which the collected data is summed up, categorized and finally processed in different ways to provide the context for different analyses and establishing relationships of data to test the hypotheses. In this process, the data is filtered both conceptually and experimentally and the different statistical methods have an important role in what the inferences will be.

The statistical models and testing methods: To test the second hypothesis the following model is applied (model 1):

$$\text{Risk} = \beta_0 + \beta_1(\text{Ind}) + \beta_2 + (\text{ROA})_{i,t} + \beta_3(\text{Age})_{i,t} + \beta_4(\text{Growth})_{i,t} + \beta_5(\text{Lev})_{i,t} + e_{i,t}$$

Where:

Risk = Corporate risk: for measuring the corporate risk, beta criterion is used. This index has been calculated with Rahavard software

Ind = Independence of board of directors: the independence extent of the members of board of directors is one of the factors improving the efficiency of the board of directors. In many researches on accounting, the ratio of non-responsible executives to the total has been used for quantification of this indicator

In = Non-executive members of the board of directors are elite experts who are also skillful in controlling and decision making processes. These people do not have any executive responsibilities for the company (Baradaran-e-Hasanzadeh *et al.*, 2012)

Research variables: Fundamentally in any research determining the variables is one of the major stages of research. Variable is something that can be changed in quantity and is usually something that can take different numerical values and theses variables in fact can be observed or manipulated by the researcher. The variables studied in this research are:

- Independent variable: a variable whose effect on other variables can be measured. The independent variables in this study involve
- Corporate governance: involving the independent variable of the board of directors that is computed as follows
- Independence of the board of directors: in order to calculate this indicator, the ratio of the non-executive members of the board of directors to the total members has been used
- Dependent variable: in this research, corporate risk has been considered as a dependent variable. This case is calculated using the Cobb-Douglas production function
- Control variables: in this research the control variables are as follows
- Corporate size: a logarithm of total assets plus one
- Corporate age: a logarithm of the number of years of corporate establishment
- The opportunity for the corporate growth: the ratio of market value to the book value
- Financial leverage: it is calculated by multiplying the total debt coefficient to the total assets

Testing the research hypotheses and analyzing the findings: As it was stated earlier, for testing the research hypotheses the research variables are measured at first by the statistical software Excel and then the research hypotheses were tested through the software Eviews. Results of the test and the statistical analysis of the hypotheses have also been estimated in the following tables.

The Table 1 of descriptive statistics indicates the mean, standard deviation, minimum and maximum of every independent, dependent and control variables. In this table the main central index is mean that points to the balance point and the gravity center of distribution and it is a good index for showing the data center.

Results of the hypothesis: However, the most important aim of this Table 2 is to present a statistics for measuring the goodness of fit that is accomplished by the coefficient of determination. The coefficient of determination is a norm for measuring the intensity of relationship between x and y and its value here is 0.348. It means that the determination coefficient is able to describe 34 percent of the changes in the dependent variable (corporate risk). The sequential correlation of the residuals means the influence of the observations on each other. Regarding the value of Durbin-Watson statistic (1.955), there is no sequential correlation in the data.

Now, after the initial review and that the significance of the total model is accepted using f-statistics we deal with studying the significance of the coefficients obtained from the t-test. Regarding t-statistics, only the variable of corporate age is insignificant. The Table 3 to the significance of the mentioned coefficients of the regression model is as follows:

Table 1: Descriptive statistics

Variables	Symbol	Number	Mean	Median	SD	Minimum	Maximum
Independence of the board of directors	IND	400	0.5553	0.6000	0.24700	0.00	1.20
Corporate size	SIZE	400	6.9079	6.8781	0.57980	5.56	8.80
Corporate growth	Grow	400	1.8855	1.5436	1.33570	-2.39	7.97
Financial leverage	LEV	400	0.6136	0.6415	0.18010	0.04	1.09
Return of assets	ROA	400	0.1190	0.1056	0.11051	-0.25	0.57
Corporate age	AGE	400	1.5197	1.5563	0.16470	0.95	1.77
Corporate risk	RISK	400	0.6814	0.3900	1.57370	-3.70	14.77

Table 2: Descriptive statistics of hypothesis 2

Model	Coefficient of determination	Adjusted coefficient of determination	F-statistics	Level of significance	Durbin-Watson statistic
Second	0.348	0.339	37.3227	0.000	1.955

Table 3: Coefficients and the value of t-statistics

Variables	Coefficients	SD	t-statistics	Significance
Constant variable	4.9612	0.6205	7.9945	0.0000
Independence of the board of directors	-1.4181	0.2705	-5.2418	0.0000
Return of assets	0.5789	0.9016	0.6420	0.5213
Corporate age	-2.4012	0.3246	-7.3974	0.0000
Growth	-0.1263	0.0605	-2.0905	0.0373
Financial leverage	0.0795	0.5205	0.1528	0.8786

Therefore, according to what was mentioned, the regression model relating to the second hypothesis is written as follows. For the second hypothesis, the hypotheses H_0 and H_1 are as follows (Model 1):

$$-2.4012(ROA)_{it} + -1.4181 \quad 4.961 \text{ is } k = (Lev) \ 0.0795 \ (Growth)_{it} + -0.1263(Age)_{it}$$

H_0: there are no significant relationships between the corporate risk and the independence of the board of directors.

H_1: There is a significant relationship between the corporate risk and the independence of the board of directors.

As you can see in the table, the variable of the independence of the board of directors has been entered to the model with the coefficient -1.4181; therefore we can say that there is a significant relationship between the corporate risk and the independence of the board of directors, so the hypotheses H_0 and H_1 are supported.

RESULTS AND DISCUSSION

With regard to the test results, we can say that there is a negative and significant relationship between the coefficient of the independence of the board of directors and the corporate systematic risk in the companies listed in the Tehran Stock Exchange and it shows that any reduction in the coefficient of the independence of the board of directors would result in an increase in the corporate systematic risk.

The results of the present research also shows that the independence of the board of directors is influential on the efficiency of the corporate and the presence of the non-executive managers and the independence of the corporate board of directors who have the required expertise, independence and legal power to monitor the company's performance can develop the enterprise productivity. Therefore, the companies should maintain and enhance the number of the non-executive members of them in the board of directors.

On the other hand, it is recommended that the companies keep an active role in the institutional investment and also increase the owner share of the institutional investors, because the presence of the institutional investors among the shareholders has positive effects on the company's productivity. The institutional investors among the shareholders can control the performance of the company executives and are usually ready to provide accurate and timely information related to the company and are constantly analyzing the information. In fact, the existence of the institutional shareholders can align the interests of shareholders and this alignment may increase the shareholders' influence over management that will finally result in an increase in the compan's productivity. Results of the present study are aligned with the studies by Badavar Nahandi *et al.* (2011) and Hao Lee *et al.* (2012).

CONCLUSION

The results confirmed a negative and significant relationship between the independence of the board of directors and the systematic risk of the company.

REFERENCES

Azar, A. and M. Momeni, 2009. Statistics and its Application in Management. Vol. 2, SAMT Publisher, Tehran, Iran,.

Behzadi, B., 2010. A study of the effects of advertising and research and development costs on the corporate risk of the companies listed in the tehran stock exchange. Master Thesis, Azad University, Marvdasht Branch, Tehran, Iran.

Berle, A.A. and G.C. Means, 1932. The Modern Corporation and Private Property. 6th Edn., Transaction Publisher, New Brunswick, French.

Coles, J.L., N.D. Daniel and L. Naveen, 2008. Boards: Does one size fit all? J. Financial Econ., 87: 329-356.

Hasanzadeh, B.R., Y.N. Badavar and B.G. Hosein, 2012. A study of the relationship between some mechanisms of the corporate governance and the value created for the shareholders and the economic value added. J. Accounting Auditing Rev., 2: 1-16.

Hasas Y.Y., H.Z. Raeesi and M. Seyed, 2009. The relationship between the corporate governance and the performance of the companies listed in the Tehran Stock Exchange. Q. J. Manage. Sci., 13: 75-100.

Hasas, Y.Y. and V. Baghoumian, 2006. The role of board of directors in the corporate governance. Mon. J. Accountant, 26: 1-174.

Khaki, G., 1998. An Acquaintance with Productivity Management (its Analysis in Organizations). Saye Nama Publication, Tehran, Iran,.

Li, H., J.S. Jahera and K. Yost, 2013. Corporate risk and corporate governance: Another view. Managerial Finance, 39: 204-227.

Smin, B. and R. Smyth, 2013. Globalisation, corporate governance and firm productivity. J. Financial Econ., 98: 55-95.