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Examining the Role of Global Financial Crisis on the Relation Between Corporate Governance Mechanisms and Performance of the Listed Companies in Tehran Stock Exchange

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ABSTRACT

The current investigation deals with the role of global financial crisis on the relation between corporate governance mechanisms and performance of the listed companies in Tehran stock exchange. All listed companies in Tehran stock exchange were selected as statistical population during 2003 to 2011. So, there are 81 listed companies in this research. To examine the hypotheses, SPSS 19 software is used in this research. Kolmogorov-Smirnov test is applied to examine the normality of the research's variables and t-test with two correlated/paired samples is used to examine each hypothesis. The findings indicated that there is no significant association between corporate governance mechanisms and performance of the listed companies in Tehran stock exchange before and after global financial crisis.

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INTRODUCTION

Building trust with capital owners is necessity to grow and develop a capital market. Separating ownership from management, managers run a firm as the representative of shareholders. On the other hand, there is a conflict of interest between managers and owners due to some reasons such as different attitudes toward risk, dividend and horizons. Therefore, there is a potential for managers to make a decision in order to inversely influence on owners' interests. Theoretical analysis and empirical evidences show that increased information asymmetry has direct relation with decreased investors' number, decreased liquidity of securities, decreased trading volume and general social interests.

Corporate governance is a system which improves the agency problems between managers and shareholders (Gampres, Joy and Matrick. According to the conducted researches, falling stocks of some firms such as Adelfa, Enron, Tico and Worldcom have been majorly due to their weak corporate governance. Establishing an efficient and effective corporate governance system may cause managers and owners' interests to be lined with together, their operational performance to be improved and firms to be developed and expanded. Many results of empirical researches demonstrate that good corporate governance may lead to better firm performance.

The results of Mac and Juanto (2003) indicated that value of the listed companies in Singapore and Malaysia stock exchange is higher when their board is composed of 5 members. Bendson et al, [3] came to conclusion that a board with less than 6 members has not marked impact on firm performance, but when the number reaches to 7 or more, the respective relation gets negative [3]. The results of Wo (2000) research showed that the number of boards' members were decreased due to pressure of institutional investors during 1991 to 1995. On the other hand, some results indicating the positive relation between board's members' number and firm performance or lack of relation between these two variables.

Generally, what we want in this research is to examine the role of global financial crisis on the relation between corporate governance mechanisms and performance of the listed companies in Tehran stock exchange. It seems that an answer to the question can be effective for executive and non-executive managers, real, potential and institutional investors as well as independent accountants.

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*Research methodology:**Research hypotheses:*

- There is a significant difference between board size and performance of the listed companies in Tehran stock exchange before and after financial crisis.
- There is a significant difference between board independence and performance of the listed companies in Tehran stock exchange before and after financial crisis.
- There is a significant difference between ownership composition and performance of the listed companies in Tehran stock exchange before and after financial crisis.

Statistical population of the research:

The statistical population of the current research includes all listed companies in Tehran stock exchange which have been listed during 2003 to 2011. In this research, the following equation (simple random sampling) is used to estimate sample number regarding the index of hypotheses' variables:

$$n = \frac{N(Z_1 - \frac{a}{2})^2 \sigma^2}{(N + 1)d^2 + (Z_1 - \frac{a}{2})^2 \sigma^2}$$

Z_1 : 95% confidence level

N: Sample volume

σ^2 : Population variance

Based on the above formula, there is 354 firms are listed in Tehran stock exchange which 81 cases are selected regarding the statistical population of the research

*Research variables:***Table 1:** Operational definition of the research's variables.

		Dependent variable
Variable's name	Symbol	Operational definition
Firm performance	PREF	Tobin's q ratio is used to measure firm performance which includes dividing market value of firm assets into book value of assets.
Independent variables		
Board size	BFSIZE	Number of existed people in board and managers commissions.
Board independence	BINDE	Number of independent commissions divided into number of board commissions members.
Ownership composition	OCON	Common stock ratio kept by major shareholders.
Moderating variable		
Financial crisis	CRISIS	1 is regarded for active firms during the crisis, otherwise 0 (base year is 2007 which their 4 years before and 4 years after is considered as crisis period).

Data analysis method:

Two main processing groups are majorly done for data research. To do this, descriptive and inferential statistics are used. In descriptive statistic-usually deals with data description- central tendency and distribution indexes are used to describe the collected data. As well, frequency distribution tables is used based on absolute and relative values and percent for displaying and demonstrating the results as well as various histogram, column and pie charts. Of course, distribution indexes are used such as variance, standard deviation, etc. Inferential statistics chapter deals with testing the research's hypotheses. To examine the normality of the research's variable, Kolmogorov-Smirnov test is applied. T-test with two correlated/paired samples is used to examine each hypothesis. If each variable are not normal, Wilcoxon test is applied.

*Results:**Descriptive statistics:***Table 2:** Descriptive statistics of the research's variables.

Variables	Min.	Max.	View	Mean	SD	Skewness	Kurtosis
Firm performance	0.17	5.26	-	2.82	0.54	4.24	2.36
Board size	3	7	-	4.95	0.27	3.26	-1.22
Board independence	0.12	0.45	-	0.24	0.55	0.74	-2.26
Ownership composition	0.09	0.86	-	0.41	0.37	-2.44	0.74

Regarding the table 2, firm performance mean=2.82, board size= 4.95, board independence= 0.24 and ownership composition= 0.41. As well, board independence and board size has maximum and minimum distribution, respectively.

*Normality:***Table 3:** Kolmogorov–Smirnov test for examining the normality of variables distribution.

Variables	Normal parameters		Maximum difference			Kolmogorov–Smirnov z value	Probability
	Mean	SD	Absolute value	Positive	negative		
Firm performance	2.82	0.54	0.74	0.24	-0.09	0.965	0.155
Board size	4.95	0.27	2.01	0.22	-0.07	0.225	0.296
Board independence	0.24	0.55	0.17	0.43	-0.14	1.032	0.093
Ownership composition	0.41	0.37	0.12	0.15	-0.26	0.577	0.169

* 5% error level

Regarding the table 3, due to significance level of the variables is more than 0.05, thus H_0 = normality of data is accepted for this variable before and after crisis, small and big firms, firms subject to article 44 and other firms.

*First hypothesis test:***Table 4:** Pearson correlation coefficient among two paired variables.

Pattern	Number	Correlation coefficient	Significance level
Before and after financial crisis	81	0.514	* 0.002

* 5% error level

In t-test with two paired samples, the two variables should be correlated in two different time or group in a unit group. Therefore, the existed correlation coefficient between two variables should be relatively strong and their significance level should be less than 0.05 to achieve to a more correct and accurate results about t-test with two paired samples. If, the correlation coefficient is weak and its significance level is more than 0.05, then two independent samples is preferred to two paired samples. Table 4-1 shows a relative strong correlation between board size and performance before and after financial crisis with 95% confidence level and 0.05% error level.

Table 5: T-test with two correlated samples.

Pattern	Mean	SD	Standard error of the mean	t	Freedom degree	Significance level
Before and after financial crisis	0.551	0.349	0.618	1.117	80	0.076

* 1% error level

Regarding the table 5, there is no significant difference between the relation among board size and performance before and after financial crisis with 0.99% confidence level (due to significance level is not less than 1% error level). So, H_0 is not rejected which indicating no difference between board size and performance before and after financial crisis.

*Second hypothesis test:***Table 6:** Pearson correlation coefficient among two paired variables.

Pattern	Number	Correlation coefficient	Significance level
Before and after financial crisis	81	0.618	* 0.002

* 5% error level

Table 6, demonstrates relative strong correlation among board independence and performance before and after financial crisis with 0.95% error level and 0.05 error level.

Table 7: T-test with two correlated samples.

Pattern	Mean	SD	Standard error of the mean	t	Freedom degree	Significance level
Before and after financial crisis	0.492	0.227	0.379	1.006	80	0.082

* 1% error level

Regarding the table 7, there is no significant difference between the relation among board independence and performance before and after financial crisis with 0.99% confidence level (due to significance level is not less than 1% error level). So, H_0 is not rejected which indicating no difference between board independence and performance before and after financial crisis.

*Third hypothesis test:***Table 8:** Pearson correlation coefficient between two paired variables.

Pattern	Number	Correlation coefficient	Significance level
Before and after financial crisis	81	0.429	* 0.000

* 5% error level

Table 8, demonstrates relative strong correlation among ownership composition and performance before and after financial crisis with 0.95% error level and 0.05 error level.

Table 9: T-test with two correlated samples.

Pattern	Mean	SD	Standard error of the mean	t	Freedom degree	Significance level
Before and after financial crisis	0.618	0.109	0.442	1.496	80	0.053

* 1% error level

Regarding the table 9, there is no significant difference between the relation among ownership composition and performance before and after financial crisis with 0.99% confidence level (due to significance level is not less than 1% error level). So, H_0 is not rejected which indicating no difference between ownership composition and performance before and after financial crisis.

Conclusion and recommendation:

The aim of the research is to examine the role of global financial crisis on the relation between corporate governance mechanisms and performance of the listed companies in Tehran stock exchange. In this research, corporate governance mechanisms, firm performance and financial crisis are considered as independent, dependent and moderating variables. The results show that there is a significant difference between board size and performance of the listed companies in Tehran stock exchange before and after financial crisis. As well, there is a significant difference among board independence and performance of those companies before and after crisis. Also, there is a significant difference between ownership composition and performance of those companies during mentioned period. Regarding to the results, it can be concluded that global financial crisis has no impact on corporate governance mechanisms and performance of the listed companies in Tehran stock exchange. And there are other factors impacting on firm performance before and after financial crisis. Hence, it is recommended to the real and potential investors, managers, accountants, auditors, agents and other stakeholders that pay attention to the following factors when they want to make decisions.

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