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The Relationship between Corporate Governance and Stock Price Crash Risk with Tendency Corporate Ownership

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Abstract: This study examines the relationship between corporate governance and risk falling stock prices according to the type of ownership of the company on the Stock Exchange of Tehran. For this study, a sample of 4 companies listed companies in Tehran Stock Exchange were selected using random sampling method. In this study, the relationship between corporate governance and risk falling stock prices according to the type of company ownership in Tehran Stock Exchange for the period 1389 to 1393 was A total of 470 observed for the period was used Who has 70 years of institutional ownership companies And 400 data related to companies with ownership of the company. The statistical methods used in this research is multiple regression method. The results show that the risk of falling standards of corporate governance in companies owned firm's stock price So that the effectiveness of the board, board structure and governance structure, risk of falling stock prices on corporate ownership in companies with significant effect in reverse. But institutional ownership in companies with corporate governance criteria in danger of falling stock prices have no effect.

Keywords: corporate governance; Risk of falling stock price; Type of ownership.

1. Introduction

In this study, the researcher used four items for corporate governance proposed by Corporate Governance Committee of Organization for Economic Co-operation and Development (OECD) and ratings agency Standard & Poor's.

The effectiveness of the board of directors, board structure, and governance structure play an important role in economic development of capital markets for a group of investors because of access to huge financial resources. Accordingly, the study on the role of institutional investors is very important. One of the major issues emerging from the recent crisis is to emphasize the negative role played by institutional investors during the crisis. Some observers believe that institutional investors increase risk-taking behavior with delay by putting pressure on financial services companies for short term profits.

In this study, we used negative skewness measure for falling stock prices. This measure focused on regression model based on market returns. According to recent studies, the effectiveness of the board of directors, board structure, and governance structure have an adverse impact on stock price crash risk and non-optimal and undesirable decisions are usually made in environments of opaque financial reports. Studies show that the opaque financial reports lead to an increased stock price crash risk and the drop in prices in the next period. Thus, it is much more likely for accumulation of bad news and then the stock price will be more prone to falling. The formulation of regulations and a clear definition of corporate governance and its policies are negatively associated with risk of falling. Generally in this study we examine whether corporate governance can predict falling prices. According to a multiple framework in which previous variables affect the risk of stock price crash, we found out the effectiveness of the board of directors, board structure, and governance structure are associated with stock price crash risk in companies with corporate ownership. However, management measures are usually temporary and unsustainable and eventually lead to falling prices. In this study, we investigate whether a particular company's stock price crash can predict mechanisms of corporate governance or not.

2. Theoretical Foundations and Literature Review

Andrew *et al.* (2013) investigated the relationship between corporate governance and stock price crash of companies. They investigated whether corporate governance system can predict stock price crash risk or not? The findings indicated that regulatory measures affect corporate ownership structure, accounting uncertainties, structure of board of directors, and process related to the future falling. These relationships are sometimes asymmetrical and

are used to increase and decrease regulatory measures. More effective regulatory measures are necessary for companies with larger agency problems.

Kim J. V. *et al.* (2011) showed that tax avoidance of stock companies and incentive stock of Chief Financial Officer (CFO) are positively associated with specific company's stock price crash risk.

Fang and Kalen (2011) investigated two opposing views of institutional investors on ownership. They aimed to investigate whether institutional ownership is positively or negatively associated with stock price crash risk in the future. Their results showed that institutional ownership is negatively associated with stock price crash risk in the future. In addition, institutional ownership by public pension funds is negatively associated with stock price crash risk in the future. The researchers found out opaque financial reports increase the impact of institutional investors on the company's stock price crash risk in the future.

Hutton *et al.* (2013) investigated three different factors on the risk of stock price crashes. They found out three factors, including actual crash risk, lack of accounting transparency, and Smirk's curve, and are associated with each other.

Hutton *et al.* (2013) investigated the relationship between the transparency of financial statements, the stock price, and the phenomenon of falling stock prices, and corporate information. The findings showed that stock prices are affected by stable downward movements and upward movements.

Talaneh (2012) investigated conservatism and reducing the risk of falling share prices. The findings showed that conservatism in financial report may reduce the risk of future stock price crash.

Moradi (2011) investigated the relationship between conservatism and stock price crash at the level of information asymmetry. The results showed that there is no significant relationship between conservatism and stock price crash in companies with a high level of information asymmetry. In addition, information asymmetry couldn't increase the impact of conservatism on reducing stock price crash.

Foroughi (2012) investigated the impact of conditional accounting conservatism on future stock price crash risk. The results showed that conditional conservatism in financial report reduces the risk of future stock price crash.

Foroughi (2011) investigated the impact of opaque financial reports on future stock price crash risk. The results showed that opaque financial reports (earnings management) increase future stock price crash risk.

Hasas (2008) investigated the relationship between institutional investors and enterprise value. The findings showed that there is a positive relationship between institutional investors and enterprise value.

3. Research Methodology

This study is an applied research in terms of purpose and a correlational research in terms of method. The study was conducted in the context of deductive - inductive reasoning. Therefore, theoretical foundations and research background were deductively developed through library studies, articles, and sites, and data collection was inductively done to verify hypotheses.

The population of the study included all companies listed on Tehran Stock Exchange. The statistical sample was chosen using systematic sampling based on the elimination method and considering the following conditions:

- 1) Fiscal year ends in March.
 - 2) Companies should be listed on Tehran Stock Exchange for five years (2010-2014).
 - 3) Financial statements should be available.
 - 4) The information needed to measure should reveal the variables of this research.
- Finally, 94 companies were selected based on the above conditions.

4. Research Hypotheses

According to the research question, the following hypotheses were posed:

- First main hypothesis: corporate governance criteria affect the stock price crash risk in companies with institutional ownership.

First sub-hypothesis: effectiveness of the board of directors affects the stock price crash risk in companies with institutional ownership.

Second sub-hypothesis: structure of the board of directors affects the stock price crash risk in companies with institutional ownership.

Third sub-hypothesis: governance structure affects the stock price crash risk in companies with institutional ownership.

- Second main hypothesis: corporate governance criteria affect the stock price crash risk in companies with corporate ownership.

First sub-hypothesis: effectiveness of the board of directors affects the stock price crash risk in companies with corporate ownership.

Second sub-hypothesis: structure of the board of directors affects the stock price crash risk in companies with corporate ownership.

Third sub-hypothesis: governance structure affects the stock price crash risk in companies with corporate ownership.

4.1. Research Variables and Ways of Measuring Variables

Measuring crash risk: in the researches done by Kim and Zhang (2010), regression based on the market was used to measure crash risk. For example, Kim and Zhang (2010) used the following regression model to estimate the efficiency of each company.

$$r_{j,t} = \alpha_j + \beta_{1,j}r_{m,t-2} + \beta_{2,j}r_{m,t-1} + \beta_{3,j}r_{m,t} + \beta_{4,j}r_{i,t+1} + \beta_{5,j}r_{m,t+2} + \varepsilon_{j,t} \tag{1}$$

Where $r_{j,t}$ stock is return of the company and $r_{m,t}$ is market return based on market index.

The following linear regression was used to test the hypotheses:

$$CRASH_t = \alpha_0 + \alpha_1 \sum_{m=2}^M \alpha_m GOVERNANCE_{t-1} + \sum_{n=m+1}^N \alpha_n CONTROL_{t-1} + \varepsilon_t \tag{2}$$

GOVERNANCE: Corporate governance variables

CONTOROL: control variables

Crash: variable of stock price crash risk

The following linear regression was used to test the hypotheses:

4.2. First Main Hypothesis: Corporate Governance Criteria Affect the Stock Price Crash Risk in Companies with Institutional Ownership

First sub-hypothesis: effectiveness of the board of directors affects the stock price crash risk in companies with institutional ownership.

$$CRASH_{it} = \beta_0 + \beta_1 BRD_EFF_{it-1} + \beta_2 DTURN_{it-1} + \beta_3 MB_{it-1} + \beta_4 SIZE_{it-1} + \beta_5 LEV_{it-1} + \beta_6 ROE_{it-1} + \varepsilon_{it}$$

Second sub-hypothesis: structure of the board of directors affects the stock price crash risk in companies with institutional ownership.

$$CRASH_{it} = \beta_0 + \beta_1 BRD_COMP_{it-1} + \beta_2 DTURN_{it-1} + \beta_3 MB_{it-1} + \beta_4 SIZE_{it-1} + \beta_5 LEV_{it-1} + \beta_6 ROE_{it-1} + \varepsilon_{it}$$

Third sub-hypothesis: governance structure affects the stock price crash risk in companies with institutional ownership.

$$CRASH_{it} = \beta_0 + \beta_1 INT - AUDIT_{it-1} + \beta_2 DTURN_{it-1} + \beta_3 MB_{it-1} + \beta_4 SIZE_{it-1} + \beta_5 LEV_{it-1} + \beta_6 ROE_{it-1} + \varepsilon_{it}$$

4.3. Second Main Hypothesis: Corporate Governance Criteria Affect the Stock Price Crash Risk in Companies with Corporate Ownership

First sub-hypothesis: effectiveness of the board of directors affects the stock price crash risk in companies with corporate ownership.

$$CRASH_{it} = \beta_0 + \beta_1 BRD_EFF_{it-1} + \beta_2 DTURN_{it-1} + \beta_3 MB_{it-1} + \beta_4 SIZE_{it-1} + \beta_5 LEV_{it-1} + \beta_6 ROE_{it-1} + \varepsilon_{it}$$

Second sub-hypothesis: structure of the board of directors affects the stock price crash risk in companies with corporate ownership.

$$CRASH_{it} = \beta_0 + \beta_1 BRD_COMP_{it-1} + \beta_2 DTURN_{it-1} + \beta_3 MB_{it-1} + \beta_4 SIZE_{it-1} + \beta_5 LEV_{it-1} + \beta_6 ROE_{it-1} + \varepsilon_{it}$$

Third sub-hypothesis: governance structure affects the stock price crash risk in companies with corporate ownership.

$$CRASH_{it} = \beta_0 + \beta_1 INT - AUDIT_{it-1} + \beta_2 DTURN_{it-1} + \beta_3 MB_{it-1} + \beta_4 SIZE_{it-1} + \beta_5 LEV_{it-1} + \beta_6 ROE_{it-1} + \varepsilon_{it}$$

Research variables are presented in the following table:

Variable type	Variables	symbol	Definition
Dependent	stock price crash risk	CRASH	Negative skewness of monthly stock returns for the year ahead
Independent	Board of directors effectiveness	BRD_EFF	Existence of secretariat for board of directors to form and document meetings, collecting needed information, performing tasks requested by the board of directors, and ensuring the performance of legal tasks of the board of directors. 1 In case of existence of secretariat for board of directors in the company and zero otherwise.
	Governance structure	INT-AUDIT	1 in the case of internal audit unit in the company and zero otherwise.
	structure of the board of directors	BRD_COMP	The percentage of non-executive members in the board of directors
Control	Book Value Ratio	MB	The ratio of market value of equity to book value of equity
	Lever	LEV	The ratio of total debt to total assets
	Return on Equity	ROE	Profit before extraordinary items-to-equity ratio
	Heterogeneity of investors	DTURN	Average stock trading on a monthly basis during the current fiscal year minus average monthly trading volume in the last year
	Size	SIZE	natural logarithm of total sales

5. Research Findings

5.1. First Hypothesis Test Result

Effectiveness of the board of directors affects the stock price crash risk in companies with institutional ownership.

Multivariate regression was used to test this hypothesis. The results indicated the rejection of this hypothesis. According to the obtained significance level, and T and F statistics, the relationship between effectiveness of the board of directors and the stock price crash risk in companies with institutional ownership was not confirmed at the 95% confidence level. Forasmuch as no relationship was found between effectiveness of the board of directors and the stock price crash risk in companies with institutional ownership, no specific conclusions can be made.

5.2. Second Hypothesis Test Result

Structure of the board of directors affects the stock price crash risk in companies with institutional ownership.

Multivariate regression was used to test this hypothesis. The results indicated the rejection of this hypothesis. According to the obtained significance level, and T and F statistics, the relationship between structure of the board of directors and the stock price crash risk in companies with institutional ownership was not confirmed at the 95% confidence level. Forasmuch as no relationship was found between structure of the board of directors and the stock price crash risk in companies with institutional ownership, no specific conclusions can be made.

5.3. Third Hypothesis Test Result

Governance structure affects the stock price crash risk in companies with institutional ownership.

Multivariate regression was used to test this hypothesis. The results indicated the rejection of this hypothesis. According to the obtained significance level, and T and F statistics, the relationship between governance structure and the stock price crash risk in companies with institutional ownership was not confirmed at the 95% confidence level. Forasmuch as no relationship was found between governance structure and the stock price crash risk in companies with institutional ownership, no specific conclusions can be made.

5.4. Fourth Hypothesis Test Result

Effectiveness of the board of directors affects the stock price crash risk in companies with corporate ownership.

According to regression and correlation analysis and Table (1), we found a positive correlation coefficient (0.658) between effectiveness of the board of directors and the stock price crash risk in companies with corporate ownership. According to Table (2), F-statistic was 6.844 and Sig value was 0.000; thus, multivariate regression is significant at the 95% confidence level. Hence, the null hypothesis was rejected and effectiveness of the board of directors affected the stock price crash risk in companies with corporate ownership.

T-statistic for the variable of effectiveness of the board of directors indicated significance of the coefficient for this variable with control variables at the 5% level. According to the results, there was an inverse relationship between effectiveness of the board of directors and the stock price crash risk in companies with corporate ownership; in other words, an increase in effectiveness of the board of directors would decrease the stock price crash risk in companies with corporate ownership and vice versa.

Table-1.

Model	Correlation coefficient	Determination coefficient	Determination coefficient (Adjusted)	Estimated error	Statistic Durbin-Watson
1	.658 ^a	.433	.412	2.5124707	2.075

Table-2.

Model		Sum of squares	Degree of freedom	Average of squares	F-Statistic	Significance value
1	regression	259.203	6	43.200	6.844	.000 ^a
	remained	2480.816	393	6.313		
	total	2740.019	399			

5.5. Fifth Hypothesis Test Result

Structure of the board of directors affects the stock price crash risk in companies with corporate ownership.

According to regression and correlation analysis and Table (3), we found a positive correlation coefficient (0.747) between Structure of the board of directors and the stock price crash risk in companies with corporate ownership. According to Table (4), F-statistic was 6.815 and Sig value was 0.000; thus, multivariate regression is significant at the 95% confidence level. Hence, the null hypothesis was rejected and Structure of the board of directors affected the stock price crash risk in companies with corporate ownership.

T-statistic for the variable of Structure of the board of directors indicated significance of the coefficient for this variable with control variables at the 5% level. According to the results, there was an inverse relationship between Structure of the board of directors and the stock price crash risk in companies with corporate ownership; in other words, an increase in Structure of the board of directors would decrease the stock price crash risk in companies with corporate ownership and vice versa.

Table-3.

Model	correlation coefficient	Determination coefficient	Determination coefficient (Adjusted)	Estimated error	Statistic Durbin-Watson
1	.747 ^a	.558	.524	2.5129663	2.076

Table-4.

Model		Sum of squares	Degree of freedom	Average of squares	F-Statistic	Significance value
1	regression	258.224	6	43.037	6.815	.000 ^a
	remained	2481.795	393	6.315		
	total	2740.019	399			

5.6. Sixth Hypothesis Test Result

Governance structure affects the stock price crash risk in companies with corporate ownership.

According to regression and correlation analysis and Table (5), we found a positive correlation coefficient (0.721) between governance structure and the stock price crash risk in companies with corporate ownership. According to Table (6), F-statistic was 7.503 and Sig value was 0.000; thus, multivariate regression is significant at the 95% confidence level. Hence, the null hypothesis was rejected and governance structure affected the stock price crash risk in companies with corporate ownership.

T-statistic for the variable of governance structure indicated significance of the coefficient for this variable with control variables at the 5% level. According to the results, there was an inverse relationship between governance structure and the stock price crash risk in companies with corporate ownership; in other words, an increase in governance structure would decrease the stock price crash risk in companies with corporate ownership and vice versa.

Table-5.

Model	correlation coefficient	Determination coefficient	Determination coefficient (Adjusted)	Estimated error	Statistic Durbin-Watson
1	.721 ^a	.520	.502	2.5010931	2.098

Table-6.

Model		Sum of squares	Degree of freedom	Average of squares	F-Statistic	Significance value
1	رگرسیون	281.620	6	46.937	7.503	.000 ^a
	باقیمانده	2458.398	393	6.255		
	کل	2740.019	399			

6. Discussion and Conclusion

The following research results are not consistent with the results of this study:

The results of a study conducted by [Fang and Kalen \(2011\)](#) are not consistent with the results of the present study. [Fang and Kalen \(2011\)](#) investigated two opposing views of institutional investors on ownership. They aimed to investigate whether institutional ownership is positively or negatively associated with stock price crash risk in the future. Their results showed that institutional ownership is negatively associated with stock price crash risk in the future. In addition, institutional ownership by public pension funds is negatively associated with stock price crash risk in the future.

The results of a study conducted by [Kim and Zhang \(2010\)](#) are not consistent with the results of the present study. [Kim and Zhang \(2010\)](#) investigated the relationship between tax evasion and the phenomenon of falling stock prices at the corporate level. The findings showed that there is a significant relationship between tax evasion and the phenomenon of falling stock prices at the corporate level. The researchers found out that stock price crash risk is low in companies with strong external regulatory mechanisms, such as high institutional ownership, high analyst coverage, and control by larger companies.

The following research results are consistent with the results of this study:

Andrew *et al.* (2013) investigated the relationship between corporate governance and stock price crash of companies. They investigated whether corporate governance system can predict stock price crash risk or not? The findings indicated that regulatory measures affect corporate ownership structure, accounting uncertainties, structure of board of directors, and process related to the future falling. These relationships are sometimes asymmetrical and are used to increase and decrease regulatory measures. More effective regulatory measures are necessary for companies with larger agency problems.

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