



## Examining Effect of Corporate Governance on Debt and Equity of Shareholders of Companies Listed in Tehran Stock Exchange

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### ABSTRACT

This paper examined impact of corporate governance on debt and equity of shareholders using Tobit model. Samples include 62 companies listed in Tehran Stock Exchange during 9 years period (2003-2011). According to theoretical principles and literature (subject matter), five hypotheses were developed. Tobit regression model was used in order to test research's hypotheses. This model was not considered as an important analytical method in behavioural sciences. State software, version 11, was used to conduct final analysis of research. Results showed that there is significant relationship between institutional ownership share and capital structure. Moreover, there was no significant relationship between managerial ownership, board of directors' size, duality of CEO duty (or CEO duality) and non-duty members of board of directors and capital structure.

**Keywords:** Capital Structure, Tobit Model, Ratio of Debt to Equity of Shareholders, Corporate Governance.

### INTRODUCTION

Capital is an essential element in formation of economic activities and operation of these activities. If funds are not available, no economic activity can be established. In general, companies access the capital needed to finance their economic activities in two ways. One way is benefiting from what shareholders - who are the owners of the company - may bring to the company. Shareholders brought their money to company and afford funds for company's activities. In return, they expect returns from company which include changes in stock price and dividends which are benefits of their ownership in the company. Debts and loans are other methods for financing. Creditors fund the capital needed for company's activities and in return, they expect repayment of the original loan amount and its interest. Finance Manager aims to maximize wealth/assets and in this road, he use combination of these two methods. In this way, capital structure of the company is formed.

Capital structure is long-term sources of funds used for company. The main goal of capital structure decisions is maximizing corporate market value through appropriate combination of these sources. This combination mentioned before is the perfect combination and it is called optimal capital structure. Financial managers' objectives in companies are maximization of corporate equity value. In other words, their objectives are maximization of company's value and its stock. Maximization of company's value requires [implementing] optimal financial resources and [obtaining] appropriate returns and risk [1].

Kuti et al. [2] in a study examined relationship between financing patterns, information asymmetry and trading rights in 37 countries during 1990-2004 periods. Their results showed that in all countries, companies aimed to move towards financial leverage; however, these moves varied from one another, with considerable rates. The share of long-term debts in a number of these countries - whose laws were common - had moderate rates of 64 percent; in contrast, these rates in other number of these countries - whose laws were civil - were 51 percent. Capital structure model was able to explain changes in leverage ratio which was higher in countries with common law. The results showed that countries with common law are more transparent, have more developed financial markets and have lower reinvestment costs.

David et al. [3] in a study titled as "The relationship between capital structure and product market; Evidences from New Zealand" examined relationship between capital structure and product market in New

Zealand stock market during 1984 to 2008 periods. In this study, multivariate regression models were used simultaneously. This research's findings showed a positive relationship between capital structure and capital structure and sales growth and a negative relationship between capital structure and rate of return on assets.

Zeynali et al. [4] in a study titled as "The Effect of capital structure on size, rate of return on capital and earnings per share (or dividends) of companies listed in Tehran Stock Exchange", examined equality of capital structure of companies involved in medicine industry. Moreover, they experimentally studied relationship between capital structure and firm size, rate of return on capital, income per share. Results of this study indicated that companies involved in medicine industry had the same financial structure during 2007-2009 periods. Furthermore, there was no significant relationship between company's financial structure and rate of return on capital as well as income per share. On the other hand, there was a significant relationship between company's financial structure and their sizes.

Mousavi et al. [5] in a study examined relationship between capital structure factors and systematic risk classes of companies listed in Tehran stock exchange. For this reason, data needed for this research was collected from 99 active companies listed in Tehran stock exchange from 1999 to 2007. Statistical data of this research was collected using Rahavard and Tadbirpardaz software. Statistical regression techniques were used in order to test research's hypotheses. This research had 6 hypotheses. Results of this study indicated that six companies with medium and low risk levels used short-term and long-term debts respectively which were higher than other companies. These results also showed that companies with relatively high risk levels relatively used long-term debts more than short-term debts. Thus, high-risk companies did not tend to raise financing through ordinary/common shares.

Karimi et al. [6] in a study titled as "Studying effects of financial leverage and growth opportunities on investment decisions of firms listed in Tehran Stock Exchange" investigated effect of financial leverage and growth opportunities on investment decisions. In this research was conducted on 104 companies during 8 years period from 2001 to 2008. This research's results showed that firms that had higher debt than others did not invest much and there was no significant relationship between growth opportunities and investment decisions.

Namazi et al. [7] in a research titled as "studying relationship between capital structure and profitability of companies listed in Tehran Stock Exchange", studied effect of investment on profitability. This study was conducted on 108 companies from various industries in 5-years period from 1996 to 2000. Results of this study showed that there is a weak relationship between capital structure and profitability; moreover, this relationship is different in various industries.

## MATERIALS AND METHODS

This study is a practical study; furthermore, it is a descriptive - correlational study regarding its nature and methods. Information needed in this study was collected by the following methods :

Library method: This method was used to collect research data regarding research literature (subject matter) and background. Therefore, needed data was collected by reading books and articles as well as searching web sites .

Document research method: this method was used in order to conduct research and collect information needed for testing hypotheses. Data collection was performed by Tadbirpardaz and Rahavard Novin software and searching web sites including management of Islamic research, development and studies of Stock Exchange and Stock Exchange.

Statistical population included companies listed in Tehran Stock Exchange from 2003 to 2011. In this study, purposeful sampling method (systematic elimination method) was used. For this reason, all firms - in statistical population - that meet following criteria were selected as sample and other firms were deleted:

1. Their financial year ends at 29th march, so that data could be compared with each other .
2. Companies should not be among financial companies including investment companies, banks and insurance companies, so that data would be uniform and homogeneous .
3. Companies should have listed in Stock Exchange before 2003 .
4. Companies should have not modified their financial year during the course they are under study.
5. Information required for company should be available during the course under study.
6. The company should be financed by debt during 2003 to 2011 .

By implementing above criteria, sample size was excluded to 62 companies .

Moreover, Excel spreadsheet was used in order to prepare variables needed for models in order to test hypotheses. First, collected information were entered in spreadsheets created in Excel software. Then, calculations required to obtain variables of the study was conducted. After calculating variables needed for this research's models, they were combined in a single spreadsheet, so that these combined data can be transferred electronically to software used for final analysis. State software, version 11, was used to conduct final analysis.

## RESULTS

Since panel data model was used in order to determine data type, F-Limer test was used too. This test showed that model data is panel-type. The value of this statistic was 14.33 which is less than table's F-value. The

probability of this statistic was also zero which was less than 0.05. According to this test, null hypothesis is rejected based on data integration. Thus, data are panel type. However, since Tobit model is only estimable using random effects, Hausman test is not needed to determine panel data type. Therefore, data is panel data by assuming random effects.

Results of estimation of Tobit model using State software are presented in Table 2. Before testing hypotheses and studying the model, goodness of fit of the model should be evaluated too.

**Table 1.** F-Limer test results

Statistic	Value	p-value
<b>F-Limer</b>	14.33	0.000

According to results of Table 2, significance of overall regression can be determined due to zero probability of Wald test. In Tobit regression model, R2 is not adequately reliable and valid. Instead, likelihood log statistics was used as the criterion used for determining model's goodness of fit. Value of this statistic was negative. If absolute value of this statistic increases, the model suitability would be higher. Value of this statistic was obtained 510.2. Therefore, the model is significant and reliable. Values given in Table (2) indicate model's goodness of fit. Now, it is necessary to examine model further (or with more details). Thus, model should be evaluated by z-test in order to test significance of variables.

One to five hypotheses were developed in order to examine whether there is a relationship between corporate governance tools and capital structure of companies listed in Tehran Stock Exchange. These hypotheses are tested and discussed in rest of the paper.

**Table 2.** Estimation results of Tobit regression model (relationship 1) using panel data method with random effects

Financial variables		Estimated coefficient	Standard error	Z statistic	Z value
Variable name	Variable symbol	0.1570785	0.0509019	3.09	0.002
Institutional ownership share	INSTH	-0.0008452	0.0118958	-0.07	0.943
Managerial ownership share		-0.0000151	0.0000161	-0.94	0.346
Board of directors' size		-0.0495852	0.0511934	-0.97	0.333
Duality of CEO duty		0.0008773	0.0009264	0.95	0.344
Share of non-duty members of board of directors					
Wald statistic					52.22
Wald statistical probability					0.000
Likelihood log statistic					512.5263

Statistic value of variable of institutional ownership share is 3.09. This value is higher than value of probability distribution table. Thus, effectiveness of this variable on dependent variable is confirmed. Probability value of this test is 0.002. Therefore, this variable is effective on capital structure with 95% level of confidence. This indicates that there is a significant relationship between variable of institutional ownership share and capital structure. Thus, based on results presented in table 2, main sixth hypothesis of this research is accepted. Positive sign of coefficient of variable of institutional ownership share shows direct effect of this variable on debt ratio to shareholders' equity.

Z-value of MLG variable in the table is -0.008 which is lower than value related to probability distribution table (2). Therefore, effectiveness of this variable on dependent variable is not confirmed. Z-value probability value of this test is 0.07 which is higher than probability value of probability distribution table (0.05). Thus, this variable is not effective on capital structure with 95% level of confidence. This indicates that there is no significant relationship between managerial ownership share and debt ratio to shareholders' equity. Therefore, according to results presented in table (2) related to MLG variable, second hypothesis of this research is rejected with 95% level of confidence. Moreover, negative sign of MLG coefficient variable indicates inverse effect of this variable on capital structure .

Z-value statistic of this hypothesis is -0.94 in the table (2) which is lower compared to value of probability distribution table (value 2). Z-value probability (0.346) of this statistic is higher than probability of probability distribution table (0.05). Then, this variable is not effective on the model with 95% level of significance. Moreover, negative sign of BZ value shows that this variable has inverse effect on capital structure .

Calculated z-value probability is 0.333 for duality of CEO duty variable which is higher than probability of probability distribution table (0.05). This probability is also higher than 5% error level. Then, it can be said that there is no significant relationship between duality of CEO duty and debt ratio to shareholders' equity. Negative

sign of duality of CEO duty variable shows its inverse effect on capital structure. Therefore, according to results presented in table (2), ninth hypothesis of this research is rejected in 95% level of confidence .

Z-value of this hypothesis is 0.95 in table (2) which is lower compared to value of probability distribution table. Thus, significance of variable is rejected in the model. Z-value of this test is 0.344 which is higher than probability of probability distribution table (0.05). Then, this variable is not effective on model with 95% level of significance. Moreover, positive sign of coefficient variable of non-duty member of board of directors shows direct effect of this variable on capital structure.

## DISCUSSION

This research studied effect of corporate governance tools on capital structure using Tobit model. Results of data analysis for the first hypothesis showed that this variable is effective on capital structure with 95% level of confidence. It also showed that there is a significant relationship between variable of instructional ownership share and capital structure whose result is in line with Alnajjar et al. [8] results .

The second hypothesis claims that there is a relationship between managerial ownership share and debt ratio to shareholders' equity. Results of research data analysis using Tobit model showed that this variable is not effective on capital structure with 95% level of confidence. Therefore, there is no significant relationship between managerial ownership share and debt ratio to shareholders' equity. Results of research data analysis for the third hypothesis showed that there is no significant relationship between board of directors' size and capital structure with 95% level of confidence. This finding is not in line with Alnajjar et al. results [8]. Results of the fourth hypothesis showed that there is no significant relationship between duality of CEO duty and capital structure. Moreover, results of the tenth hypothesis indicated that there is no significant relationship between non-duty members of board of directors and debt ratio to shareholders' equity .

Results of this research can be useful for users of financial information, especially company's managers, shareholders and government due to privatization of state companies. According to this research, variable of institutional ownership share is more effective on corporate governance tools than other variables. Therefore, shareholders can use these research results for their decisions.

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