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The Relationship between Corporate Ownership Structure and Firms' Capital Cost

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ABSTRACT

The purpose of the present study is to investigate the effects of corporate ownership structure on capital cost of firms of food and medicine industry accepted in Tehran stock exchange. Research hypotheses stated that corporate ownership structures have meaningful relationship with firms' capital cost, information quality has relationship with firms' capital cost, ownership structures have relationship with firms' capital cost and board of director structure has relationship with capital cost of firms. So 38 firms were considered from 2004 to 2008. Also the test was done separately for each industry and the results showed that firms' capital cost are not affected by corporate ownership structure. In other words it can't be accepted that there is a meaningful relationship between features of corporate ownership structures (financial information quality, ownership structure and board of directors structure) and firms' capital cost.

KEY WORDS: corporate ownership, capital cost, ownership structure, directors board structure, financial information quality.

1. INTRODUCTION

The literature shows that there isn't unanimityabout corporate ownership. In one perspective it is known as the relationship between firms and shareholders. This is an old pattern which is stated in agency theory. Also corporate ownership can be seen as a net of relationships not only between firm and its owners but also between the firm and a great number of profit holders like staff, customers, sellers, stock holders and etc. this theory is seen in the theory of profit holders. General consideration of corporate ownership definitions in scientific texts show that all of them have common and specified features and answering is one of the most important ones[1]. So the existence of corporate ownership structures guarantees the profit of shareholders, buyers and debtors and other profit holders by means of decisions made by board of directors. Firms' financial performance have positive relationship with inserting corporate ownership right and better managers make better corporate ownership and notice to profit holders. A healthy corporate ownership should support stock holders and financers effectively so that they don't lose the profit of their capital. When investors can't have a proper assessment of real economic value of the company due to obscurity in quality and management efficiency, the results of this faulty information is inserted on bigger agency risks and are reflected to stock holders. Logical investors request a price for the risk of agency which significantly increases firm's capital cost. The important question is that " how stock holders can control the management of the company?". The main purpose of the present research is to investigate the effect of corporate ownership structure on firms' capital cost. So the question is " docorporate ownership structures have effect on firms' capital cost?. These structures can be stated in three dimensions including 1) quality of financial information, 2) ownership structureand 3) The structure of the board of directors.

2. LITERATURE REVIEW

Ryan (2004) has done a study entitles" the effect of ownership structure on firms' capital cost". Their study showed that big abnormal types caused clarity of profit and increases capital cost. Firms with more independent accountancy committee and institutional stock holders had lower capital cost but those ones with great stock holders blocks had higher capital cost. There was a negative

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relationship between capital cost and firm independence of board of directors which had stock. The study showed that firms with better ownership had lower agency risks for stock holders and a lower capital cost is resulted [8].

Deco et al (1995) showed that non-authoritative committing types are fixed and can't be used to level the profit. The more the authoritative committing types inside the committing types, the higher the probability of profit management which shows firm's financial status leading to decline of capital cost[7].

Francis et al (2005) investigated the pricing method of committing types quality as an information related risk to profit and showed that the lower the quality of committing types, the higher debts and capital cost of that firm. This topic also shows the effect of committing types quality on individuals' decision making[6].

Kapopolos investigated the effect of ownership structure on firms performance using the information of 175 Greek firms and the result is that the more centralized ownership have relationship with firm's profit making more positively and to gain higher profit, an ownership with less diversity is needed[9].

Mullor studied the relationship between managerial ownership with performance of small and medium German companies testing motivational suppositions. They studied 356 servicing companies from 1997 to 2000. The results showed that firms' performance with managerial ownership is improved more than 40 percent [10].

Rasaian studied the relationship between committing types quality with capital cost of firms in 2008. The purposes of the study were to find meaningful effect of committing types quality on capital cost (debt cost and cost of stock holders rights) and meaningful difference between firms capital cost with different amounts of committing types quality. So they examined 85 firms since1997 to 2005. Committing types were divided in two authoritative and non-authoritative parts to investigate both parts of committing types and capital cost. The results showed that capital cost of firms is not influenced by committing types quality and its related parts. In other words, it can't be accepted that there is a meaningful difference between firms with high and low committing types qualityand firmswith high and suitable committing types quality[2].

Namazi studied the effect of ownership structure on performance of the firms in Tehran stock exchange in 2008. The main hypothesiswas that there is a relationship between firms ownership structure and their performance. The especial hypothesis was that there is a relationship between ownership structure type and performance of firms. Four models based on dependent variables were approved to test each of the hypotheses.Then 66 firms since 2003 to 2008 wereconsidered. The results of the study showed that there was a negative meaningful relationship between institutional ownership and firm's performance and a positive meaningful relationship between corporate ownership and firm's performance. Managerial ownership affected performance meaningfully negative. Regarding foreigner ownership, not any information showing the ownership of foreign stock holders in outstanding companies was observed. Regarding private ownership, it is better that the main ownership be given to corporate ownership part. Generally there was a meaningful relationship between firms' ownership structure and their performance[4].

Mashyekhi studied the relationship between profit quality and some aspects of management principles including ownership percentage of board of directors and the number of non-committing managers in 135 firms accepted in Tehran stock exchange from 2002 to 2004. In this research to measure profit quality, profit making constancy aspect was used. The results showed that in 95% confidence interval, there wasn't a relationship between profit quality and ownership percentage of board of directors and the number of non-committed members of directors board. There was a non-linear relationship between committing types and percentage of board of director's ownership. Also the number of non-committed managers and percentage of board of director's members which are regarded as principal management structures of the firms, didn't have significant role in the promotion of profit quality of accepted firms in stock exchange[3].

Noravesh studied the role of corporate stock holders on decline of information synchronism of Tehran stock exchange. Investment companies and other trade institutions were defined as corporate investors. The results showed that firms with high percentage of corporate stock holders have reported

more information about future profits compared with firms with low percentage of corporate stock holders. So the lack of higher information synchronism has been observed in firms with lower corporate ownership. General results of the research showed a meaningful relationship between ownership structure and firms' performance [5].

3. RESEARCH METHODOLOGY

The present research is an applied one. It is a correlation study using multi-regression analysis to test the hypotheses.

Research hypotheses

The main question of the study is that does corporate ownership structure have effect on forms' capital cost?

So the following are the hypotheses:

The main research hypothesis

1- Corporate ownership structures have relationship with firms' capital cost.

The secondary hypotheses

1- Information quality has relationship with firms' capital cost.
2- Ownership structure has relationship with firms' capital cost.
3- Board of director's structure has relationship with firms' capital cost.

Operational variables of the research and methods for measuring them

1-quality of financial information are measured by abnormal commitment types in this research. The criterion of abnormal commitment types is defined based on a accountancy information which measures abnormal commitment types by a modified model.

$$TA_{it} = \alpha_1\left(\frac{1}{A_{it-1}}\right) + \alpha_2\left(\frac{\Delta REV}{A_{it-1}}\right) + \alpha_3\left(\frac{PPE_{it}}{A_{it-1}}\right)$$

TAit is the total commitment types of I company in t year, Ait-1 is total assets of I company in t year and ΔREVis the change in net income of I company in t-1 and t years and PPEit is the value of machine and equipment assets of I company in t year.

$TA_{it} = (\Delta CA_{it} - \Delta CL_{it} - \Delta Cash_{it} + \Delta STDEBT_{it} - \Delta DEPN_{it})$

The changes in current assets of I company in t and t-1 years ,ΔCAit where the changes of debts of I company in t and t-1 years ,ΔCLi

The changes in company's cash in t and t-1 years ΔCashit

I company in t and t-1 years and the change in current debts ΔSTDEBTti

Amortization cost of witnessed and non-witnessed assets of I company in t year ΔDEPNti

To calculate abnormal committing types, the following formula is used:

$$NDA_{it} = \alpha_1\left(\frac{1}{A_{it-1}}\right) + \alpha_2\left(\frac{\Delta REV - \Delta REC}{A_{it-1}}\right) + \alpha_3\left(\frac{PPE_{it}}{A_{it-1}}\right)$$

Committing normal types, NDAit where

Change in the net amount of accounts and business received documents ΔREC

If normal committing types are subtracted from total sum of committing types, committing abnormal types will be resulted:

$DAit = TA_{it} - NDA_{it}$

2- Ownership structure is a common measurement scale for centralized ownership including collective ownership which is defined as bigness percentage of stock holders. In this research main stock owners include persons and organizations which have more than 5% of the total amount of the stock. Collective ownership= total of owned stock by main stock holders+ total of capital stock.
3- Board of the directors structure
4- When one person takes over the head of the board of directors and becomes firm's executive manager, ownership mechanisms of firms are weakened if not fallen completely. Not selecting one personfor two positions is a dual variable and a one-time value is belonged to it to let two persons to take over the head of directors' board and executive manager. Zero-time

value is given to this variable when one person takes over head of directors' board and executive manager.

5- the rate of capital cost

6- to calculate the rate of capital cost (dependent variable), the balanced capital cost mean is used where:

$$WACC = \left(\frac{D}{V} \times Kd\right) + \left(\frac{E}{V} \times Kj\right)$$

WACC is capital cost of the firm, D is financial providence by loan and debt=received financial facilities+ long term debts+ participatory paid bills, V is total value of the company= the daily value of the company stock (E) +financing through debt and loan (D), Kd is the rate of debt cost= the rate of bank interest × (1-T) and Kj is the rate of real efficiency of usual stock.
Effective tax rate (t) was considered (%25 × (1-%10))=%22/5. So, Kd= the mean of rates × (1-%22/5).

4. Subjects and study sample

Participants of the study include food and medicine industry firms accepted in Tehran stock exchange. The sources of data collection were financial bills and board of directorsreports to groups and Rahavarde Novin software and internet websites. According to above studiesa five year period from 2004 to 2008 was selected for the present study for higher validity and precision of the results which have the following characteristics:

1- from 2004 to 2008, firms' stocks should have been exchange in stock exchange
2- the end of financial year is 29th of Esfand
3- exchange days of firms in each financial years is at least 80 days
4- They are not included in financial dealer and holding companies.

Finally 38 firms were selected as study sample.

5. Hypothesis testing

Regarding that the main purpose of the present study is to investigate the effect of corporate ownership on capital cost of the firms accepted in Tehran stock exchange, simple linear and multi regression analysis are used. In this study the quantitative relationship of the effect of corporate ownership mechanisms (independent variable) including financial information quality of board of directors' structure and ownership structure on firms capital cost was investigated using Eviews software. This test separated the food and medicine industries.

6. data analysis

1. first hypothesis analysis

H0: there isn't a positive relationship between financial information quality with capital cost.
H1: there is positive relationship between financial quality information with capital cost.
To investigate the meaningfulness of independent variables, t statistic and for regression meaningfulness, F test and value of significance were used. Also, fixed annual effects were calculated through johns model.

Table 1: value of t statistic, STD error and probability level of variables of financial information quality

Variable	Coefficient	Std. Error	t-Statistic	Prob
DA	0.117859	0.060538	1.946874	0.0531
C	2.623786	0.100602	26.08091	0.0000

Table 2: fixed annual effects for financial information quality.

Fixed Effects (Period)	2004	2005	2006	2007	2008
	-0.133919	-0.133885	0.528819	0.241416	0.502430

Table 3:F statistic and probability level and regression R-squared for financial information quality.

Prob(F-statistic)	R-squared	Adjusted R-squared	Durbin-Watson
0.003274	0.091269	0.066575	1.710386

P=0.0531 shows the lack of meaningfulness of DA coefficient at α=0.05. so H0:β=0 at 0.05 level is accepted for this variable. R2=0.091 is the change of capital cost explained by model. Also Durbin Watson value, D.W=1.071 shows the lack of serial self-correlation.

2. Second hypothesis analysis

H0: there is not a meaningful relationship between firms' ownership structure with capital cost.
H1: there is a meaningful relationship between firms' ownership structure with capital cost.

Table 4: t statistic, STD error and probability level for ownership structure

Variable	Coefficient	Std. Error	t-Statistic	Prob
OS	0.439454	0.718980	0.611219	0.5418
C	2.184235	0.593926	3.677619	0.0003

Table 5: Fixed annual effect for ownership structure

Fixed Effects (Period)	2004	2005	2006	2007	2008
	-0.134241	-0.149750	0.526846	0.246688	- 0.489542

Table 6:F statistics and probability level and regression R- squared for ownership structure

Prob(F-statistic)	R-squared	Adjusted R-squared	Durbin-Watson
0.013553	0.074429	0.049277	1.691145

P=0.5418 shows the lack of meaningfulness of ownership structure coefficient at α=0.05. so H0:β=0 at 0.05 level is accepted for this variable. R2=0.074 is the change of WACC explained by model. Also Durbin Watson value, D.W=1.069 shows the lack of serial self-correlation.

3. Third secondary hypothesis analysis

H0: there isn't a meaningful relationship between the structure of the board of directors with capital cost.
H1: there isn't a meaningful relationship between the structure of the board of directors and capital cost.

Table 7: t statistic, Std error and probability level of directors board structure

Variable	Coefficient	Std. Error	t-Statistic	Prob
BS	-0.148742	0.199756	-0.744619	0.4575
C	2.590583	0.112480	23.03159	0.0000

Table 8: fixed annual effects of directors board structure

Fixed Effects (Period)	2004	2005	2006	2007	2008
	-0.143014	-0.138861	0.538886	0.241005	-0.498015

Table 9: F statistics and meaningfulness level and regression R-squared for directors board structure

Prob(F-statistic)	R-squared	Adjusted R-squared	Durbin-Watson
0.012581	0.075336	0.050209	1.686971

P=0.5475 shows the lack of meaningfulness of directors board structure coefficient at α=0.05. So H0: β=0 at 0.05 level is accepted for this variable. R2=0.075 is the change of WACC explained by model. Also Durbin Watson value, D.W=1.068 shows the lack of serial self-correlation.

4. Main hypothesis analysis

H0: there isn't a meaningful relationship between corporate ownership structureand capital cost.
H1: there isn't a meaningful relationship between corporate ownership structure and capital cost.

Table 10: t statistic, STD error and meaningfulness level for corporate ownership structure

Variable	Coefficient	Std. Error	t-Statistic	Prob
DA	0.113099	0.061328	1.844181	0.0668
OS	0.383429	0.716352	0.535253	0.5931
BS	-0.094801	0.200778	-0.472167	0.6374
C	2.3380774	0.600016	3.896688	0.0001

Table 11: Fixed annual effects of corporate ownership structure

Fixed Effects (Period)	2004	2005	2006	2007	2008
	-0.133534	0.127482	0.534826	0.239456	-0.513265

Table 12: f statistic and meaningfulness level and regression R-squared for corporate ownership structure

Prob(F-statistic)	R-squared	Adjusted R-squared	Durbin-Watson
0.011118	0.093928	0.059080	1.712915

P value shows the lack of meaningfulness of corporate ownership structure coefficient at α=0.05. so H0:β=0 at 0.05 level is accepted for this variable. R2=0.092 is the change of WACC explained by model. Also Durbin Watson value, D.W=1.071 shows the lack of serial self-correlation.

7. Conclusion

The result of first secondary hypothesis showed that Prob=0.0531and regression was not meaningful at 0.05 level. Table 3 clearly shows the weak relationship betweenfinancial information quality andcapital cost through low R2=0.091. Amir Rasaian(2008) studied the relationship between quality of committing types andcapital cost of firms. Committing types were divided to authoritative and non-authoritative parts to study the effects of both variables. The results showed that firms' capital cost is not influenced by committing type's quality and its parts. In other words there wasn't a meaningful relationship between high quality types firms and low quality ones. A negative relationship was found between financial information quality and capital cost.

The results of the second secondary hypothesis showed that Prob=0.5418 and regression was not meaningful at 0.05 level. Table 6 clearly shows the weak relationship between ownership structure and capital cost through weak R2=0.074. Namazi (2008) studied the effects of ownership structure on performance of companies accepted in Tehran stock exchange. The results showed that there was a positive meaningful relationship between corporate ownership and firms' performance but there wasn't a meaningful relationship between firms' ownership structure and capital cost.

The results of the third secondary hypothesis showed that Prob=0.4575 and regression was not meaningful at 0.05 level. Table 9 clearly shows the weak relationship between firms' ownership structure and capital cost through weak R2=0.075. Mashayekhi studied the relationship between profit quality and some aspects of management principles like ownership percentage of the board of directors and the number of non-committed managers. The results of showed that there wasn't a relationship between ownership structure and capital cost.

The results of the main hypothesis showed that regression was not meaningful at 0.05 level. Table 12 shows the significance level of each of independent variables. A weak relationship is shown between corporate ownership structure and capital cost by weak R2=0.093. There wasn't a relationship between corporate ownership structure and capital cost.

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