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The Relationship Between the Capital and Ownership Structures with the Created Shareholder Value in Tehran Stock Exchange

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Abstract: In the present study, we have proceeded to examine the separate and simultaneous role and effects of the focus and type of ownership as well as the capital structure on the created shareholder value (CSV) of the companies registered in Tehran Stock Exchange (TSE). The statistical population under study consists of 95 corporations among the companies registered in Iran-Tehran Stock Exchange during the period 2008-2011, other than investment and financial intermediation companies. To test the research hypothesis, simple and multivariate methods were applied. To examine the effect and significance of the most independent variables, Stepwise modeling has been applied. The research findings showed a direct and significant linear relationship between the variables including capital structure and ownership type and also an inverse and significant relationship between the ownership concentration and the CSV. Furthermore, the examination of the ownership structure including two variables of ownership concentration and type on the CSV has led to some results similar to what has been mentioned in respect of the variables including the ownership concentration and type. On the other hand, the results achieved by examining the effects of two variables of ownership structure and capital structure on the CSV indicate that the effect of ownership structure has been rather than the capital structure on the created shareholder value.

Key words: Capital Structure · Created Shareholder Value · Ownership Structure

INTRODUCTION

The infrastructural problems, based on which the ownership structure issue concerning corporate governance theory has been originated, include the opposition of the shareholders' interests to the management's, exertion of absolute control by the major shareholders, a decrease in the power of the minor shareholders to control and supervise the company's issues and exclusiveness of making decisions by the managers. According to the studies concerning corporate governance, ownership structure has been considered as one of the solutions to resolve this problem [1].

On the other hand, the decisions on both financing and investment in the corporations are those made on providence. The resources of financing in the companies are divided into two parts based on their financing policies including internal financial resources and external financial resources. In the internal financial resources, the company starts to finance from the profit it has gained; it employs the profit in the mainly operational activities of the company for producing further yield, instead of distributing the dividend between the shareholders and in external financial resources, it proceeds to finance from the liabilities and equity [2]. In the decisions of financing, the company is presently using the related funds to fulfill its obligations to the suppliers of financial resources in the future.

The environments wherein the companies nowadays operate are developing and highly competitive; and in order to survive, the companies have to compete with several national and international factors and expand their activities through new investments. They also need financial resources for their investments. However, the

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financial resources and their utilization should be determined well in order for the company to be profitable and this is the task of financial manager.

Thus, one of the most important purposes which should be considered by the financial managers for maximizing the shareholders' value is to determine the best composition of the company's resources or the same capital structure. Capital Structure enigma is considered as the most important financial management issue and it is even more sophisticated than the riddle of dividends [3].

Review of Literature: In their investigation conducted on the corporate governance and revenue management as well as the relationship between the economic value added and the CSV, Ali El Mir and Souad Seboui (2006) have concluded that there is different cases of convergence and divergence between the CSV and the economic value added which may be explained by means of revenue governance and management [4].

In another study, Céspedes *et al*. (2010) examined the relationship between the capital structure and the ownership structure in 7 countries of Latin America and concluded that there is a positive relationship between the leverage and the ownership concentration. Furthermore, the results achieved by this investigation indicate a positive relationship between the leverage and the growth variables as well as a negative one between the leverage and the profitability, the bigger companies have more tangible assets [5].

Omneya Abdelsalam *et al*. (2008) have studied the effect of the board of directors' composition and the ownership structure on the policies of dividend payout by making use of some information concerning 50 Egyptian companies during the period 2003-2005 through regression method. The results so achieved show a positive and significant relationship between the institutional ownership and the company's performance with the decisions and the dividend payment ratio. Such results also suggest that the companies with higher stock returns and larger institutional ownership distribute more profits. There is no significant relationship between the composition of board of directors' and the dividend policy and the dividend payout ratio [6].

Lee (2009) examined the capital structure; somewhere in this investigation, he made use of return on assets and the return on sales as the performance benchmarks. They concluded that there is a negative and harmonious relationship between the financial performance and leverage and the short-term debt ration; thus Chinese companies utilize the short-term debts lesser than other ones [7].

In an investigation carried out in 85 companies among the companies registered in TSE during the period 2006-2009, Abdoli *et al*. (2011) showed that three is a significant relationship between both economic value added and residual income with the CSV. However, residual income standard in relation to the created shareholder value is more significant than that of economic value added [8].

Setayesh *et al*. (2010) examined the factors effective on the capital structure of the companies registered in TSE in their studies. The purpose of this research was to study the relationship between the capital structure and institutional ownership along with all other factors affected such relationship in Tehran Stock Exchange. The statistical population under study consists of 117 companies registered in TSE classified in 7 industry groups during the period 2004-2009. The results of this investigation indicated that in all the companies under study, all factors but the institutional ownership were effective on the capital structure [9].

Younos Badavar Nahandi *et al*. (2010) started to examine the impact of capital and ownership structure on the rate of income smoothing I n the companies. The period of hypothesis testing was the years 2001 to 2008 and the statistical population under study included 60 companies registered in TSE. The results of this study showed that current debt to assets ratio, long-term to assets ratio and total debt to equity ratio in the companies with high income smoothing are less than those in the companies with low income smoothing.The ownership rate for the institutional shareholders of the companies with high income smoothing is more than that of the companies with low income smoothing [10].

In their study conducted on 70 companies during the period 2002-2007, Mohammadi *et al*. (2009) suggested to a positive, linear and there was a significant relationship between the o factors including ownership concentration and the corporates' yield as well as the lack of any significant relationship between the concentrated ownership and value of the companies. On the other hand, the results achieved by examining the effects of ownership type demonstrated that contrary to the inverse relationship between the stock yield and the state ownership rate, the relationship between single, corporate and private ownerships with the yield is direct and significant, while the ownership concentration variable in

all models has still a direct linear relationship with the stock yield. Testing the relationship between the ownership type and the company's value achieved similar results to what was explained for the yield [11].

S. J. Sadeghi Sharif *et al*. (2009) demonstrated that the companies with the most parts of their ownership at disposal of one shareholder, or most of the ownership is at the hands of its 5 larger shareholders, have more dividend payouts compared to those with more outspread ownerships where the ownership concentration will bring an increase to the dividend payout ratio in the company [12].

Namazi & Shirzad (2005) demonstrated in their investigation during the period 1996-2006 that there is generally a positive relationship between the capital structure and profitability, but it is statistically weak. The relationship between the capital structure and the capital itself depends on the industry; thus an optimal structure should be sought in different industries.

Research Purposes: The main purpose of this study is to examine the effect of factors including the type and rate of ownership concentration and the capital structure on the CSV of the companies registered in TSE; it is important because it shows to the managers, investors and other decision-makers that the diversity of ownership type as well as ownership concentration rate should be taken into consideration in financial and investment decisions, due to the role it can play in monitoring and controlling the management and decreasing the agency costs.

Research Questions and Hypotheses: In this study, we are seeking to answer the following question:

Do the capital structure and the ownership structure affect the CSV?

In order to conduct this investigation and to answer the proposed question and considering the results achieved by the previous studies, the following hypotheses are formulated:

- 1st hypothesis: the capital structure of the companies is significantly effective on the CSV.
- 2nd hypothesis: Company's ownership type (private, public) has a significant effect on the CSV.
- 3rd hypothesis: Company's ownership concentration is significantly effective on the CSV
- 4th hypothesis: Companies' capital structure affects significantly the CSV.
- 5th hypothesis: the capital structure is more significantly effective than the ownership structure on the CSV.

MATERIALS AND METHODS

Research method in this study is inductive for the type of inference and cross-sectional correlational for the kind of testing statistical method.

Population and Sample: The sample of this study includes 95 companies among all the companies registered in Tehran Stock Exchange which have been randomly selected with respect to the following conditions:

- They should be registered in TSE within the period of research.
- Its fiscal year shall be finished Mid of March (end of Esfand in Georgian Calendar).
- It shall not be of the investment and dealer companies.

Independent Variables: Capital Structure: it is a combination of debt and equity by which the companies finance their assets [4]. The companies make usually use of both resources of debt and equity in their capital structure composition. The formula to calculate Capital Structure is as follows:

$$\textit{Total debt – to – Total assets} = \textit{Total liability} \div \textit{Total assets} \quad \text{(Equation 1)}$$

Ownership Structure: it means the composition of the shareholders in terms of the formation of their management and the board of directors; ownership type and the ownership concentration rate are considered as two key aspects of the company's ownership structure.

- *Ownership Type*: it is divided into two parts as the state ownership and private ownership. (state ownership 2 and private ownership
  - *State Ownership*: according to article 4 of Public Audit Act, "a public company is a specified organizational unit which is established in the form of corporation as authorized by the law and

or it has been nationalized and/or confiscated as mandated by the law or a competent court and has been known as a public company that more than 50 percent of its shares belongs to the government. Any commercial company which is established through investments by the public companies is considered as a public company as long as more than its shares belong to a public company"; otherwise, it is a private one.

- *Ownership Concentration*: it consists of the way to distribute the stocks among the shareholders of different companies. The less the number of the shareholders, the more concentrated the ownership. In this research, to calculate the ownership concentration grade, Herfindahl-Hireshman Index has been applied which is calculated by summing the squared percentage of stock owned by the companies' shareholders.

$$HHI = \sum((\frac{pi}{p})\times 100)^2 \quad \text{(Equation 2)}$$

Where HHI is the ownership concentration grade, P shows the total number of the company's released stock and Pi is the number of stock of the major shareholders.

Dependent Variable: Created Shareholder Value (CSV): in case the investors' rate of return is beyond his expectation, the invested assets will have more value and the more value will be created; this increase in the shareholder's value is called the Created Shareholder Value [13, 14]. The CSV is one of the assessment and determination methods of the companies which were suggested by the Fernandez [15]. The formula to calculate CSV is as follows:

$$csv = shareholder\ value - equity\ market\ value \times k_e \quad \text{(Equation 3)}$$

Shareholder value added = Increase in equity market value – payments from shareholders (capital increases) + Dividends paid during the year + repurchases – conversions.

Increase in equity market value = market value at the end of the period - market value at the beginning of the period.

equity market value = market value of each share × outstanding shares.

Where CSV is the Created Shareholders Value and K_e is Capital Cost Rate (Expected Return)

Control Variables: Two control variables were considered in this study including the followings:

Return on assets: the rate of return on assets is calculated through after-tax income divided by the total assets. This ratio calculates the profit rate per every one Rial of the company's assets [16]. The formula to calculate Return on assets is as follows:

$$ROA = Net\ income \div Total\ Assets \quad \text{(Equation 4)}$$

Return on equity: it is indicative of the return on the shareholders' stocks. Such ratio has been calculated on the basis of after-tax annual net profit added to the ordinary equity at the end of fiscal year. The formula to calculate Return on equity is as follows:

$$ROA = Net\ income \div Shareholders\ equity \quad \text{(Equation 5)}$$

RESULTS

According to the cart 1 which shows the descriptive statistics of this study, skewness coefficient for the variables including the CSV, capital structure, ownership type and ownership concentration is 0.794, 0.390, 0.370 and 0.851, respectively indicating that the skewness of all the variables is low, since they are close to 0.5 (symmetry scale). Coefficient of kurtosis for these four variables consists 0.506, 2.687, 1,940 and 0.790, respectively showing that two variables including the CSV and ownership concentration have less dispersion and are closer to normal, since they are close to 0.5 (kurtosis scale) and the two others are higher than normal distribution.

Chart 1: Data Descriptive Statistics

Variables	Skewness	Kurtosis	Median	Minimum	Maximum
Capital structure	0.39	2.687	1.1971	0.1426	1.3398
Ownership type	0.37	1.94	1	1	2
Ownership concentration	0.851	0.79	8468.24	42.19	8470.82
CSV	0.794	0.506	1,922,087,280,243	-43,258,305,94	148,828,974,297

Chart 2: Summarized Results of Statistical Hypotheses

			Pearson Correlation		Coefficients			Model Summary		ANOVA		Hypothesis Rejection
			sig	CSV	Beta	t	sig	R	R^2	F	sig	or Confirmation
1	Capital Structure		0.002	0.308	0.2174	2.083	0.040	0.337	0.113	3.42	0.019	Rejected
	Control Variables	Return on assets	0.004	0.272	-0.323	-2.085	0.039					
		Return on equity	0.007	0.253	0.285	1.830	0.069					
2	Ownership Structure	Ownership Type	0.044	0.188	0.203	2.280	0.025	0.479	0.23	7.756	0.000	Rejected
		Concentration	0.076	-0.158	-0.272	-2.391	0.019					
	Control Variables	Return on assets	0.004	0.272	-0.468	-3.796	0.000					
		Return on equity	0.007	0.253	0.611	4.923	0.000					

Statistical Results of Hypotheses: To test the hypotheses of this study, Pearson Correlation Coefficient and Multi-variant Linear Regression have been used. And for investigating the effect and significance of most of the independent variables, stepwise method has been applied.

First Hypothesis: Companies' capital structure is effective on the created shareholder value.

Considering the relationships so resulted, it was demonstrated that the correlation between the capital structure and the created shareholder value. Correlation coefficient of this variable is 0.308 and its coefficient of determination is 0.113; it means that about 11.3% of the CSV changes are explained by the capital structure.

The Sig column of the Table 2 shows that Sig statistic rate for capital structure variable is equal to 0.019. Since the error level for this study has been considered as 5%, then the Sig<0.05 and t>2; thus this variable is significant and the first research hypothesis is confirmed and it may be said that the capital structure variable has been significantly effective on the shareholders' value.

Second, Third and Forth Hypotheses:

Second Hypothesis: Ownership type of the companies is effective on the CSV.

Third Hypothesis: Ownership concentration of the companies has an effect on the CSV.

Fourth Hypothesis: Capital structure of the companies is effective on the CSV.

Squared correlation coefficient (R^2) or the same determination coefficient indicates that 23% of the changes in the CSV are explained by the capital structure.

Coefficients' Significance Test: Correlation coefficient for the ownership type variable is 0.188 and the Sig column shows that the Sig statistic of t for this variable is 0.025. With regard to the fact that the error level considered for this investigation is Sig < 0.05 and t statistic > 2, then this variable is significant and the second hypothesis is confirmed. Since the coefficients are positive, it may be said that the ownership type variable has been directly and significantly effective on the CSV.

Correlation coefficient for the ownership concentration variable is -0.158 and its Sig rate is equal to 0.019. Therefore, it is significant and the third research hypothesis is confirmed. Since the coefficients are negative, it may be said that the ownership concentration variable has been inversely and significantly effective on the CSV.

Finally, taking the above results into consideration and with regard to the fact that both ownership type and concentration are the ownership structure components, the forth research hypothesis is confirmed too. Therefore, it may be suggested that the ownership structure is effective on the CSV.

Fifth Hypothesis: The effect of capital structure on the CSV is more than that of the ownership structure.

$$H0: r_1 = r_2 = 0$$

The relationship between the capital and ownership structure with the CSV is not linear.

$$H1: r \neq 0$$

At least one of the r(s) is not zero (it is linear)

It can be concluded from Table 3 that since the Sig rate for the general hypothesis (Multiple Regression) is equal to 0.000 and less than 5%, then H0 is rejected and H1 is confirmed. Thus, the significance of regression model for the general hypothesis is confirmable and this model could have explained

Table 3: Summarized Statistical Results of the Fifth Hypothesis

		Coefficients			Model Summary		ANOVA		Hypothesis Rejection
Method	Model	Beta	t	sig	R	R^2	F	Sig	or Confirmation
Multiple Regression Enter Model	Capital Structure	-0.03	-0.38	0.70	0.49	0.24	6.67	0.00	Rejected
	Ownership Type	0.21	2.40	0.01					
	Ownership Concentration	-0.17	-1.92	0.05					
	Return on assets	-0.57	-3.83	0.00					
	Return on equity	0.74	5.14	0.00					
Multiple Regression Stepwise Model	Ownership Type	0.23	2.34	0.02	0.35	0.11	5.75	0.04	

the changes in the dependent variable (CSV) through independent variables (capital structure and ownership structure).

Coefficients' Significance Test: The Sig statistic rate for the ownership type is equal to 0.018. With regard to the fact that the error level considered for this investigation is 5%, then the Sig < 0.05 and t statistic > 2; then ownership type is significant. Taking the above results into consideration and with regard to the fact that ownership type is one of the ownership structure components, the fifth research hypothesis is rejected.

Testing the Fifth Hypothesis Using, Stepwise Model: In is shown in Table 3 that the ownership type variable is the first and the only variable which has been entered into this model from among the dependent variables; R^2=0.112, it means that 11.2% of Variance (dispersion) of the CSV is explained by the ownership type. All other variables were not entered into this model, because as they would enter the model, R2 rate will not be sufficiently increased.

Analysis and Interpretation of the Results: In this study, it was discussed whether the management decisions can play a role in financing policies, the ownership concentration and type and the shareholders' composition as well as their participation in such decision-makings may cause to increase or decrease the shareholders' value.

About the first research hypothesis, the results showed that such ratio has a direct and significant relationship with the CSV. The positive relationship indicates that financing through borrowing (debt) will increase the CSV due to tax benefits and low cost of debt compared to all other financing methods. Furthermore, in accordance with Free Cash Flow hypothesis, since the debt reduces the opportunity to waste the company's resources by the managers, debt financing will increase the company's value. On the contrary, a decrease in the debts and/or an increase in the equity will deliver the reverse results. Indeed, an increase in total debt to total assets ratio may be useful to the extent of optimal capital structure, considering the direct effect of such ratio on the CSV.

For the second research hypothesis, the results suggested that as the companies' ownership is shifted from private shareholders toward public ones, the CSV will be increased. In other words, state ownership is directly and significantly effective on the CSV; that is, considering the influential and effective situation of the public investors, it is expected that such group of the owners would affect the financial policies. Accordingly, due to inclination of the managers to accumulate the most cash flows and considering their own rating power, the public owners might force the managers to distribute the dividend. Public investors prefer to distribute free cash flows in the form of financial policies including dividend in order to reduce agency costs related to such free cash flows.

The results of the third hypothesis indicated that in all companies, the ownership concentration is inversely and significantly effective on the CSV; i.e., the institutional and major shareholders who maintain the most shares of the company, are not so interested to increase the expected rate of return on stocks as well as to pay out further dividend.

On the other hand, high squared percentage of the shares owned by 5 major shareholders in TSE may mention the existence of institutional shareholders in the companies. Taking the definition of institutional shareholders into consideration, it may be concluded that the existence of such institutional shareholders in the companies will cause to decrease the CSV.

According to Bichra Theory [18], it may be argued that financial policies and institutional shareholders might be considered as messaging tools; that is, the existence of major shareholders may decrease the necessity to make use of financial policies including dividend as a message for appropriate performance, due to the fact that such shareholders may themselves act as a more valid message.

For the fourth hypothesis, the results showed that two standards including ownership type and ownership concentration can together affect the CSV as well.

About the fifth hypothesis, the results demonstrated that the company's capital structure is more effective on the CSV than that its capital structure and such effect is seen rather in the ownership type standard. Meanwhile, the stepwise method used in testing the fifth hypothesis, has suggested to the ownership model type as the more effective one which could have more effect on the CSV compared to all other variables.

In other words, it may be argued that the companies' ownership structure is more effective on the CSV than their capital structure, in terms of ownership type as public or private; it shows that the accomplishment of profitable projects and achievement of the optimal capital structure cannot alone play some roles in increasing the shareholders' value, but such increase is different in any company, based on the ownership type and finally it is the company's ownership type which impose its decision to change the shareholders' value.

Further suggestions to the Results of the Study:

- The investors who are seeking to gain higher values than what they have invested should take ownership composition and type into consideration in choosing their investment and invest in the stocks of the companies with higher shares of public ownership.
- The investors are expected to pay attention to the financial statements and reports in their decision-makings and to study the companies' ownership structure in terms of concentration and composition.
- It is suggested to the investors in stock exchange and the financial analysts to consider in their analyses the company's capital structure status and its debt ratios as a standard to measure and forecast the profitability of the company.

Further Suggestions for Future Studies:

- In this study, CSV model has been used that requires to calculate the expected return rate (k_e) for which the company's cost of capital has been used. However, to calculate it, we can make use of Capital Asset Pricing Model (CAPM) like what Noravesh *et al* did in their investigation. So, it is suggested to use this model in calculating expected return rate in the future studies and to compare its results with those of the present investigation.
- For calculating the ownership concentration, we can make use of another standard such as ownership percentage of the biggest shareholder and/or of that of 5 major shareholders and finally to compare its results with those of the present study.
- By classifying the companies into further parts in terms of their ownership (foreign ownership, corporate ownership, managerial ownership, public ownership, real ownership and institutional ownership), you can start to examine their rate of effectiveness on the created shareholder value (CSV).

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