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The Effects of Ownership Structure and Corporate Governance on Capital Structure

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Abstract: This study investigates the effect of ownership structure and corporate governance on capital structure of companies listed on Tehran Stock Exchange (TSE). Using seemingly unrelated regression equation and financial data of 87 companies during 8 years, research hypotheses are tested. The main research question is whether ownership structure and corporate governance changes have effect on capital structure among companies listed on TSE or not? The results show that these variables are important and effective in determining composition of financial resources of firm which statistically significant and is consistent with the research assumptions.

Key words: Capital Structure, Ownership Structure, Corporate Governance, Seemingly Unrelated Regression Equation, Tehran Stock Exchange

INTRODUCTION

Determining the optimal capital structure and making decision about financial resources are important issues which can significantly affect economic activities and commercial relationships of companies. Directors and financial managers are responsible to make decision about financial resources combination. They select a combination of financial resources to provide the funds needed for investment and development of activities with considering current situation and prediction future business conditions (Abor and Biekpe, 2009). One of the main concerns of companies' financial managers is making decisions about the appropriate combination of financial resources and determining the composition of capital structure (Aghaei Chadegani *et al*., 2011). Based on the literature, determining capital structure includes making decision about an optimal combination of equity and debts which maximizes company's market value using financial resources with lowest cost (Bokpin and Arko, 2010).

Since, making decision about capital structure and company financing can significantly affect various aspects of the company's future situation, these decisions are very important which directly impact the firm value and shareholders' wealth (Kohher and Raul, 2007). On the other hand, regarding development and specialization of business activities, management is separated from ownership. The agency problems have occurred by the separation of ownership from control. These problems happened due to information asymmetry. For solving agency problems (due to a conflict of interest between managers and owners), various theories have presented like corporate governance, ownership structure adjustment through managers participation in company's ownership or existence of institutional shareholders (Bokpin and Arko, 2010).

The main concept of corporate governance is based on manager's accountability and they are responsible for the interests of shareholders. In addition, managers' participation in equity may cause them avoid to make decisions which lake company's interest (due to participation in ownership structure). Moreover, the existence of institutional shareholders that can be effective in the selection and composition of board members reduce agency problems. Regarding the importance of determining optimal capital structure and way of providing financial resources for company's activities, the main research question is whether ownership structure and corporate governance have effect on capital structure of companies listed on TSE or not?

The reminder of this paper is organized as follows. In next section (2) the relevant literature to develop research hypotheses is discussed, in section (3) the sample selection, research method and variable measurement are explained, in section (4) the research result is analyzed and in section (5) the conclusions of study and suggestions for future researches are discussed.

Literature Review:

Recently, improvement of accountability and social responsibilities of corporate managers lead to raise corporate governance issues. Corporate governance is related to agency issue which is raised from the separation of ownership from control. After proposing agency theory by Jensen and Meckling (1976), agency relationship affected different issues in financial literature. Separation of ownership from management has

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raised conflict of interest issues and need for greater attention to monitor and control managers by shareholders. In recent decades, considering the rights of all stakeholders and involving all investors is a concern of the world financial and economical assemblies. Company's corporate governance is only a part of larger economic environment in which companies do their activities like macroeconomic policies, the level of competition in products and markets. Corporate governance describes internal organizing and structure of corporate power, board of director's responsibilities, corporate ownership structure and interaction between shareholders and other stakeholders, particularly firm labors and creditors (Hopt *et al*., 1998).

One of the methods for controlling firm's operations and corporate governance is to determine the optimum combination of ownership structure. Stock ownership and its impact on firm performance is one of the most important issues in corporate governance literature that has been considered by researchers for several decades (Shleifer and Vishny, 1997). One of the important aspects of successful corporate governance is its impact on company's outsource financing decisions that occurs at board of director's level (Hassan and Butt, 2009). Moreover, according to this fact that company's corporate governance arise from the conflict of interest between shareholders and management and also according to modern theories, agency costs (costs of monitoring managers to ensure they function based on shareholder's interest) is considered as one of the determinants of capital structure. Thus, it is important to investigate the effect of company's corporate governance on capital structure.

Influence of institutional investors as the main actors in financial markets on capital structure is also remarkable. In recent years, the main part of most companies stock listed on Tehran Stock Exchange (TSE) is owned by institutional shareholders. Institutional shareholders have effect on monitoring and controlling management in determining firm's operational and financial policies. Due to this fact that today's organizations emphasis on the separation of ownership from management to reduce conflicts of interest between shareholders and management. Thus, with increasing the number of shareholders, especially institutional shareholders try to have control over management decisions. The most important issue in the capital structure issue is how to resolve conflict of interest between management and owners. Therefore, it is important to investigate this relationship for solving the problem (Jensen, 1986).

Capital Structure:

Capital structure is a combination of stocks and bonds of companies for long term financing. This structure includes long term debts, preferred stock and common stock (Maximiliano and Molina, 2009). The most important issue in determining capital structure is deciding about an appropriate and desirable portion of liabilities and equity because of their direct effect on value of company's stock market (Aghaei Chadegani *et al*., 2011). Due to various capital structures of different companies based on their activities and situation, different theories about the determination and composition of optimal capital structure are introduced such as; pecking order theory, free cash flow theory, agency theory and market timing theory. There are different studies which have investigated influencing factors on financial resources combination and the effect of capital structure on firm's performance.

Wen *et al*., (2002) investigate the relationship between some characteristics of the corporate board and the firm's capital structure in Chinese listed firms. The results of this study provide some empirical evidence and seem to suggest that managers tend to pursue lower financial leverage when they face stronger corporate governance from the board. Harvey *et al*., (2004) investigate the relationship between capital structure and agency costs in emerging countries. Their results show that using debts in financial resources combination may decrease agency problems which raised separation of ownership from management. Moreover, debt issue could increase firm value.

Chaganti and Damanpour (2005) examine the relationship between institutional ownership, capital structure and firm performance. They conclude that the size of outside institutional stockholders has a significant effect on the firm's capital structure. They also find that family and inside institutional owner's shareholdings moderate the relationship between outside institutional shareholdings and capital structure. In the same way, corporate executives' shareholdings supplement the relationship between outside institutional shareholdings and firm's performance. These findings suggest that internal and external coalitions interact with each other to influence the firm's conduct.

Abor and Biekpe (2009) also examine the relationship between company's corporate governance and capital structure of small companies. The results show that there is a direct relationship between the size of board and the amount of using debt in capital structure. Hassan and Butt (2009) explore the relationship between corporate governance and capital structure of listed companies in an emerging equity market, Pakistan. Results reveal that board size and managerial shareholding is significantly negatively correlated with debt to equity ratio. The results suggest that corporate governance variables like size and ownership structure and managerial shareholdings play important role in determining financing of the firm. Al-Najjar and Taylor (2008) investigate the relationship between ownership structure and capital structure. The results demonstrate that Jordanian firms follow the same determinants of capital structure as occur in developed markets, namely; profitability, firm size, growth rate, market to book ratio, asset structure and liquidity. In addition, institutional ownership structure is found to be determined by assets structure business risk, growth opportunities and firm size.

Recently, Bokpin and Arko (2010) investigate the effect of ownership structure and corporate governance on capital structure decisions of firms on the Ghana Stock Exchange. The results reveal that managerial shareholding significantly positively influences the choice of long-term debt over equity. Among the corporate governance variables, board size is found to be positively and significantly related to capital structure choices. Maximiliano and Molina (2011) with investigating the determinants of ownership and capital structure in Latin America conclude that it is impossible to achieve an optimal structure of financial resources regardless of the ownership structure because ownership structure could directly affected the manager's decisions.

Research Hypotheses:

Based on research framework, independent variables are ownership structure and corporate governance and capital structure is dependent variable also operational characteristics are control variables. Thus, research hypotheses are as follows:

Due to this fact that the percentages of stock ownership within the organization and number of shares owned by institutional shareholders have a positive effect on the debt to total assets ratio, thus, the first hypothesis is:

H1: Ownership structure has a meaningful effect on capital structure of companies listed on TSE.

Regarding the positive influence of the number of board on the debt to total assets ratio and the negative effect of board's independence, second hypothesis is:

H2: Company's corporate governance has a meaningful effect on capital structure of companies listed on TSE.

Instability of earning and sales growth rate has a negative effect on debt to total assets ratio. Moreover, the amounts of fixed assets and firm size have a positive effect on debt to total assets ratio. Thus, the third research hypothesis is:

H3: Operational characteristics have a meaningful effect on capital structure of companies listed on TSE.

Methodology:

Samples:

The main objective of this study is to investigate the relationship between ownership structure and corporate governance on capital structure of firms listed on Tehran Stock Exchange (TSE). For testing research hypotheses, financial statement data of companies listed on TSE during 2001 until 2009 are used. In this research for choosing samples, purposeful sampling is used. This means companies considering the following features are selected:

1) Sample Company should be accepted in TSE until the end of 2009.
2) Company's financial data should be available during research period.
3) Sample companies are not investment or financial intermediation companies.
4) Their fiscal year ends to march and they have not changed the end of their fiscal year during the research period.
5) In terms of increasing popularization, samples are selected from all industries.

Considering the mentioned conditions and limitations, total numbers of 87 companies during period from 2001 until 2009 are selected.

Research Models:

For investigating the effect of ownership structure and corporate governance on capital structure of companies listed on TSE, multivariable regression is used. The amount of inside ownership and percentage of institutional shareholding are the measurement of ownership structure. The number of boards and board's independence are used for measuring company's corporate governance. Also, instability of earning, sales growth, tangible fixed assets and firm size are used to measure operational characteristics. For analyzing data and testing research hypotheses contemporaneous correlations based on seemingly unrelated regression are used. The concept of seemingly unrelated regression can be briefly explained by this fact that sometimes we may be faced with a set of equations for estimating that various equations disturbing statements measure some non-measured or deleted factors in a specific time. Thus, these disturbing statements can cause misleading models and coefficient or estimate parameters. For these equations, the best estimate is seemingly unrelated regression. One of the most important advantages of seemingly unrelated regression is lake of heteroscedasticity and other problems of ordinary linear regression. Moreover, if we are faced with two sets of exogenous variables, for avoiding the adverse effects of these variables, seemingly unrelated regression will be used. Also, the correlated assumption of disturbing statements which is not considered in ordinary least squares method is considered in seemingly unrelated regression and it is prevented from creating unreliable and false coefficients. Three research models are used in this study for testing research hypotheses:

The first model for testing the effect of ownership structure on capital structure is:

$$CAPS_{it} = \alpha + \beta_1\ INOWN_{it} + \beta_2\ BLHLD_{it} + \varepsilon$$

Where:
CAPS: debt to total assets ratio (measurement for capital structure)
INOWN: the percentage of inside ownership which represents the number of shares owned by managers and company's employers.
BLHLD: The percentage of shares owned by institutional shareholders

Casey and Anderson (1997) argue that shareholding by managers could have positive effect on debts level of firm's capital structure. Based on literature if managers hold shares of companies, they will use more debt financing. Because, like other shareholders, managers do not want other people participate in the firm's ownership as shareholders and change the composition of shareholders (Abor and Biekpe, 2009). Thus, the percentage of inside ownership has a positive effect on capital structure.

In this research, institutional shareholders are those who have at least 20% of company's shares and they have effective influence on investee's shareholdings. Based on literature, institutional shareholders use more debt financing because they have not tendency to lose their shares and their influence in selecting board of directors members. Thus, a positive relationship between the percentage of shares owned by institutional shareholders and capital structure is expected.

The second model for testing the effect of company's corporate governance on capital structure is:

$$CAPS_{it} = \alpha + \beta_1\ NABS_{it} + \beta_2\ BIND_{it} + \varepsilon$$

Where:
NABS: board size
BIND: board's independence

Lipton and Lorsch (1992) state that regarding the main responsibility of managers which is accountability about firm performance, there is a meaningful relationship between the number of boards and capital structure. Wen *et al*., (2002) and Abor and Biekpe (2009) mention that companies with more number of board directors use more leverage. They state that board of directors control manager's performance using more debt ratio. Anderson *et al* (2004) also demonstrate that the cost of debt financing for companies with more board of directors placed in the lower level. Because regarding the accountability responsibility of boards and managers, transparency is better and creditors gain more information about financial accounting and reporting.

Board's independence represents by the number of outside directors on the board. Wen *et al*., (2002) mention that leverage is negatively related to the percentage of outside directors on the board. They state that top managers generally face more rigorous monitoring when the board of directors is controlled by independence or outside directors. The outside directors monitor managers more actively, causing these managers to adapt lower leverage to avoid the performance pressure associated with commitments to disgorge large amounts of cash.

The third model for testing the effect of operational characteristics on capital structure is:

$$CAPS_{it} = \alpha + \beta_1\ RISK_{it} + \beta_2\ GROWTH_{it} + \beta_3\ TANG_{it} + \beta_4\ SIZE_{it} + \varepsilon$$

Where:
RISK: instability of earning
GROWTH: sales growth
TANG: tangible fixed assets
SIZE: firm size

In this research, business risk is used to measure instability of earning. Business risk is calculated using Viviani (2008) ratio.

$$RISK = \frac{\sigma\ EBIT}{Total\ Asets}$$

Based on literature, it is expected that instability of earning or business risk as an bankruptcy index has a negative relationship with leverage. Thus, in companies with more instability of earning, business risk is decreased by leverage decrease. Therefore, it is expected that business risk has a negative effect on capital structure. Sales growth is measured by sales to total assets ratio.

$$GROWTH = \frac{Sales}{Tatal\ Assets}$$

Due to this fact that growth opportunities are considered as intangible assets and could not be used as a loan guarantee, thus, they have a negative effect on capital structure (Viviani, 2008). Jensen (1986) mention that companies with less growth opportunities should use more leverage. Thus, it is expected that growth opportunities have negative effect on capital structure.

Regarding this fact that fixed assets could be used for publishing boards and gaining long term financial facilities, increase in fixed assets led to leverage increase (Huang and Frank, 2006). Thus, there is a positive relationship between fixed assets and capital structure.

Firm size is measured by the log of firm sales. Big firms are supposed to use more leverage due to their reputation because the cost of debt financing is less than publishing issues. Therefore, it is expected that firm size has a positive effect on capital structure (Bokpin and Arko, 2010).

In general, for investigating the effect of ownership structure and corporate governance on capital structure we use simultaneously model which is composed of three models include; the effect of ownership structure on capital structure's model, the effect of corporate governance on capital structure's model and the effect of operational characteristics on capital structure model. This model is estimated through SUR method. The model is as follows:

$$CAPS_{it} = \alpha + \beta_1\, INOWN_{it} + \beta_2\, BLHLD_{it} + \varepsilon$$

$$CAPS_{it} = \alpha + \beta_1\, NABD_{it} + \beta_2\, BOIND_{it} + \varepsilon$$

$$CAPS_{it} = \alpha + \beta_1\, RISK_{it} + \beta_2\, GROWTH_{it} + \beta_3\, TANG_{it} + \beta_4\, SIZE_{it} + \varepsilon$$

Research Results:

As it mentioned in previous section, for investigating the effect of ownership structure and corporate governance on capital structure of companies listed on TSE, seemingly unrelated regression equation is used. The results of testing research model with SUR method are presented in Table 1.

Table 1: The results of testing research model using SUR method.

Estimation Method: Seemingly Unrelated Regression					
Error	T-Statistic	Std. Error	Coefficient	Variables	
0.5745	0.5614	0.0602	0.0336	C(1)	α
0.0090	2.6110	0.0604	0.2379	C(2)	The percentage of insides ownership
0.000	12.1307	0.63257	0.9648	C(3)	The percentage of institutional shareholders
0.2721	1.0982	0.1431	0.1578	C(4)	α
0.0087	2.9821	0.0874	0.3954	C(5)	Board size
0.0105	-2.5917	0.09815	-0.4374	C(6)	Board' s independence
0.3061	1.0237	0.2725	0.8176	C(7)	α
0.0078	-2.98510	0.1695	-0.5804	C(8)	Instability of earning
0.000	-24.0535	0.6208	-1.065	C(9)	Sales growth
0.000	13.8616	1.137	1.567	C(10)	Tangible fixed assets
0.000	4.2506	0.8172	0.8765	C(11)	Firm size
$Equation: \quad CAPS = C(1) + C(2) * INOWN + C(3) * BLHLD$					
42.08051	var $dependent\ Mean$	0.69854	$(R^2)\ R-squared$		
12.41135	var $dependent\ S.D.$	0.612541	$R-squared\ \ Adjusted$		
0/755425	$stat\ Durbin-Watson$	12.55043	$regression\ \ S.E.of$		
$Equation: \quad CAPS = C(4) + C(5) * NABD + C(6) * BOIND$					
12350.86	var $dependent\ Mean$	0.65145	$(R^2)\ R-squared$		
42.72552	var $dependent\ S.D.$	0.58742	$R-squared\ \ Adjusted$		
1.885065	$stat\ Durbin-Watson$	13.80956	$regression\ \ S.E.of$		
$Equation: \quad CAPS = C(7) + C(8) * RISK + C(9) * GROWTH + C(10) * TANG + C(11) * SIZE$					
63.2652	var $dependent\ Mean$	0.784105	$(R^2)\ R-squared$		
34.1750	var $dependent\ S.D.$	0.67341	$R-squared\ \ Adjusted$		
1.98074	$stat\ Durbin-Watson$	27.6289	$regression\ \ S.E.of$		

The results of testing research hypotheses using seemingly unrelated regression confirm the effect of ownership structure, corporate governance and operational characteristics on capital structure of firms listed on TSE. According to research results with 1% increase in the number of inside shareholders and institutional shareholders capital structure will increase 0.23 and 0.92 respectively. Thus, both variables of ownership structure have positive effect which is consistent with previous studies results. Among ownership structure variables, the number of institutional shareholders has a more effective impact. Institutional shareholders make investment with more knowledge and financial information. They also have an influencing effect on companies procedures and activities. Accordingly, to not change their ownership shares, they used debt financing. Results also show that with 1% increase in board size and board's independence, capital structure will increase / decrease 0.39 and -0.43 respectively. In other words, positive changes in board size increase leverage in capital structure and increase in outside directors on the board number decrease the leverage. These results are consistent with previous studies and also with the research hypotheses.

The results of testing the relationship between control variables (operational characteristics of companies listed on TSE) show that all these variables have meaningful effect on the amount of using debt in financial resources combination. Business risk and sales growth have negative effect on capital structure. The results reveal that with 1% increase in business risk and sales growth, capital structure will decrease -0.58 and -1.065 respectively. Other operational characteristics variables like tangible fixed assets and firm size have positive effect on leverage. Accordingly, with 1% increase in fixed assets and firm size, leverage will increase 0.87 and 1.56 respectively. Since in Iran, using bank facilities for company's financing is done easier than the stock, increase in fixed assets could have a significant positive effect on leverage. According to literature, it is expected that firm size have a positive effect on leverage due to the reputation of big firms. This hypothesis is also confirmed about companies listed on TSE.

Conclusion:

The main objective of this research is to examine the effect of ownership structure and corporate governance on capital structure of companies listed on TSE. To test research hypotheses three models including ownership structure, corporate governance and operational characteristics models using seemingly unrelated correlation are developed. These results of testing models show all variables have significant effect on leverage which is used as a measurement for capital structure. The percentage of insides shareholders and the amount of shares owned by institutional shareholders are used as a measurement for ownership structure. These variables have positive effect on capital structure. As mentioned before, inside shareholders and institutional shareholders existence motivated companies to use more debt in financing because, both groups have tendency to use more debt financing. This result is consistent with previous researches which have done by; Chaganti and Damanpour (2005), Al-Najjar and Taylor (2008), Bokpin and Arko (2010) and Maximiliano and Molina (2011).

Board size and board's independence which is used as a measurement of company's corporate governance have positive and negative effect on capital structure respectively. These results also concluded in other studies by; Wen *et al*., (2002), Abor and Biekpe (2009), Hasan and Butt (2009) and Bokpin and Arko (2010). Moreover, control variables are instability of earning, sales growth, tangible fixed assets and firm size. The results show that instability of earning and sales growth have negative effect and tangible fixed assets and firm size have positive effect on capital structure. Sales growth has the most negative effect and fixed assets have most positive effect on capital structure. As mentioned increasing instability of earnings led to increase in business risk which decrease the leverage.

This research with investigating the effect of ownership structure and company's corporate governance on capital structure of firms listed on TSE shows that these variables could be effective in financial resources combination for increasing firm value. Thus, it is expected that financial managers consider these variables in their financial decisions. There are some suggestions for future studies. Further researches are needed to determine the effect of these research variables on capital structure using quarterly data for each group of industries.

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