Research Article
The Impact of Capital Structure and Ownership Structure on Firm Performance: A Case Study of Iranian Companies

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Abstract: This study examines the effect of capital structure and ownership structure on Firm's performance using sample of 123 companies listed on Tehran Stock Exchange (TSE) during eight-year period, 2001-2008. We adopt rate of return on assets as a measure of firm's performance. The research results show that capital structure and ownership structure have a positive impact on the performance of companies listed on TSE. This study indicates consistency with prior empirical researches and also all research subsidiary hypotheses are consistent with the theoretical assumptions and all of them have been approved.

Keywords: Capital structure, firm's performance, ownership structure, rate of return on assets, Tehran stock exchange

INTRODUCTION

Global development of economic relations and activities make companies more professional which leads to the separation of ownership from management. Although this separation could potentially have a major role in achieving desirable situation for firms, but in practice, this conflict of interest between managers and owners generate agency problems. One of the criteria for assessing agency problems is firm's performance (Dimitris and Maria, 2010). One of the most important issues which play an important role in shareholders and creditor's decision making and economic analysis is firm performance. Firm performance could help shareholders to make better decisions regarding risk and return rates. Due to this fact that financial performance of companies is one of the criteria for assessing firm success and firm value, thus, investigating different aspects of firm performance measurement and influencing factors is very important which provides useful information for users of financial statements. Capital structure and ownership structure have effectively impact on company's financial performance. Thus, in this research the effect of capital structure and equity ownership on firm performance is investigated.

LITERATURE REVIEW

Improvement of commercial activities has led to the separation of ownership from management.

Managers are the owners' representatives that make decisions to increase firm's value (Padilla, 2002). If managers do not act based on owners' tendency, agency problems may take place. One of the solutions for solving these problems is use of criteria for measuring and control managers activities like; financial measures and firm's performance (King and Santor, 2008). Financial statements users are interested to assess company's performance issues. Thus, investigating factors influencing the success or failure of companies could help users of financial statement specially investors and creditors to make good decisions.

Capital structure and ownership structure are two factors that have the ability to affect corporate performance (Berger et al., 2006). Regarding this fact that major shareholders could have a significant role on company's performance, they could influence procedures and activities of firm by their desires. Therefore, ownership structure has an important effect on firm's performance. Moreover, ownership structure could have impact on manager's decisions about the way of financing (Dimitris and Maria, 2010).

Capital structure as well as ownership structure has an impact on corporate performance. The relationship between capital structure and firm performance is explained by efficiency risk hypothesis. Based on efficiency risk hypothesis, companies with better performance could use debt financing to have less change in composition of shareholders and owners (King and Santor, 2008). The reason is that the risk of bankruptcy and financial crisis in companies with better

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performance is less than other companies (Berger *et al*., 2006).

Prior studies: Chaganti and Damanpour (2001) investigate the relationship between institutional ownership, capital structure and firm performance. Their results show that the size of outside institutional stockholdings has a significant effect on the firm's capital structure. They have also found that family and inside institutional owners shareholdings moderate the relationship between outside institutional shareholdings and capital structure. Cornett *et al*. (2005) examine the relationship between institutional investors and firm performance in the U.S. They mention institutional investors have been increasingly willing to use their ownership rights to pressure firm managers to act in the best interest of the shareholders. Their results also confirm a positive relation between institutional investor's involvement in a firm and its operating cash flow returns.

Vong and Lin (2007) in another research examine the effect of ownership structure and capital structure on private companies' performance in china. Their results show that privatization and transferring ownership improve companies' performance. The results also show firms with higher percentage of institutional ownership have better performance regarding profitability and providing financial resources. King and Santor (2008) investigate how family ownership affects the performance and capital structure of Canadian firms. They found that concentrated ownership of companies significantly affects the firm's performance. Due to the more influence of institutional owners, monitoring management performance will be more effective which affects firm's performance.

Dimitris and Maria (2010) investigate the relationship between capital structure, ownership structure and firm performance across different industries using a sample of French manufacturing firms. Their results show that concentrated ownership lead to better firm performance by decreasing agency costs while dispersed equity ownership should be associated with more debt in the firm's capital structure. Recently, Nigel and Pal (2011) examine the effect of ownership and capital structure on firm's performance. Their sample consists of companies which involve in financial crisis. Their results show that existence of institutional owners in ownership structure could help financial situation because they are more knowledgeable about financial issues in firms. They also demonstrate that corporate governance could improve firm's performance.

Research hypotheses: Based on literature review and prior studies in other countries, it is expected capital structure and ownership structure have effect on companies performance among companies listed on Tehran Stock Exchange. Thus two main research hypotheses are as follows:

H1: Changes in capital structure have a significant effect on firm's performance changes of companies listed on TSE.
H2: Changes in ownership structure have a significant effect on firm's performance changes of companies listed on TSE.

In addition to investigate the effect of capital structure and ownership structure changes on firm's performance changes, there are some control variables. Control variables are changes in profitability, changes in firm size, changes of tangible fixed assets and operational growth changes on rate of return on assets changes. Control variables hypotheses are as follows:

H3a: Changes in profitability have a positive effect on rate of return on assets changes.
H3b: Changes in firm size have a positive effect on rate of return on assets changes.
H3c: Changes of tangible fixed assets have a positive effect on rate of return on assets changes.
H3d: Operational growth changes have a positive effect on rate of return on assets changes.

METHODOLOGY

Samples: For investigating the effect of capital structure and ownership structure on firm's performance, financial statement data of companies listed on Tehran Stock Exchange during 2001 until 2008 are used. In this research for choosing samples, purposeful sampling is used. This means companies considering the following features were selected:

- Sample Company should be accepted in TSE until the end of 2008.
- Sample companies are not investment or financial intermediation companies.
- Their fiscal year ends to march and they have not changed the end of their fiscal year during the research period.
- During the research period companies have been used debt financing.
- In terms of increasing popularization, samples are selected from all industries.

Considering the mentioned conditions and limitations, total numbers of 123 companies during period from 2001 until 2008 are selected.

Research variables: In general, the main question is whether different ownership structure is affected firm's performance or not? If the owners consist of different groups such as government, financial institution, banks and other companies, how will be their performance? Based on research hypotheses, dependent variable is company's performance which is measured by rate of return on assets. Independent variables are capital structure and ownership structure. Debt ratio is used as a measurement of capital structure and percentage of shares owned by institutional shareholders used as a measurement of ownership structure. Also, profitability, firm size, tangible fixed assets and firm trading growth are control variables in this research.

Rate of Return on Assets (ROA): This ratio is calculated by dividing net income by total assets. ROA shows a company's efficiency in making profits from its assets (Akbari, 2006). Regarding this fact that net profit is used for calculating rate of return on assets, net profit objections also are true for this measurement. Considering assets are presented in net book value on balance sheet, the real value of assets may be much lower or higher than their book values (Dimitris and Maria, 2010).

Debt ratio: Debt ratio could be used as a control tool for managers to reduce waste of cash flows in inefficient activities (Dimitris and Maria, 2010). According to the company's commitment to pay interest at specified times and also repay the debt securities, managers try to increase efficiency and performance. Based on prior discussion, it is expected that changes in capital structure have an effect on company's performance (Nigel and Pal, 2011).

Percentage of shares owned by institutional shareholders: Major shareholders and investors owned a significant portion of company's equity can have considerable influence in firm. They also can influence company's activities and procedures by their decisions. Institutional shareholders could change company's behavior due to their monitoring operations. Based on literature review, it is expected that these shareholders control firm's performance and prevent of activities which not increase their own wealth (King and Santor, 2008). Thus, it is expected institutional shareholders have positive effect on firm's performance.

Firm's profitability: This variable could be used as criteria for evaluating firm's performance and also manager's performance. Firm's profitability is an important and of interest to shareholders and creditors (Akbari, 2006). Generally, the relationship between profitability and firm performance from the financial evaluation viewpoint is a direct relationship. It means when the company's financial performance is in good condition, it can be interpreted that the rate of profitability is in good condition. Thus, there is a positive relationship between profitability and firm performance (Omran and Pointon, 2009).

Firm size: Firm size represents company's share in competitive market of products comparing other competitors. It is expected that large companies due to their reputation and having more human resources and desirable management have better performance (Williamson, 1967). Also, they have more resources which attract potential shareholders.

Tangible fixed assets: Tangible fixed assets are important since some of the factors and elements in balance sheet are identified based on assets. While, fixed assets are easily controllable, tangible fixed assets can reduce agency problems between managers and owners and have a positive effect on firm's performance (Dimitris and Maria, 2010).

Business growth: Business growth is an indicator which is used to evaluate the desirability of manager's performance and predicting of future sales of firm. It's also a good criterion for investors' decision making. Business growth is calculated by dividing current changes in firm's sales to the previous year changes. It is expected business growth have a positive relationship with firm's performance (King and Santor, 2008). Table 1 summarizes the research variables and how to calculate these variables.

Research models: In this study combined data are used. In this method, one or more variables for one sample during same time are verified. Using ordinary least squares, research hypotheses are tested. For determining significance of overall regression equation, F-Fisher test and for coefficient of independent variables T-test is used (Gojorti, 2006). Also, to test hypotheses assumptions related to classical linear regression model including normal distribution, the absence of heterogeneity and auto correlation are examined. In the presence of each of the above cases, the estimated coefficient in the model represents a

Table 1: Research variables

Variable	Symbol	Measurement
Firm performance/Dependent	ROA	Net profit to total assets ratio
Capital structure/Independent	LEV	Total debts to total assets ratio
Ownership structure/Independent	BLH	Total percentage of shareholders who own more than 20% of total shares
Profitability/Control	PR	Earnings before interest and tax to total assets ratio
Firm size/Control	SIZE	Log of firm sales
Tangible fixed assets/Control	TANG	Fixed assets to total assets ratio
Business growth/Control	GRO	Percentage of sales changes over previous year

casual relationship between variables or severe correlation between dependent and independent variables which is called non sense regression (Abasinejad, 2001).

It should be mentioned that combined data are divided into panel data and pooled data. For determining the type of data, F-leamer test is used. Hausman test is also used for determining the type of fixed effects or random effects. For investigating the effect of capital structure and ownership structure on firm performance multivariable regression model is used. Thus, Research model is as follows:

$$ROA_{it} = \alpha + \beta_1 LEV_{it} + \beta_2 BLH_{it} + \beta_3 PR_{it} + \beta_4 SIZE_{it} + \beta_5 TANG_{it} + \beta_6 GRO_{it} + \varepsilon$$

where,
ROA : Rate of return on assets which is the firm performance measurement

LEV : Debt ratio
BLH : Percentage of shares owned by institutional shareholders
PR : Profitability
SIZE : Firm size
TANG : Tangible fixed assets
GRO : Business growth In this model i and t show different companies and different time, respectively.

RESEARCH RESULTS

For analyzing results, assumptions of multivariable regression model are examined through normality test, auto correlation test and variance homogeneity test which confirm the assumptions of the classical model. Based on F-leamer and Hausman tests, panel data and fixed effects method are accepted. These results are presented in Table 2.

After being ensure about existence of preconditions related to regression models and type of combined data and their effects, data are analyzed. These results are presented in Table 3.

The results of data analysis for testing research hypothesis using panel data are presented in Table 3. Based on these results:

- Capital structure coefficient shows a positive effect of this variable on firm's performance. According to results of data analysis, with 1% increase in capital structure, firm performance will increase 0.13%.

Table 2: The results of F-leamer and Hausman tests

Hausman test			F-leamer test		
Cross-section random	Chi-Sq. Statistic	Prob.	Cross-section F	Statistic	Prob.
	98.43	(0.672)		10.77	(0.000)
H_0 = error <0.05 = using random effects			H_0 = error < 0.05 = using panel data		
H_1 = error > 0.05 = using fixed effects			H_1 = error >0.05 = using pooled data		
Result: H_1 is accepted			Result: H_0 is accepted		

Table 3: The results of data analysis for testing first and second hypothesis using panel data

Variables	Symbol	Coefficient	T-statistics	Error	Hadri test		
	C	0.257	6.517	0.000	-		
Debt ratio	LEV	0.139	4.47	0.000	1.4302 (0.0763)		
Institutional shareholders	BLH	0.748	57.74	0.000	0.1914 (0.4241)		
Profitability	PR	0.652	15.25	0.000	0.1851 (0.8546)		
Firm size	SIZE	0.228	2.24	0.024	-2.664 (0.996)		
Tangible fixed assets	TANG	0.148	6.99	0.000	1.9697 (0.0544)		
Business growth	GRO	0.061	3.038	0.002	-0.2950 (0.6161)		
	AR (1)	0.298	9.414	0.000			
	ROA	-	-	-	-0.2392 (0.5930)		
F-fisher		209.08	error	0.000	R^2	0.9734	Durbin -watson 2.212

- The percentage of shares owned by institutional shareholders represents ownership structure and has a positive effect on firm performance. The results in Table 3 show that with 1% increase in ownership structure, firm performance will be increase 0.747% which has the most effect among all variables.

- Moreover, all control variables (profitability, firm size, tangible fixed assets and business growth) have positive effect on firm performance. Among these control variables, profitability has the most positive effect.

- F-test results show that all regression coefficients are not zero at the same time. Thus, there is a meaningful relationship between all dependent and independent variables simultaneously.

- Based on Durbin-watson test results, research model has auto correlation for eliminating auto correlation AR component is used.

- Based on t-test results and regarding errors for all coefficients, all research variables have meaningful effect on firm performance.

- As Table 3 represents, R^2 is 0.97 which means 97% of changes in dependent variable could be explained by independent variables. Thus, there is a meaningful relationship between dependent and independent variables which could be used for prediction.

Based on research results, there is a meaningful relationship between capital structure and ownership structure with firm performance at 95% confidence level. Therefore, research hypotheses are accepted at 95% confidence level.

CONCLUSION

In this research, the relationship between capital structure, ownership structure and firm performance is investigated. The sample consists of 123 companies listed on Tehran Stock Exchange (TSE) during 8 years. For testing research hypotheses, using multivariable regression model, the effect of independent variables and control variables on firm's performance is examined. Data analysis show that first hypothesis is accepted which related to the meaningful effect of capital structure changes on firm performance changes. Based on conceptual framework, debt ratio could be used as a control tool for managers to reduced waste of cash flows in ineffective activities. Thus, increasing in debt ratio has a positive effect on firm performance which is consistent with the results of testing first research hypothesis. This result is also consistent with

Vong and Lin (2007), Dimitris and Maria (2010) and Nigel and Pal (2011). Although, the coefficient of this variable is in low level but it is consistent with other countries research results. Thus, the results of testing first hypothesis show that companies with more debt ratio have better performance comparing other companies.

Second hypothesis testing results show that there is a meaningful relationship between ownership structure changes and firm performance changes of companies listed on TSE. According to this result, increases in the percentage of shares owned by institutional shareholders have a positive effect on the performance of companies listed on TSE. This variable is the most effective among other research variables. Based on theory, institutional shareholders have significant influence in firm which enables them to influence company's procedures and activities. They also monitor managers' performance. Cornett *et al.* (2005), Chaganti and Damanpour (2001), King and Santor (2008) and Dimitris and Maria (2010) also confirm the positive effect of ownership structure on firm's performance. The results of testing this hypothesis also show that existence of institutional shareholders with high percentage can help companies to improve financial performance.

The results of testing control variables hypotheses show that profitability, firm size, tangible fixed assets and business growth have positive effect on performance of companies listed on TSE. Thus, big companies with more profitability and more tangible fixed assets and business growth have better performance. Therefore, considering the above factors could be useful and effective in evaluating company's performance.

There are some limitations to this research which should be recognized. First, this research is based on financial information provided by companies in audited financial statements. Thus, it is evident that the results could be affected by the accuracy of financial statement information. Second, due to this fact that research variables are calculated from financial statements which are based on historical cost, adjusted data for inflation effect may changed research results. Third, due to the limited population of manufacturing firms listed on TSE and their fiscal year, generalization of these research results should be done with caution.

Further researches are needed to determine the effect of capital structure and ownership structure on nonproductive and investment companies' performance. Also, further studies are suggested to examine the effect of corporate governance on company's performance in different industries and during research periods.

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