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The Relationship between Capital Structure and Profitability of Companies Listed in Tehran Stock Exchange

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Abstract

The aim of this study was to investigate the relationship between capital structure and profitability of the listed companies on Tehran Stock Exchange. The research method was descriptive, correlation. Its population included all companies listed on Tehran Stock Exchange from 2004 to 2012 (n= 157). There were selected 100 companies as sample. The results showed a significant negative relationship between capital structures with return on assets in all companies for the studied years. Besides, results of separating years showed a significant negative relationship between capital structures with return on assets from 2004 to 2012 for all firms. The relationship between capital structure and return on assets in different industries also indicated a significant negative correlation. There is no significant relationship between capital structure and return on equity. There is only significant relationship between both variables in groups of mining, chemical goods and products, wood, cardboard, paper, textile packaging, rubber, plastic and manufacturing parts. Direction of the relationship is positive in manufacturing auto parts and chemical goods and products; while its direction is negative in industries of rubber, plastic, wood, cardboard, paper, textile packaging and mining. Other findings showed a negative relationship between capital structure and profit to sales ratio in the studied years for all companies and industries. The relationship is significant for all companies in the studied years; while in level of various industries, there is a negative significant relationship between both variables, except in metal mineral industry.

Keywords: capital structure, profitability, returns on equity

Introduction

One of the most important components of any economic activity is to provide the required financial resources. The resources can be met from equity or debt. The basic question is which one of these resources should be used over life of an enterprise? The combination of debt and equity for financing represents capital structure. Sponsors, investors (shareholders) and creditors are seeking their own interests. In one hand, cost of financing is different. From point of view of company, cost of debt is lower because debt requires interest payments to creditors and it is acceptable in terms of tax laws. On the other hand, excessive debt will increase risk of default and decrease value of company's shares (Ghalibaf Asl & Rezai, 2007). From another viewpoint, overusing return on shareholders' equity increases their expected returns and ultimately cost of financing. In practice, there is conflict of interest between the groups (shareholders and creditors) and management because management seeks to its reward and profitability, like sponsors. This leads to a cost called agency cost that affects capital structure (Nowravesh et al, 2009). In addition to capital structure, the relationship between ownership structure and corporate performance is an important issue in financial management. The performance of an enterprise is subject to many factors. One of the factors is companies' ownership structure that can impact their performance significantly. In agency relations, maximizing wealth is objective of owners. Therefore, they monitor and assess agency

performance to achieve this goal (Namazi & Kermani, 2008). Therefore, managers should select those capital structures that require less capital cost, according ownership structure of company and available strategies; as a result, company will have better efficiency. Thus, this study seeks to answer the question that whether there is a significant relationship between capital structure with profitability of the listed companies in Tehran Stock Exchange.

Methodology

The research method was descriptive, correlation. Its population included all companies listed on Tehran Stock Exchange from 2004 to 2012 (n= 157). There were selected 100 companies as sample.Company selection criteria were as follows:

1. They should be accepted from 2004 in the exchange;
2. Their fiscal year should be ended on March each year and should have no changes in its fiscal year during the studied years;
3. They should have no stop trading more than 6 months during the studied years;
4. They should have no loss during the studied years;

They should not be included on investment firms and financial intermediaries.

Capital structure was considered as independent variable that was calculated using ratio of debt to total assets. Profitability was dependent variable that was calculated by the following methods;

- Profit on sale: result of dividing net profit on sales;
- Return on total assets (ROA): result of dividing net profit on total assets;
- Return on equity (ROE): result of dividing net profit on equity.

Fig. 1 shows conceptual model of the relationship between the variables. Pearson Correlation and regression analysis were used to analyze data. In all analyzes, $p < 0.05$ was considered as significance level.

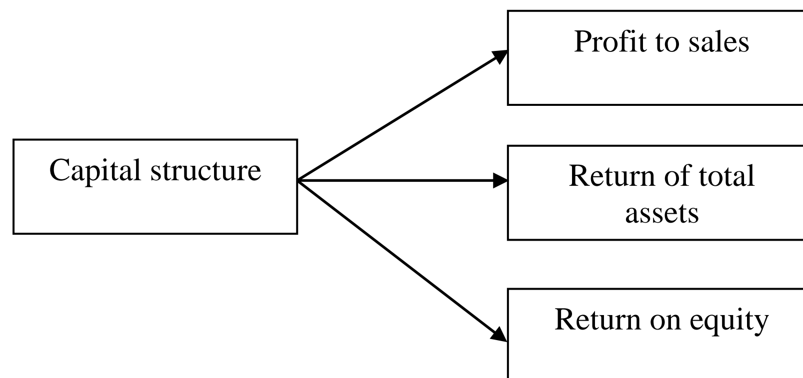

Figure 1: The research conceptual model

Results

Kolmogorov-Smirnov test showed normal distribution of the data (p> 0/05). The relationship between capital structure and profitability ratios (return on assets, return on equity and profit to sales ratio) was analyzed using Pearson correlation. Tables 1 and 2 present the results. It can be said that there is a significant negative relationship between capital structures with return on assets in all companies for the studied years. Besides, results of separating years showed a significant negative relationship between capital structures with return on assets from 2004 to 2012 for all firms.

Table 1: Correlation between capital structure and profitability variables for all companies

Profitability states/variables	Rate of return on Assets		Rate of return on equity		Profit on sale	
	r	p	r	p	r	P
All companies in 10 years of the study	-0.768	0.039	0.0057	0.553	-0.41	0.001
All companies (2004)	-0.388	0.001	0 0.0032	0.041	-0.118	0.001
All companies (2005)	-0.409	0.001	-0.003	0.675	-0.22	0.001
All companies (2006)	-0.388	0.001	0.031	0.544	-0.11	0.001
All companies (2007)	-0.604	0.004	-0.007	0.664	-0.14	0.001
All companies (2008)	-0.691	0.021	0.029	0.779	-0.393	0.001
All companies (2009)	-0.770	0.001	-0.0054	0.717	-0.345	0.001
All companies (2010)	-0.559	0.001	-0.0043	0.606	-0.34	0.001
All companies (2011)	-0.461	0.033	-0.0049	0.84	-0.338	0.001
All companies (2012)	-0.851	0.001	0.0024	0.87	-0.492	0.001
All companies (2013)	-0.667	0.001	0.0067	0.93	-0.541	0.001

As seen in Table 2, the relationship between capital structure and profitability variables was investigated in various industries. Results of the relationship between capital structure and return on assets in different industries also indicate a negative ($r< 0$) and significant ($p <0.05$) relationship.

Table 2: The correlation between capital structure and profitability variables in different industries

Profitability industries/variables	Rate of return on Assets		Rate of return on equity		Profit on sale	
	r	p	r	p	r	P
Mining	-0.56	0.001	-0.331	0.001	-0.423	0.001
Basic metals	-0.69	0.001	0.0054	0.443	-0.171	0.001
Industrial machinery and equipments	-0.73	0.001	0.073	0.655	-0.312	0.001
Chemical products and goods	-0.57	0.001	0.051	0.027	-0.415	0.001
Wood, cardboard, paper and packaging of textiles	-0.68	0.023	-0.029	0.001	-0.773	0.001
Electrical machinery and equipment	-0.77	0.001	-0.047	0.233	-0.591	0.001
Non-metallic mineral	-0.64	0.001	0.339	0.623	-0.232	0.331
Food and beverage products	-0.52	0.042	0.221	0.579	-0.601	0.001
Rubber and plastic	-0.411	0.034	-0.044	0.001	-0.683	0.001
Manufacturing auto parts	-0.503	0.001	0.916	0.001	-0.441	0.001

According to the results in Tables 1, it can be concluded that there is no significant relationship between capital structure and return on equity ($p< 0.05$). According to Table 2, there is only significant relationship between both variables in groups of mining, chemical goods and products, wood, cardboard, paper, textile packaging, rubber, plastic and manufacturing parts. Direction of the relationship is positive in manufacturing auto parts and chemical goods and products; while its direction is negative in industries of rubber, plastic, wood, cardboard, paper, textile packaging and mining. There is a negative relationship between capital structure and profit to sales ratio in the studied years for all companies and industries. The results show that there is a negative significant relationship between both variables in all cases, except in non-metal mineral industry that the relationship is negative but not significant (Tables 1 and 2).

Discussion and Conclusion

The aim of this study was to investigate the relationship between capital structure and profitability of the listed companies on Tehran Stock Exchange. The results showed a significant negative relationship between capital structures with return on assets in all companies for the studied years. Besides, results of separating years showed a significant negative relationship between capital structures with return on assets from 2004 to 2012 for all firms. The relationship between capital structure and return on assets in different industries also indicated a significant negative correlation. There is no significant relationship between capital structure and return on equity. There is only significant relationship between both variables in groups of mining, chemical goods and products, wood, cardboard, paper, textile packaging, rubber, plastic and manufacturing parts. Direction of the relationship is positive in manufacturing auto parts and chemical goods and products; while its direction is negative in industries of rubber, plastic, wood, cardboard, paper, textile packaging and mining. Other findings showed a negative relationship between capital structure and profit to sales ratio in the studied years for all companies and industries. The relationship is significant for all companies in the studied years; while in level of various industries, there is a negative significant relationship between both variables, except in metal mineral industry. This is consistent with the obtained findings by Hailo et al (2007), Ebrahimil and Ebadi (2009). They concluded that decision to select company's performance does not affect capital structure or have little impact. Hailo et al (2007) investigated the relationship between capital structure, firm size and performance of petroleum and animal feed companies. Results showed that firm size and capital structure helped to change efficiency and it is expected that sufficient equity can increase efficiency (Namazi, Hallaj & Ebrahimi, 2009).

Namazi, Hallaj and Ebrahimi (2009) conducted a study entitled “the impact of institutional ownership on previous and future financial performance of the listed companies on Tehran Stock Exchange. The aim of this study is to investigate the relationship between the current and future financial performance of the listed companies on Tehran Stock Exchange. Its period is from 2005 to 2006 and the selected sample consists 72 companies. The obtained results of the research using the least square of marginal regression show a significant relationship between institutional ownership and performance. According to the research results, it is suggested to financial managers that consider financial leverage ratio and ratio of debt to equity market value when decision to select appropriate capital structure in order to improve performance of company. Specially, they should use financial leverage further.

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