Research Journal of Recent Sciences _____ ISSN 2277-2502
Vol. **4(1),** 68-72, January **(2015)** *Res.J.Recent Sci.*

The Investigation of the Effective Factors upon the Capital Structure of the accepted Companies in Tehran Stock Exchange

Arefeh Mohaghegh
Department of Accounting, Semnan branch, Islamic Azad University, Semnan, IRAN

Available online at: www.isca.in, www.isca.me
Received 16th February 2014, revised 7th May 2014, accepted 7th July 2014

Abstract

Purpose – This study tries to help the senior financial managers to provide optimal capital structure and among different interior factors, focus their attention to profitability trend. Design/methodology/approach–The research design is comparative- deductive and according to the research and nature of the variables, is a practical research and methodologically is a comparative- analyzing and also a kind of case study. Findings – The results of the research indicate that, profitability is the only effective variable on the capital structure of companies in Iran, and the other factors are ineffective. According to these results, the companies which have higher profitability use more debt in their capital structure. And companies with lower profitability don't have a good chance in financing through debt. The research's results indicate that the capital structure of different groups of companies in stock exchange is different. Research limitations/implications – The paper is limited to a comparative- deductive study that may have further implication for research such as: -Presenting one pattern for determining the companies optimal capital structure. -The reason of changes in capital structure of companies during their life. Originality/value – Since Capital structure or in other words, the combination of financial resources and its effective factors are every company's basic issues which should be considered by senior managers, especially financial managers, Investigation of the effective factors can also be practically and theoretically beneficial in Iran.

Keywords: Capital, structure, size of the company, profitability, amount of fixed asset, the rate of income's growth in accepted companies in.

Introduction

Using more debt, will increase the risk of company's profitability flow and results in higher rate of return. The risk of using more debt decreases the stock's price and the rate of return would increase it. Therefore, an optimal capital structure causes an optimal balance between risk and return and leads to higher stock prices. Determining the optimal capital structure is a topic which attracted researcher's minds for many years. It can be said that no one could present an optimal capital structure. For achieving such a pattern, many studies and examinations have been carried out which their results are considerable. A part of studies about capital structure are focused on verifying the effective factors upon it. In our country, this subject is very noticeable and significant. Since making an optimal pattern of capital structure is a difficult task, many studies are impelling toward verifying effective factors upon it. Examining these factors in Iran and their probable comparison with other countries results can be beneficial and considerable.

Statement of the problem and significance of the study: In order to be able to start its activities, the company needs capital and requires more capital for expansion and development. The required financial resources can be provided through stockholders salaries or debt. The significant point is that which one of these resources should be used during company's economic life cycle. The combination of debt and stockholders salaries is indicator of capital structure

In financing. If debt is chosen as a cheap financial resource, using it would have increase the return of stockholders. Increasing the output by using the financial leverage, raises the competitive abilities of companies and in such a situation deciding to use the debt in capital structure is very important and crucial. Because by using the debt, while the return on investment is higher than the debt rate, the risk of the company will increase. When the return on investment is lower than the debt rate, using debt will not be an optimal financing method. After analyzing different factors, companies will determine their optimal capital structures. This optimum structure varies by changing the conditions during the time. However, in every fixed time, companies' managements consider a distinct capital structure (purpose) and every financial decision should be matched with this purpose. If the actual amount of debt is lower than the determined level of the purpose, financial resources may be provided by increasing the debt. While, if the actual amount is higher than determined purpose, probably common stocks will be sailed. The capital structure policy makes the balance between the risk and return. On the other hand, using more debt, will increase the risk of profitability flow and also raises the rate of return. Therefore, an optimal structure of capital makes an optimal balance between risk and return and

increases the stock prices. Determining a combination of an optimal capital structure is one of the basic subjects which are faced by senior financial managers. The difference in capital structures of companies is a significant point which recognizing the causes of this difference can be theoretically and practically helpful in financial planning of companies.

In analytic discussions of capital structures of companies, the researchers were attracted by the importance of mentioned topics. Primary studies indicate that the factors such as profitability, size of the company, amount of companies' asset and many interior and exterior factors are effective in determining the companies' capital structure and this effectiveness is different within different companies. Therefore, providing a common pattern for determining the optimal capital structure is a different task.

The review of the related literature: Different theorem of capital structure starts by famous theory of Modigliani and Miller in 1958.[1] The theorem states that, in a perfect market, how a firm is financed is irrelevant to its value. It also says that, the companies cost of capital doesn't change under special conditions and the advantages of debt using will be compensated by decreasing the stocks prices. The traditional view was dominated before the MM theory which believed in increasing the companies' value because of using the financial leverage. In this point of view, there is an optimal capital structure which minimizes the cost of the capital. In 1963, MM revised their theory by using the task effect and suggested that company use the debt in order to increase the value to profit more from tax benefits. The patters based on tax effect suggest that the profitable companies should have more debt.

Fixed balance theory: According to Jensen and Mcling (1976), the company's capital structure is determined by balancing the tax benefits on one hand and financial crisis costs and bankruptcy on the other hand. Therefore, these two factors which offset each other results in optimal use of debt[2].

Agency costs: A type of internal cost that arises from, or must be paid to an agent acting on behalf of a principal. Agency costs arise because of core problems such as conflicts of interest between shareholders and management. Shareholders wish for management to run the company in a way that increases shareholder value. But management may wish to grow the company in ways that maximize their personal power and wealth that may not be in the best interests of shareholders. Jensen and Royal Simerly define debt as controlling instrument for being certain about interest payout[3-4]. It means that in corporations with higher cash flows and profitability, increasing the debt can be used as a tool for limiting the management options. Another case which causes opposition is that the managers may not receive all benefits which are related to their activities. This case is more related to the time when the manager's portions in company's ownership are low. Whatever manager's portions increase this disadvantage decreases. By increasing the debt instead of boarding portions, deduction in manager's portions should be prevented[5]. Like Jensen, Stalz believes that debt payouts are the causes of cash decrease. He also believes that this decrease reduces the possibility of profitable investments. Therefore, companies with lower debts have more opportunities for investment and in comparison with companies which are active in industry, have higher liquidity. The existence of benefits opposition between stockholders and creditors, has different results such as, increasing the debt rate by creditors, raising the cost of supervision, Jensen and decreasing the investment, Arvin Gosh. So, this benefit opposition indicates that high leverage leads to weak function[2,6].

Effective factors on capital structure: In the framework of mentioned theories, there are different factors in capital structure. In this study, the effects of four factors are examining: The size of the company, Profitability, Growth opportunity, The amount of constant asset

Research hypothesis

The purpose of the present study is to examine the effective factors on companies' capital structure. For this purpose, the following research hypotheses are addressed: There is a relationship between the size of the company and capital structure. There is a relationship between profitability and capital structure. There is a relationship between the amount of constant asset and capital structure. There is a relationship between the kind of the industry in which each company is acting and capital structure.

Research design: The research design is comparative-deductive and according to the research and nature of the variables, is a practical research and methodologically is a comparative- analyzing and also a kind of case study. The statistical population of this study includes all companies which are accepted in Tehran's stock exchange. Among this statistical population, 326 companies are considered as this studies statistical population. Based on this criterion, the companies which didn't have the financial statements during 1380-1383, were omitted. As a sample, 200 companies were chosen. (Using Kookran formula).

Data collection and analysis: The necessary data of study's literature is collected from Persian and Latin professional books, magazines and internet articles (library method). The required data for testing the research hypotheses were collected through مراجعه to Tehran stock exchange and using annual financial statements of the accepted companies, stock exchange's report and web sites of stock exchange for the time cycle of 5 years.

Theory testing method: Regression model and sectional data and SPSS software were used for analyzing the data and making the assumptions of this study. A variable called capital structure of accepted companies in Tehran stock exchange is considered as a dependent variable and a linear function of some variables

such as, size of the company, profitability, growth rate, constant assets of company's income, are considered as independent variables. Regression models which are used in this study, is regression with an independent variable and a dependent variable. Finally, the regression model which is also called multivariable linear regression and is in terms of linear parameters is shown in equation 1:

Equation 1: $Yi = \beta0 + \beta1X1.1i + \beta2X1.2i + \beta3X2.1i + \beta4X2.2i + \beta5X2.3i + \beta6X3 + \beta7X4 + Ui$

For estimating the parameters of regression pattern with seven variables, (independent variables) (Equation 1), backward method has been used. So we have:

Equation 2: $Yi= b0+b1\ X1.1i + b2\ X1.2i + b3\ X2.1i + b4\ X2.2i + b5\ X2.3i + b6\ X3 + b7\ X4$

Equation2 is the considered equation in this research which should be estimated. It should be noted that the coefficients of this equation are parallel to equation 2's coefficients. It is also important to note that according to classic linear regression model (equation 1), OLS's estimators of low regression coefficients in equation 2, are not only lineared without but also have minimum variance in all linear estimators. For testing the research hypotheses, two kinds of test were used including meaningfulness of correlation coefficient between variables and regression's total meaningfulness test. In order to prove the correlation relationship between variables is meaningful or not, instead of using the critical value of t table, a meaningful level is used which is available for users of statistical software. If the value of a meaningful level is below 5%, the hypothesis will be rejected. In the next stage, the meaningful test of coefficients of estimated regression was examining separately. However, in this stage, we will have a combined hypothesis in which model's coefficients are zero, simultaneously. Testing this hypothesis is called the meaningful test of estimated regression line (equation 2).

So we have: H0 : all slop coefficients are equal to zero, simultaneously. H1 : slop coefficients are zero, simultaneously (at least one of them is not zero). For testing H0 hypothesis, F test was used. If F>F0.05 (6,n-7), then H0 is rejected and otherwise it is accepted. The results of t and f are shown in figure 2. In this stage, all variables are entered to the model. As it is clear, correlation exist only in three cases including: gross profit in sale, operating profit in sale and ESP with capital structure.

In the second stage, variables come to the model all together and by using backward method, SPSS system omits variables according to the correlation rate and provides final model. The results of the second part are shown in the following table-2.

In this section, system has chosen the proper pattern after 5 stages. Variables which were omitted by the backward system include total revenue, growth rate of income, total asset, and total fixed asset. Finally, regression pattern obtained in as follows:

$MgY = 1.101- 1.079MgX2.1 – 0.076MgX2.2 +0.0001MaX2.3$

Table-1
T and F test results

Coefficient	**t**		**F**		**Statistic Independent variable**
B	Sig	value	Sig	Value	
-2.24×109	0.868	-0.166	0.868	0.028	Total income
-1.68×108	0.671	-0.426	0.671	0.181	Total asset
-1.446	0.000	-10.230	0.000	104.659	Gross profit
-0.107	0.000	-11.646	0.000	135.620	Operating profit
-0.0001	0.000	-5.717	0.000	32.679	ESP
-5.16×109	0.585	-0.548	0.585	0.300	
-0.022	0.121	-1.559	0.121	2.429	Growth rate

Table-2
The results of the t and F test in the second stage

Coefficient	**t**		**F**		**Statistic Independent Variable**
B	Sig	value	Sig	Value	
-4.96E-009	0.925	-0.095	0.000	60.169	Total income
9.26E-008	0.563	-0.580	0.000	60.169	Total asset
-1.089	0.000	-4.857	0.000	60.169	Gross profit
-0.077	0.000	-6.678	0.000	60.169	Operating profit
-0.000	0.017	2.409	0.000	60.169	ESP
-2.44E-008	0.507	-0.665	0.000	60.169	
-0.003	0.815	-0.234	0.000	60.169	Growth rate

Table-3
The relationship between dependent variable and independent variables in the framework of assumptions during 2001-2005

Results	Relationship according to the hypothesis	Dependent variable	Independent Variable	Hypothesis
-	+	Capital structure	Size	First
+	+	Capital structure	Profitability	Second
-	+	Capital structure	Company's fixed Asset	The third
-	+	Capital structure	Growth rate of the company's income	The fourth

The above chart indicates that: Relatively, there is no meaningful relationship between the size of the company and its capital structure. In other words companies will to use debt is not dependent on their size.

The testing of the hypothesis 2 is done through a unidirectional variance analyzing method. So we have: $H0 : \mu 1 = \mu 2 = \ldots = \mu 29$
$H1 : \exists \mu i \neq \mu j$ and $i \neq j$

In other words, the average capital structure of the company has been compared in all groups. It means that, the assumption of equality of average debt ratio was tested in all groups (H0 hypothesis). With regard to the SPSS output,H0 hypothesis rejected in meaningful level of 5%. Therefore, the debt ratio is not equal in all groups.

Results and Discussion

Research results: a) The results related to 4 research hypotheses. The results of analyses for research period of (1380-1384) are described in the following table. In this table, the sign (+) indicates that there is a relationship between capital structure (dependent variable) and determining factors (independent variables). The negative sign (-) shows that there is no relationship.

There is a meaningful relationship between company's profitability and their capital structures. It means that companies will to use more debt is increased when profitability is improving. In contrary, if a company doesn't have proper profitability, it is not able to use more debt. Not being able to use debt in this kind of companies, refers to the lender institute evaluations of the companies conditions. It is axiomatic that lender institute don't give financial facilities to the companies which don't have enough profitability. It can be said that in Iran, the companies' profitability can increase the companies' power to take the facilities. On the other hand, lender institute consider the companies' power of profitability.

Companies' capital structure has no relationship with the rate of fixed assets. In Iran, companies' will to get the facilities, have no relationship with the rate of their fixed assets which can be used as collaterals. While theoretically, whenever a company has more assets to be used as collaterals, it can get more facilities.
The growth rate of the companies' has no relationship with their capital structure. It means that, it is impossible to increase debts just by increasing the growth rates of the companies' income.

Results related to the fifth hypothesis: In fifth hypothesis of the research, the difference of capital structures in various groups of the stock exchange's companies was examined. The results show that there is a meaningful relationship between the type of the group in which a company is acting and capital structure. So, the capital structures in various groups are different and are possibly influenced by the nature of every group's activities.

Conclusion

One of the most important areas of making decisions in financial management of the companies is determining an optimal capital structure in order to increase the stockholders wealth. For every company, an optimal capital structure is a structure in which the weighted average of the capital cost is minimized.

Therefore, managers are always trying to an optimal capital structure. It is expected that in Iran, like the other countries, the capital structures of companies are formed because of managers need to optimize them.

The effective factors upon capital structure are examined by many financial researchers which some parts of their theoretical examinations are respected in this research. In this research the effective factors upon capital structures of the companies which are accepted in Tehran's stock exchange, have been examined. According to the research results, profitability is the only effective factor on capital structure. Therefore, the more the company's profitability, the more the possibility of taking a lend. So, when the companies planned to get financial facilities, they should increase their profitability. It is clear that if their profitability is low, they will not achieve their goal. The size of the company and the amount of fixed asset has no effect on capital structure. Thus, the companies cannot rely on the magnitude and the amount of their assets to get the financial facilities. Since the companies' capital structures are different in

various groups, the lender institutes managers should examine the credit risk of every company according to the kind of industry.

The findings in this study are in accordance with Rezaei et al[7], Baradaran Hasanzadeh[8], Mirza[9] and Hasanzadeh[10].

References

1. Franco Modigliani and Merton H. Miller., The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review,* **48(3),** 261-297 **(1958)**

2. Jensen Micheal C ., William H. Meckling, Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics, October,* **3(4),** 305-360 **(1976)**

3. Michael C. Jensen, Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers. *American Economic Review,* May 1986, **76(2),** 323-329 **(1986)**

4. Royal Simerly, The capital structure decision: Re-examiningthe relationship between agency theory and transaction cost economics, **(1999)**

5. Patrik Bolton and Xavier Freixas, Equity, bonds and debt: Capital structure and financial market equilibrium under asymmetric information, **(2000)**

6. Arvin Gosh, Francis Cai and Wenhuili, The determinants of capital structure **(2000)**

7. Hossein Rezaei Dolat Abadi, Ali Reza Eghbali and Hassan Heidary Soltan Abadi, The Effects of Product Market Competition on Capital Structure in firms listed in Tehran Stock Exchange, Iran, *Res. J. Recent Sci.,* **3(4),**7-13 **(2014)**

8. Rasoul Baradaran Hasanzadeh, Samad Torabynia, Karim Esgandari and Shima Kordbacheh, Evaluating Effects of Financial Leverage on Future Stock Value at Stock Exchange, *Res. J. Recent Sci.,* **2(2),** 81-84 **(2013)**

9. Nawazish Mirza, Ayesha Afzal, Syed Kumail Abbas Rizvi and Bushra Naqvi, Can Current Earnings Predict Future Cash Flows?, A Literature Survey, *Res. J. Recent Sci.,* **2(2),**76-80 **(2013)**

10. Rasoul Baradaran Hasanzadeh, Samad Torabynia, Karim Esgandari and Shima Kordbacheh, Evaluating Effects of Financial Leverage on Future Stock Value at Stock Exchange, *Res. J. Recent Sci.,* **2(2),** 81-84 **(2013)**