The effect of sales growth on the determinants of capital structure of listed companies in Tehran Stock Exchange

1Mahnazmahdavi, 2Mokhtarbaseri, 3Afshin Zare and 4Hamideh Zare

1Department of Accounting, Islamic Azad University, Zarghan branch, zarghan, Iran
2Tutor, Department of accounting, payamenoor university, i.r. of iran
3Young Researchers and Elite Club, Marvdasht BRANCH, Islamic Azad University, Marvdasht, Iran
4Department of Accounting, Science and Research Branch, Islamic Azad University, Khouzestan, Iran

Abstract: In this study, a review of the most important factors in capital structure of listed companies in Tehran Stock Exchange for the period 1388-1384 in a sample of 60 companies listed in Tehran Stock Exchange, we will. Variables studied in this paper, including asset-exactness, firm size, sales growth, risk and the effective tax rate is. The impact on sales growth between the super capital structures is also studied. The results showed that during the study period, real assets, firm size, sales growth, operational risk and the effective tax rates are significantly associated with the ratio of total debt. The replacement of long-term debt rather than total debt, excluding variable size, has the same relationship. Among these factors, the real property, the strongest factor associated with debt ratios is. Low, there are significant differences.

Key words: capital structure, real assets, sales growth, operational risk, the effective rate of tax debt.

INTRODUCTION

making decisions about the best combination of financial resources and capital structure of the company or in other words, has always been considered one of the major tasks for financial managers in order to increase the value of in the literature within the financial, as remarkable range allocated a. Decision finance and investment companies, the decisions that are both foresight to adopt. The decision finance, corporate finance, which is currently working to be able to in the future obligations to suppliers of the resource. invested capital in the company of some of the current benefits, education benefits in the future, hoping to turn a blind eye to Capital investment in car equipment that can apply to future profits and return on invested capital is The company can be financed from the company (for example, from retained earnings), or outside the company (through the issue of shares or bonds), are provided. The main difference between debt and equity is liabilities of the company's commitment to its creditors before paying dividends to shareholders and the risks associated is more debt. On the other hand, due to the costs caused debt tax shield for the company, while pay dividends to stock holders do not have this effect. A decision on capital structure may lead to liability for providing financial and property seized and auctioned off eventually is bankrupt. The capital structure of the company directors they so choose, they can increase the value of the company. However, the level of financial leverage varied to achieve an optimal capital structure to fund Select (Modigliani, F. and M. Miller, 1985). The capital structure of the company, early warning in connection with the financial crisis and need the program strategic planning company to determine the factors affecting performance is financing their attention. So the main thing by financial managers in the company, the combination of debt and equity, that the decision in order to maximize shareholder wealth can be taken.

Companies continue to grow, the need for resources, which are absorbed by investors and creditors Gzarn to. That’s why one of the most important objectives financial managers to maximize shareholder wealth - owners need to consider to determine the best combination of resources or capital structure is optimal. Optimal capital structure, financial management, and new models of the structure of the weighted average cost of debt at the minimum possible level. Although theoretical and experimental studies have pointed to an optimal capital structure, but there is a certain way, the optimal debt level managers able to do. There are theories that some finance to understand how to choose an effective combination of a company's value can help (Modigliani, F. and M. Miller, 1985) management of each of the components in the set capital structure, like many other factors can affect management decisions that these factors could be due to the inherent properties and characteristics of financial resources and the influence of other internal and external factors related to the company's operations and business environment that is. Although theoretical models of, the choice of capital structure are different concepts, but these are all indicative of the change in capital structure, indicates a change or revision in the company. That will in theory as it has been, how optimal capital structure can be achieved. Some posed the theory in this area include:
- Net income theory
1 - Hierarchy theory and the theory of information asymmetry, both before - they expect companies that have higher profitability, a lower reliance on borrowing to be.

2 - According to the agency theory prediction company that develops (Capital - Investment) face a little more to rely on borrowing to The Company also operating in industries that have a higher life expectancy, higher financial leverage (Serrasqueiro, Z.M. & M.C. RegoRogao, 2009).

3 - According to the agency theory and hypothesis projected free cash flow, companies that have less cash flow, the greater the reliance on borrowing to (Rajan, R and L, Zingales, 1995).

4 - Industries that have high growth and investment opportunities huge investments have always tried to have the financial advantage. So they try to finance through equity and less reliance on borrowing to (representation theory and the theory of the hierarchy of financing options) (Rajan, R and L, Zingales, 1995).

5 - According to the theory of the equilibrium constant, and hierarchical see financing option, the company's operating profit that is associated with high volatility in other words, higher business risk, compared with a profit of volatility of its operational less, borrow less use, since further business risk, increase the probability of bankruptcy is (Zhang, R., Y. Kanazaki, 2007).

6 - It that most of the assets, tangible fixed assets consist in comparison with the most assets - it intangible assets consist of more lending they are relying.

7 - Large part due to the ease of access to capital markets and funding sources are different, the product variety and greater protection against the costs of financial crises are and therefore more debt reliance to be 19.

8 - Companies that are more taxable profits and current tax rates are high compared with the lower income tax rates, a using more debt to (Zhang, R., Y. Kanazaki, 2007).

The main question now is what company managers’ sources of financing available to the company's earnings and return on equity owners can maximize the positive impact? Several factors, including the size, nature, assets, the company's growth, operational risk, sales growth and effective tax rate may have an impact on the decision making, with regard to any change in the capital structure of the combined type a - a. For this purpose, we first review the theoretical literature on capital structure, we will describe the various theories of related to the internal and external research studies and in research methods, including hypothesis and Statistical describes is, in the end, analyze the results and recommendations will be presented.

2- Background of the Research:

Rajan and Zingales (1995), showed that financial leverage, sales growth and a negative relationship with the value of tangible fixed assets, and firm size are positively. Lbs. (2001), using regression analysis concluded that the size, growth, and risk being seen significant effect on the type of debt are. (Huang and Song (2005), the Chinese enterprises to the conclusion that financial leverage ties asset size and objectivity positive direct and negative relationship with sales growth. Kvrshf and Astrvbvlav (2006), the Russian company, concluded that there is a negative relationship between size and financial leverage.Aryvtys (2007), the effect of capital structure on the 129 companies in the Greek market in the 2001-1997 time periods examined. His theory of capital structure, capital structure can be selected imposed. The results showed that, compared with the growth of corporate debt, current ratio, interest coverage ratio, is negatively related to firm size relationship is reversed.

Kanazaky Zhang (2007), the theory of parallel standing in front of the pyramid theory tested. Their own research on a sample of 1,325 non-financial companies in Japan and made in the period from 2002 to 2006. The experimental results show that this test, both models have weaknesses and shortcomings that areand This is also influenced by several factors ~ static parallel theories, including those of a negative relationship between profitability and financial leverage of the company.AndTarek M. (2008) research on factors associated with asymmetric capital structure and systematic risk classes in Egypt and the co ~ systematic risk changes based on the average of three group companies - high-risk, middle and lower classes were grouped and concluded that, in the long ~ term debt financing source for all classes of systemic risk and moderate-risk company that Long-term debt, according to debt-industry index to adjust, and the financing through debt can be associated with long-term, as well as the underlying assumptions affect the company rather will be free cash flow and high-risk are influenced by the theory Trypyramid.Karadnyz (2009), Factors affecting capital structure decisions Istanbul construction companies trading market in the 2006-1994 time period studied. Their theory is based on two parallel static factors Brsakhtar capital and chose the pyramid. The results suggest that, in the effective tax rate structure of assets, ties asset returns are negatively associated with debt and free cash flow to cover non-tax debt, investment opportunities for capital growth and firm size relation A With no debt and, in general, the
results of the Pyramid refers to the theory. Sraskvayr and colleagues (2009) examined the capital structure of the company, Portuguese. They typically select 41 companies for the period 2001-1991, the results achieved, the transaction costs of co in the acquisition of Portuguese debt are affecting tangible assets such as company size are factors that lead to optimal levels of debt in the future, be. They expressed, the optimal capital structure of the company Portuguese, the - the pyramid can be affected by both the theory and the theory of parallel static.

3 - Research Methodology:
This descriptive study - correlation and multivariate regression analysis of the data is. Using multivariable regression factors affecting the capital structure of the company has been studied in the Tehran Stock Exchange. Research model, the total test is optional. The selected companies based on sales growth, classification and re-classification variables relationships in each of the sub the sample will be examined. The company is expected to have higher growth, the resources needed to finance their growth, which will further external financing, capital structure to affect - makes.

4 - Statistical Samples:
Spatial domain of research, ¬ companies listed in Tehran Stock Exchange and the scope of the years 1384 to 1388 is ¬. Due to restrictions the company the following is selected:
A) Co capital investment, were excluded.
B) Co. choice should not be out of stock in the desired timeframe.
C) The financial year shall be elected is leading to the Persian date Esfand 29 years - for the financial year have not changed.
With regard to the above conditions, 60 companies were selected.

5 - The assumption:
This is the basic question of what factors (effective tax rate, firm size, risk, operations, sales growth and asset-exactness) on the capital structure of listed companies in Tehran Stock Exchange effective? And the effect of sales growth on the determinants of capital structure, a consideration? Thus, these study represents premises are:
First hypothesis: There is significant relationship between the variables selected and the capital structure of the company.
Second hypothesis: the relationship between sales growth and selected variables affecting the company's capital structure.

6 - Variables And Research Model:
Three sets of variables on the dependent variable, the following controls are independent and are:
Dependent variable, the financial leverage ratio of total debt and the ratio of two forms of long-term debt is calculated. Independent variables include the effective tax rate, firm size, risk, operations, sales growth, and variable-control embodied assets, sales growth has been considered. How to calculate the following variables:
The ratio of total debt: total debt divided by total assets of,
Long-term debt: Long-term debt to total asset ratio of,
Effective Tax Rate: The tax paid divided by earnings before interest and taxes every year for the same year
Firm Size: log of sales,
Operational risk: standard deviation of earnings before interest and taxes divided by average profit of the last three years the company three years ago,
Sales growth: Sales between this year and last year the company sold divided by the previous year,
Asset-exactness: The Company's fixed assets divided by total assets company.
This model is as follows:
Where:
Y: capital structure,
SIZE: Size,
TANGIBILITY: objectivity assets, the
ETR: effective tax rates,
GROWTH: The growth of the company,
RISK: operational risks.
7 - Analysis of findings
Descriptive statistics for study variables are presented in Table 1.
increase, the share of total debt and long-term debt in the capital structure of the company will increase. Also, the variables associated with the capital structure of the company, if you use the ratio of total debt, strengthen and can be explained by the model increases.

Table 1: Descriptive statistics of variables

<table>
<thead>
<tr>
<th>Description</th>
<th>Samples</th>
<th>Middle</th>
<th>Minimum</th>
<th>Average</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ratio of total debt</td>
<td>300</td>
<td>0/181</td>
<td>0/15</td>
<td>0/668</td>
<td>0/826</td>
</tr>
<tr>
<td>Long-term debt</td>
<td>300</td>
<td>0/181</td>
<td>0/15</td>
<td>0/668</td>
<td>0/826</td>
</tr>
<tr>
<td>Effective rate of tax</td>
<td>300</td>
<td>0/181</td>
<td>0/15</td>
<td>0/668</td>
<td>0/826</td>
</tr>
<tr>
<td>Sales growth</td>
<td>300</td>
<td>0/181</td>
<td>0/15</td>
<td>0/668</td>
<td>0/826</td>
</tr>
<tr>
<td>Firm size</td>
<td>300</td>
<td>0/181</td>
<td>0/15</td>
<td>0/668</td>
<td>0/826</td>
</tr>
<tr>
<td>Operational Risk</td>
<td>300</td>
<td>0/181</td>
<td>0/15</td>
<td>0/668</td>
<td>0/826</td>
</tr>
<tr>
<td>Asset-exactness</td>
<td>300</td>
<td>0/181</td>
<td>0/15</td>
<td>0/668</td>
<td>0/826</td>
</tr>
</tbody>
</table>

Table 2 summarizes the results of the test model for the entire sample is:

Table 2: summarizes the results of data analysis to test the first hypothesis

<table>
<thead>
<tr>
<th>Camera</th>
<th>Watson</th>
<th>Standard deviation</th>
<th>R^2</th>
<th>The correlation coefficient</th>
<th>The final model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/982</td>
<td>0/13845</td>
<td>0/314</td>
<td>0/560</td>
<td></td>
<td>TD = / 354 + / 675ETR + / 063SIZE + / 132TANGIBILIT + / 002RISK</td>
<td>The ratio of total debt</td>
</tr>
<tr>
<td>2/236</td>
<td>0/10828</td>
<td>0/164</td>
<td>0/405</td>
<td></td>
<td>TDL = / 65 + / 138TANGIBILIT + / 201ETR + / 032GROWTH + / 002RISK</td>
<td>Long-term debt</td>
</tr>
</tbody>
</table>

The company, based on sales growth quartile ranking and of total debt and long-term relationship with the selected variables were examined in this quartile. Thus, the choice participating divided into three groups as follows:

- First quartile, companies that have the lowest growth.
- The middle section, companies that are intermediate in terms of sales growth.
- Fourth quarter, companies that have the greatest growth.

The model test results are summarized in subgroup sample, as is shown in Table 3:

Table 3: summarizes the results of data analysis to test the second hypothesis

<table>
<thead>
<tr>
<th>Camera</th>
<th>Watson</th>
<th>Standard deviation</th>
<th>R^2</th>
<th>The correlation coefficient</th>
<th>The final model</th>
<th>The dependent variable</th>
<th>Subgroup sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/029</td>
<td>0/15176</td>
<td>0/342</td>
<td>0/585</td>
<td></td>
<td>TD = / 693ETR + / 127SIZE</td>
<td>The ratio of total debt</td>
<td>First quartile</td>
</tr>
<tr>
<td>2/081</td>
<td>0/16257</td>
<td>0/232</td>
<td>0/481</td>
<td></td>
<td>TDL = / 015TANGIBILIT</td>
<td>Long-term debt</td>
<td>Middle part</td>
</tr>
<tr>
<td>2/081</td>
<td>0/16257</td>
<td>0/232</td>
<td>0/481</td>
<td></td>
<td>TD = / 505 + / 032RISK + / 514ETR + / 037SIZE</td>
<td>The ratio of total debt</td>
<td>Middle part</td>
</tr>
<tr>
<td>2/158</td>
<td>0/10023</td>
<td>0/157</td>
<td>0/396</td>
<td></td>
<td>TDL = / 059 + / 137TANGIBILIT + / 177ETR</td>
<td>Long-term debt</td>
<td>Fourth quartile</td>
</tr>
<tr>
<td>1/773</td>
<td>0/1294</td>
<td>0/269</td>
<td>0/519</td>
<td></td>
<td>TD = / 019RISK + / 998ETR + / 074SIZE</td>
<td>The ratio of total debt</td>
<td></td>
</tr>
<tr>
<td>2/268</td>
<td>0/10952</td>
<td>0/195</td>
<td>0/442</td>
<td></td>
<td>TDL = / 509 + / 536ETR - / 066SIZE</td>
<td>Long-term debt</td>
<td></td>
</tr>
</tbody>
</table>

Considering the above table it is observed that the lower quartile ratio of total debt to the effective tax rate and firm size variables are positive and significant relationship between mean assets and risks are not correlated with objective variables. Long-term debt to assets ratio only real variable is positive and statistically significant relationship be no relationship with the other variables in this subgroup, can be explained by a model, in comparison with other subgroups is higher.

Real property and the effective tax rate in a positive and meaningful relation bearing and has no relationship with other variables.

A positive and significant meaning no relationship with other variables. A statistical comparison of the mean selective subtype of the debt ratio is described in Table 4.

The information contained in Table 4, see that the ratio of debt (capital structure) between the company and the company with high sales growth with low sales growth, and significant differences in the capital structure of the company grow will affect sales.
Conclusion:
In this study, the hypothesis I mean that there is a significant relationship between financial leverage and the effective tax rate, firm size, risk, operations, sales growth and asset-exactness, were tested. The results of the hypothesis testing of the company's first choice represents a significant and positive relationship between the ratio of total debt and the effective tax rate, firm size, risk, and objectivity, and the relation ¬ with the sales growth, the positive relationship significant proportion of long-term debt and the effective tax rate, risk, asset Rshdfrvsh and objectivity, and the relation between the size of the 95% confidence level is ¬. In all three groups, no statistically meaningful relation ¬. Thus, the overall results of this study and the effective tax rate for the first hypothesis, the results of Bradley (1984) and Huang and Song (2005), who found a positive relationship, consistent with the results Dabtz and Fix (2003) and Karadnyz (2009), which had a negative relationship, not alignment. In size, the results LBS (2001), Huang and Song (2005), Aryvtsy (2007), Sraskvayrv (2009), Mrrmrchy (1378) and B. M. (1382) who found a positive relationship, consistent, however, with the results Tytmn and Wessells (1988) Vkyrshf and Astrvbvla (2006) and Soheila and Mahmoud (2008), the negative relationship Karadnyz (2009) who found no relationship, no alignment. The results of this research results in operational risk lbs (2001) and Tarek Mohammad (2008), the relationship was negative in contrast. The results of this study with the results of Rajan and Zingales Property Objectivity (1995), LBS (2001), Huang and Song (2005), Sraskvayrv and colleagues (2009) who found a positive relationship, were consistent, but The results Karadnyz (2009), the negative relationship TytmnWessells (1988) who found no relationship, no alignment. Growth in sales, the results of this research lbs (2001) and Mrrmrchy (1378), who found a positive relationship, consistent, however, with the results of Huang and Song (2005), Aryvtsy (2007), The negative relationship Karadnyz (2009), who found no relationship, it is inconsistent.

Havedeveloped a way to grow.Mharnshdh lead to financial consequences of bankruptcy risk is not increased. In order to further investigate the proposed is:

1 - Addition to considering the financial information, the macroeconomic situation politically - through its control variables in the models to be considered research.

2 - The impact of inflation on the determinants of capital structure is reviewed.

3 - According to the explanatory power of the research model (about 30%) of the other variables that influence the capital structure of the company should be further studied.

### Table 4:

<table>
<thead>
<tr>
<th>Result</th>
<th>Significance level</th>
<th>The difference mean</th>
<th>Comparison of subgroups</th>
<th>The dependent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>The difference is significant.</td>
<td>The difference is significant.</td>
<td>-0/0597</td>
<td>Middle part</td>
<td>Quartile 1</td>
</tr>
<tr>
<td>The difference is significant.</td>
<td>The difference is significant.</td>
<td>-0/0760</td>
<td>Quartile 4</td>
<td></td>
</tr>
<tr>
<td>The difference is significant.</td>
<td>The difference is significant.</td>
<td>0/0597</td>
<td>Quartile 1</td>
<td>Middle part</td>
</tr>
<tr>
<td>Not significant</td>
<td>Not significant</td>
<td>-0/0163</td>
<td>Quartile 4</td>
<td></td>
</tr>
<tr>
<td>The difference is significant.</td>
<td>The difference is significant.</td>
<td>0/0760</td>
<td>Quartile 1</td>
<td>Quartile 4</td>
</tr>
<tr>
<td>Not significant</td>
<td>Not significant</td>
<td>0/0163</td>
<td>Middle part</td>
<td></td>
</tr>
<tr>
<td>The difference is significant.</td>
<td>The difference is significant.</td>
<td>-0/0136</td>
<td>Middle part</td>
<td>Quartile 1</td>
</tr>
<tr>
<td>Not significant</td>
<td>Not significant</td>
<td>-0/0837</td>
<td>Quartile 4</td>
<td></td>
</tr>
<tr>
<td>The difference is significant.</td>
<td>The difference is significant.</td>
<td>-0/0837</td>
<td>Quartile 1</td>
<td>Quartile 4</td>
</tr>
<tr>
<td>The difference is significant.</td>
<td>The difference is significant.</td>
<td>0/0701</td>
<td>Quartile 4</td>
<td></td>
</tr>
<tr>
<td>The difference is significant.</td>
<td>The difference is significant.</td>
<td>0/0837</td>
<td>Quartile 1</td>
<td>Quartile 4</td>
</tr>
</tbody>
</table>

### REFERENCES


