



The Relationship between Growth Opportunities, Tangible Assets, and Financial Structure of Companies listed on the Tehran Stock Exchange

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ABSTRACT

This research is intended to investigate the relationship between financial structure, growth opportunities and the tangible asset rate to be used by managers, capitalists, and others who use financial statements to make decisions. The subjects of the study include 195 companies for the years 2011 to 2015. This research is descriptive and functional. A multivariate regression analysis is conducted based on the method of combined data to test the hypotheses. The results show that there is a meaningful level for growth opportunity variable in 2011, but there is no relationship between growth opportunities and financial Structure during 2012- 2015. In addition, the results show that in 2011 there is a meaningful level for tangible asset variable, which means there is a meaningful relationship between tangible asset and financial Structure, but there is no relationship between tangible asset and financial structure.

Keywords: Financial Structure, Growth Opportunities tangible asset rate.

Introduction

The study of Modigliani and Miller (1977) illustrates that the valuation of

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a company is independent of its financial structure under certain key assumptions.

Financial managers should always be careful about the compatibility of Financing ways and type of company investment; furthermore, they should use leverage more rationally to increase the company's value, but these should not impose extra costs on the company; which means the company endures a rational financial risk when using debts.

Effective factors on the financial structure of companies are divided into two groups: 1-internal, 2- external.

Internal factors are those factors resulted from the operations and inner factors of the company. Some of these factors are the type of industry, size of company, business risk, operational leverage, growth opportunities, the structure of assets, profitability, tax exemption, etc.

External factors emerge from the outside of a company or an institute. Some of these factors include tax, interest rate, the general level of business operation, liquidity, current models, creditors' behavior, the condition of currency, political condition, etc.

This study is done based on effective factors on the capital structure with an emphasis on the Financing ways and using the audited financial statement information of companies listed on Tehran stock exchange during 2011-2015.

Theoretical issues and literature review

Empirical studies find evidence that is in line with the view that growth opportunities reduce leverage (see Frank and Goyal (2009) for a survey). Several prior studies (e.g., Barclay and Smith 1995; Guedes and Opler 1996; Johnson 2003) find that firms use shorter-term debt maturity to mitigate underinvestment problem associated with growth opportunities, whereas Stohs and Mauer (1996) find a mixed evidence that debt maturity and growth options are inversely related.

According to Myers (2007), the growth of opportunities is considered in terms of the proportion of firm value accounted for by assets-in-place. Mason and Merton (1985) pointed out that firms with growth options were those that had a relatively more capacity for expanding projects, new product lines, the acquisition of other firms, maintenance, and replacement of existing assets. To address this potential, the mediating role of growth opportunities of the firm can be either exogenous or endogenous. Exogenous (or external) growth opportunities are those which do not depend on the

firm's activities. Endogenous (or internal) growth opportunities arise due to certain firm activities such as research and development or marketing.

Companies can increase the value of their stocks by paying attention to the amount and level of explained factors like size, the combination of observable properties and growth opportunities, their relationship with financial structure, and also by decreasing costs of financing with optimizing their capital structure. This paper tests whether or not a proportion of the total effect of diversification strategy on a firm's value is channeled via the value of growth opportunities. Presenters of credit facilities can decrease the risk of funds and cession of sources given the results of this study. Several prior studies (e.g., Barclay and Smith, 1995; Guedes and Opler, 1996; and Johnson, 2003) find that firms use shorter-term debt maturity to mitigate underinvestment problem associated with growth opportunities, whereas Stohs and Mauer (1996) discover a mixed evidence that debt maturity and growth options are inversely related. New competitors are a threat to these companies to pay attention to their debt costs and to try to find sources to pay costs of financial sources, otherwise, they would lose. Furthermore, some companies are going to enter stock exchange for exposing their stocks and they will have a good combination of debt structure and stock owners' rights in future regarding their financing conditions. The capital structure decisions of stakeholders, including debtholders and shareholders (Villalonga and Amit, 2006; Brigham and Ehrhardt, 2014), will affect the firm value (De Angelo and Masulis, 1980; Miller, 1977; Myers, 1977; Myers and Majluf, 1984) and wealth distribution.

Based on the theory of agency opportunity, the relationship between growth opportunities and leverage can be positive or negative. In this regard, Stuls (1990) refers to two types of costs associated with corporate growth opportunities: 1- The costs of investing more and 2- the costs of investing less. The relationship between growth opportunities and debt can be negative or positive. Thus, it can be concluded that reducing agency conflicts is related to debt financing and financing decisions are also related to the agency costs.

Since financial and financing structures are important, it helps the analysis of financial statements. Therefore, this research seeks to identify the relationship between financial structure and growth opportunities and the ratio of visible assets and appropriate financing ways for managers, investors, and other users to use this issue to make economic decisions.

In addition to the above explanations, there are some other reasons for choosing this topic like:

A: the ever-increasing design of companies for receiving financial facilities and increasing capital.

B: personal interest in financial structure.

C: the shortage of enough and effective studies in Iran.

D: providing information that is useful for financing in companies.

The following problems will be anticipated in planning and making decisions if this study is not conducted:

A: unsuitable use or no use of a financial ratio, direction and economic decisions of users for recognizing and evaluating operation in past, present, and anticipating company's future conditions.

B: lack of knowledge about relations of financial structure and growth opportunities, the size of companies, the proportion of observable properties, and suitable ways of providing finance for use of managers, investors, shareholders, and other users for making economic decisions.

C: lack of attention to the amount and level of the company's size, the proportion of observable properties, growth opportunities and their unity and relation with financial structure in the value of company's stock.

Regarding the results of the previous studies, it becomes possible to investigate the effect of company's size, growth opportunities, and proportion of fixed observable property on the financial structure of accepted companies in the stock exchange in a determined time as a hypothesis, so it will approve the previous studies more.

The main related studies inside and outside of Iran are as below: Miller and Modigliani (1985) are the first researchers studied the capital structure. They conducted their study with a particular hypothesis, like complete market, lack of tax, lack of costs for bankruptcy, and deputation and existence of information matching those who are active in stock market and found that regarding the created tax following the company's loan, rationally using more debts will increase the company's value. So, the company should use more debt to the edge of 100% in the capital structure to increase its value.

Anderson (1990) examined the technology factor on capital structure. The study is done on 4917 random Canadian companies. He concluded that investor companies use more debts as compared with companies where the rate of capital to the workforce is low and this shows that technology is effective on company's structure.

McNulty et Al (2002) found the importance of correct evaluation of capital cost and pointed that if careless prices being used for decreasing in cash incidents, the company may reject a project by mistake or by investing in a wrong way.

Alan et al (2002) used panel data test in his study and found that there is a negative relationship between capital structure and the rate of interest coverage and expected growth and that there is a positive relationship is between the size of the company and capital structure.

Van and Van (2004) investigated the determinant factors in capital structure and found that variables like company's size, profitability, the rate of fixed observable properties, and interest rate could affect the company's decisions about financing.

Udomsirikul et al (2010) examined the relationship between shares, cash ability, and company's capital structure. In this study, they found that companies with more cashable shares experience lower cost for capital and the motive of using spreading shares in contrast with debt is more in their capital structure.

Mohammad (2005) states in her study that perhaps the most complete study in capital structure belongs to Rajan and Zingales (1995) because it showed that the financial level in each investigated country has a negative relationship with markets value to office value and company's profitability and it has a positive relationship with the value of fixed observable property and company's size

Kurdestani and Abbaszadeh (2012) studied on 909 year-company to find out that if the previous values of the market are effective on capital structure and also if managers decide their financing decisions based on shares value. The results showed no meaningful relationship between (market values) and (capital structure and also changes in capital structure.)

Hejazi and Khademi (2013) investigated the effect of three factors of characteristics of companies, including financial structure, liquidity, company's size, and two economic factors, including inflation and economic growth. The results showed that there is a positive and significant relationship between company's capital structure and financial structure, company's size, and economic growth.

Sarkari and Mehrmanesh (2013) showed that there is no meaningful relationship at the level of companies between inflation, current debt, the ratio of capital costs, and total debt but operational cash cover has a meaningful relationship with the capital structure.

Research hypotheses

Regarding the theoretical bases and the importance of the topic, the research hypotheses are as below:

There is a meaningful relationship between growth opportunities and financial structure of companies listed on the stock exchange.

There is a meaningful relationship between compounding fixed observable properties and financial structure of companies listed on the stock exchange.

Research Methodology

This study carried out using a descriptive- measuring method and is a review study that has used previous events without the researcher's direct interposing.

This study is unapplied one because it examines the relationship between variables correlation. In this study, real information of stock exchange and financial lists of companies listed on Tehran Stock Exchange have been used.

A multivariate regression analysis, based on the method of combined data is conducted to test the hypotheses. Data analysis performed using the Eviews Software at significance level of 95 percent.

Subjects of the study include the active listed companies on Tehran Stock Exchange. These companies were selected through the systematic elimination method and screening according to the below conditions:

A: the end of their financial year is March 20.

B: The Company's financial year has not been changed during the period of the study.

C: Sample companies are not a member of leasing, investment companies, banks, and financial intermediaries.

D: company's financial information is available during the studied period.

After applying these conditions, the statistical sample of the research became 195 companies which are members of Tehran Stock Exchange. The time realm of this research is also a 5-year period from 2011 to 2015.

The following model is used for testing research hypotheses and variables.

The estimated regression model may be represented as:

$$Debt_{it} = \beta_0 + \beta_1 Growth_{it} + \beta_2 IGP_{it} + \beta_3 Size_{it} + \varepsilon_0$$

Independent variable

Financial structure:

The financial lever which is used in this study examined by the total debt divided by the book value of the total asset.

$$debt_{it} = \frac{TD_{it}}{TA_{it}}$$

$debt_{it}$: The proportion of total debt asset of "i" company in the year "t".

TD_{it} : Total debt of "i" company in the year "t".

TA_{it} : Tal asset of "i" company in the year "t".

i: each of participant companies.

t: time duration 2011 to 2015.

This formula is the index of companies' financial structure and shows that how much of companies' assets are provided by their debt and also shows the financial risk of the company.

Dependent variables

Growth opportunities:

Myers (2007) used the scale of proportion of market value to book value in order to assess the expected growth or growth opportunities in his/her study (Myers, 2007, 48- 80). Therefore, the researcher uses this criterion too that is calculated as below:

$$GROWTH_{it} = \frac{BVTA_{it} - BVE_{it} + MVE_{it}}{BVTA_{it}}$$

$GROWTH_{it}$: Promotion of market value to book value of "i" company in the year "t".

$BVTA_{it}$: Boo value of total asset of "i" company in the year "t".

BVE_{it} : Bo value of share owners of "i" company in the year "t".

MVE_{it} : Market value of share owners of "i" company in the year "t".

Tangible Asset rate

In This study, in order to assess the effect of the proportion of fixed observable properties on the lever rate in financial structure the proportion of fixed observable property to the total property is used. It is calculated as below:

$$IGP_{it} = \frac{Igp_{it}}{TA_{it}}$$

IGP_{it} : The proportion of fixed observable property to the total property of "i" company in the year "t".

Igp_{it} : Fixed observable property of "i" company in the year "t".

TA_{it} : Total asset of "i" company in the year "t".

Control variable

Size of Company:

In this study, for assessing the effect of company's size on the financial lever rate, natural logarithm of total sale is used that is calculated as below:

$$Size_{it} = Ln Sale$$

$Size_{it}$: The size of "i" company in the year "t".

$Ln Sale$: Natural logarithm total sale of "i" company in the year "t".

Some researchers like Rajan and Zingales (1995) have used sale logarithm to calculate company's size and finally found that there is a direct and positive relation between company's size and lever.

Research findings

Descriptive statistic includes a set of methods which are used for gathering, summarizing, classifying, and describing the numerical facts. These criteria are used in order to better understand the result of the test. 975 observations of debt variable during 5 years is found. The mean, minimum, maximum of debt variable is 0.585, 0.120 and 0.850, respectively. The standard deviation values are depicted in the Table below. The descriptive statistics of the research variables provided in table 1.

Table 1. Descriptive Statistics

<i>Variable</i>	<i>Mean</i>	<i>Medium</i>	<i>Standard deviation</i>	<i>Minimum</i>	<i>Maximum</i>
<i>Debt</i>	0.585	0.598	0.215	0.120	0.850
<i>Growth</i>	1.380	1.193	0.603	0.580	6.144
<i>IGP</i>	0.620	0.677	0.322	0.230	0.706
<i>Size</i>	26.56	26.42	1.270	23.80	30.38

Source: Research finding

Investigating research hypotheses

To investigate the research hypotheses, the multivariable regression

testing is used.

The F-Limer test for the model is used to test the first and second hypothesis of the research. The obtained results show that the model for all these years has proper impacts due to the fact that the value of the obtained likelihood is less than the significance level (5%) and the H_0 and the F-Limer test indicating the properness of the model without effects is rejected.

The Hausman test was done on the first and second hypothesis of the research. According to the results, the model for all these years of fixed effects is proper. In other words, the likelihood value of the test is less than the significance level (5%) and the H_0 of this test indicating the properness of the model of random effects is rejected.

Therefore, the research model has been fitted by using the panel method based on the fixed effects of the extended least squares method. The result of testing the first and second hypothesis has been shown in the following tables.

The first hypothesis test

Table 2. Growth opportunities and financial structure

<i>Years</i>	<i>B</i>	<i>Sig</i>	<i>VIF</i>
2011	-0.087	0.000	1.034
2012	-0.054	0.094	1.025
2013	-0.006	0.881	2.037
2014	-0.009	0.791	1.049
2015	0.040	0.343	1.043
2011-2015	-0.063	0.082	1.029

Source: Research findings

According to the table 2, the null hypothesis in the year 2011 is rejected with a meaningful level under 0.05 for growth opportunity variable, which means there is a meaningful relationship between growth opportunities and financial Structure, but in other years and the average years, 2012- 2015, it has not approved any relationship between growth opportunities and financial Structure, which means there is no significant relationship between growth opportunities and financial structure.

In the above table, the amount of VIF is fewer than 5 for all of the coefficients which are indicative of a lack of autocorrelation between independent variables.

The second hypothesis test

Table 3. fixed observable properties or financial structure

Years	B	Sig	VIF
2011	-0.162	0.022	1.033
2012	-0.055	0.451	1.012
2013	0.120	0.234	1.015
2014	-0.059	0.648	1.006
2015	-0.210	0.145	1.020
2011-2015	-0.146	0.151	1.016

Source: Research findings

According to the table 3, the null hypothesis in the year 2011 is rejected with a meaningful level under 0.05 for growth opportunity variable, which means there is a meaningful relationship between tangible asset and financial Structure, but in other years and the average years, 2012- 2015, it has not approved any relationship between compounding fixed observable properties and financial structure, which means there is no significant relationship between tangible asset and financial structure.

In of the above table the amount of VIF is fewer than 5 for all of the coefficients which are indicative of a lack of autocorrelation between independent variables.

Test control variable

According to the above table, the null hypothesis for the variable of size of company in all of the investigated years and the average of 2011- 2015 is approved which means there is no significant relationship between company's size and financial structure.

In of the above table the amount of VIF is fewer than 5 for all of the coefficients which are indicative of a lack of autocorrelation between independent variables.

Conclusions

In this research, the role of the independent variable of growth opportunities, the ratio of tangible assets, and the dependent variable of financial structure of companies listed on Tehran Stock Exchange was studied.

financial structure		company's size	
Years	B	Sig	VIF
2011	-0.003	0.893	1.002
2012	-0.021	0.355	1.014
2013	-0.034	0.223	1.001
2014	-0.050	0.132	1.048
2015	-0.050	0.196	1.042
2011-2015	-0.026	0.324	1.013

Source: Research findings

According to the first hypothesis test, it is shown that there is no significant relationship between growth opportunities and financial structure. The results obtained from hypothesis testing are not in line with the result of studies done by Hejazi and Khademi (2013) and Rajan and Zingales (1995), Alan et al. (2002) about nonexistence of meaningful relationship between growth opportunities and financial structure and this is generally because of the principals and regulations of the Stock Exchange.

According to the second hypothesis test, it is shown that there is no significant relationship between the ratio of tangible assets and financial structure. The results of this hypothesis are not in conformity with the result of studies by Hejazi and Kademi (2013), and Rajan and Zingales (1995), and also Alan et al. (2002) about a positive relationship between fixed properties and financial structure and this is generally because of the principals and regulations of the Stock Exchange. The results of this study are in line with the result of studies Banimahd and Ghanbariha (2011), about the lack of relationship between tangible asset rate and financial structure and maybe this is because of the high rate of inflation in Iran. During inflationary periods, the value of debt is reduced in real terms, and the company needs less real cash funds to meet its debt obligations. Therefore, the increase in inflation will reduce the cost of debt and increase the debt side of the company.

Moreover, the results showed that the control variable of the size of the company with the capital structure is not significant. The results of this study are not in align with the result of studies of Rajan and Zingales (1995) and also Alan et al. (2002) as well as Ferri and Jones (2008) studies about a positive relationship between company's size and financial structure. This is generally because of the principals and regulations of the Stock Exchange. The results of this study are in line with the result of Banimahd and Ghanbariha (2011) study on lack of a relationship between the size of

company and financial structure and maybe this is because of the high rate of inflation in Iran.

According to the above results, therefore, it can be argued that the companies admitted to the stock exchange and consequently, the unrecognized companies in the stock exchange do not have the stability and freedom to achieve the proper financial structure, so below cases should be mentioned:

A: Imperativeness of the proportion of stock owner's equity to the total property (at least 30%) according to the prescription of stock exchange about listed companies on Tehran stock exchange.

B: Limitation of presenting financial facilities to the companies by banks.

C: High rate of inflation of financial facilities in the country.

D: Banks' weak participation to provide financial facilities for the companies which causes the companies to finance by stockholders through not paying the stock dividend and increasing the capital via their debts and their property in cash.

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