

## Studying the Effect of Financial Leverage and Ownership Structure on Investment Growth Opportunities

Mohammad Reza Ebrati<sup>1</sup>, Marzieh Ebrati<sup>2</sup>, Mohammad Bakhshi<sup>3</sup>, Farzad Emadi<sup>4</sup>

<sup>1</sup>Department of Accounting, Tabriz Branch, Islamic Azad University, Tabriz, Iran

<sup>2</sup>M.S. Student of Accounting, University of Tehran Aras International Campus, Tehran, Iran

<sup>3</sup>Department of Management, Tabriz Branch, Islamic Azad University, Tabriz, Iran

<sup>4</sup>Department of Accounting, Tabriz Science and Research Branch, Islamic Azad University, Tabriz, Iran

---

### ABSTRACT

The main goal of the present research is to study the effect of financial leverage and ownership structure on investment growth opportunities in firms listed in Tehran Stock Exchange. To do so, 95 companies were selected for the time period between 2006 and 2011 and the least squares' regression was utilized to test the research hypotheses. The criterion of growth opportunities was considered as the dependent variable and the indexes of financial leverage and institutional investors were considered as the independent variables of this research. Two hypotheses were posed regarding the issue. The results of testing the first hypothesis showed that there is a significant negative relationship between financial leverage and growth opportunities in firms listed in Tehran Stock Exchange. This means that the higher amount of the liabilities of a company will lead to lower investment growth opportunities. Also testing the second hypothesis showed that there is not any significant relationship between ownership structure and growth opportunities.

**KEYWORDS:** Growth Opportunities, Financial Leverage, Ownership Structure, Agency Problem.

---

### 1. INTRODUCTION

One of the basic issues in financial management is whether the financial leverage affects investment policies or not? If we accept that capital structure is not related as Modigliani & Miller (1985) have pointed out firm value and investment policy of it relate to factors such as: the demand status in the future, the technology used by the company, market interest rate (which is an index of yield), cash flows and net wealth. Many theoretical and practical research papers have investigated about this hypothesis and have introduced important indexes besides the fundamental items of neo-classicism. In theory, financing method affects investment decisions in conditions where due to transferring costs and asymmetrical markets there are incomplete markets. In such markets the agency problems resulting from the interactions between stockholders, creditors and managers are created and following that some incentives are produced for more or less than the normal amount of investment. Such an agency problem may create a range of investments which are not carried out to maintain the benefits of the stockholders (Berger et al, 1997).

Agency based models' theory claims that managers isolate themselves from the internal and external governance mechanisms of the companies and thus search for their own benefits in stockholders' costs. Jensen (1986) introduced agency conflict between stockholders and managers due to the left out of residual cash flows after all costs and free cash flows are subtracted. The basic presupposition in free cash flows is that managers tend to spend free cash flows for project without returns to compensate for the losses and increase the earnings through investment. Over-investment can be reduced through controlling the tendency of managers to increase liabilities through no-profitable management of the projects with limiting the resources accessible for the managers in the future (Stulz, 1990).

However, managers of companies where there is a high amount of agency conflict may have less incentive to spend free cash flows by increasing financial leverage. The effect of supervision agencies such as high leverage in ownership structure in controlling agency conflicts has been the research topic in some experimental studies. These studies showed that systematically managers make some undesirable decisions about capital structure and it shows that ownership structure helps the coordination of managerial benefits by stockholders' help (Doocheol et al, 2007).

The basis of the relationship between growth opportunities and investment is related to agency problems. Our study is going to deal with this issue that whether financial leverage and ownership structure are affected by the amount of growth opportunities or not? Over-investment is one of the important functions of free cash flows which most probably is sever in companies where there are lower amounts of growth opportunities. The reason is that such companies encounter a lower positive net value presently. Because the capital structure policy is considered as the internal controlling mechanism to reduce agency problems and ownership structure is used as

---

\*Corresponding Author: Mohammad Reza Ebrati, Department of Accounting, Tabriz Branch, Islamic Azad University, Tabriz, Iran. Email: Ebrati58M@yahoo.com

the supervising part to show the effect of capital structure decisions, we expect that ownership structure and financial leverage are affected by growth opportunities.

## 2. LITERATURE REVIEW

The resources needed to achieve assets are supplied through stockholders or creditors. In other words, the assets of a company are the claims of stockholders or the claims of creditors. Practically there is a benefit conflict between the benefits of these two groups of stockholders (along with creditors) and firm management. (These conflicts increase agency problems including agency costs. These costs affect capital structure).

### 2-1- Growth Opportunities and Ownership Structure

The effect of ownership structure on firm value derives from the belief of having conflicts between the benefits of stockholders. Cuervo (2002) believed that when main stockholders have the authority over a suitable percent of the stock they can impose their policies on the company and attract private benefits. Whenever the rights of all stockholders are not observed in a similar way ownership concentration for a number of the main stockholders will increase. The previous studies have shown that main stockholders (controlling stockholders) have more supervision and control over the managers unlike minor stockholders in order to improve the performances of an economic entity. Kumar (2004) concluded in a research studying the effect of ownership structure on firms' value in India that managers have the most effect on performance and external stockholders or holding companies are not affecting firm value meaningfully. Anlin & Kao (2005) studied the relationship between ownership structure, investing and firm value among 500 sample manufacturing in South Korea. Based on the ordinary least squares regression, ownership structure has been efficient over investment and firm value. Lopez & Vecente (2010) believed that growth opportunities affect the ability of main stockholders to stop the ownership of cashes from minor stockholders. They concluded in a research about this claim that there is a non-linear relationship between ownership structure and firm value and growth opportunities will result in increasing the toughness of this non-linear relationship.

### 2-2- Growth Opportunities and Financial Leverage

Financing through debt is one of the important factors in investment decisions in micro-levels and debt is important in macro-economy of a company. Firm debt can play a bidirectional role in firm value by presupposing the accessibility of growth opportunities and this role can be described considering the two theoretical perspectives of underinvestment and overinvestment. Underinvestment theory was first posed by Myers (1997) and emphasized that the high amount of debts has a negative effect on firm value and makes managers tend towards profitable investment projects. Due to the priority of the owners of bonds (creditors) compared to stockholders in receiving cash flows, managers can determine the projects having present positive net values if the projects' profits are to favor the creditors. Thus, we can expect that there is a negative relationship between debts and firm value by presupposing the existence of growth opportunities. Whenever a firm does not have growth opportunities overinvestment theory is used which has a close relationship free cash flows. This theory emphasizes on negative results of high amounts of cash flows under control of managers for financing.

Lang & et al (1996) studied the relationship between financial leverage, investment and growth opportunities in firms in the United States. This research showed that there was a negative and meaningful relationship between financial leverage and growth opportunities in firms in the United States. Also there was a meaningful relationship between financial leverage and investment for companies with low growth opportunities.

Myers (1997) analyzed the effect of factors created after debt on the optimal investment strategy of the stockholders and managers. He stated that the higher amount of debt decreases the coalition incentives of stockholders-managers in controlling the company to invest in opportunities with present positive net values because the benefits of such investments (at least to some extent) are transferred to creditors instead of stockholders. Thus, companies that have a higher leverage will have less growth opportunities compared to those companies that have lower leverages. He emphasizes on the effects of liquidity in underinvestment theory. Companies which have more accruals invest less regardless of paying attention to the nature of their own growth opportunities.

Vidhan & et al (2002) studied the relationship between a firm's growth opportunities and firm policies for Hong Kong bourse during the years between 1980 and 1995. They used temporary regression to test the hypotheses and the research results showed that there was a positive relationship between growth opportunities of firms accepted in Hong Kong bourse and debts (financial leverage).

Yahyazadehfar & et al (2010) studied the relationship between firm features and its capital structure in firms accepted in Tehran Stock Exchange. They selected 103 companies for the time period between 2002 and 2008. To do so, they used the integration of temporary data and time data (integrative data) to assess and test the relationship between variables. The research results showed that there was a negative and meaningful relationship between the debt ratio of the company and assets' structure, profitability and market value to book value.

Karimi & et al (2010) studied the effect of financial leverage and growth opportunities of firms accepted in Tehran Stock Exchange. They selected 104 companies for the time period between 2001 and 2008. To achieve the goals of the research, two hypotheses were devised. The first hypothesis tested the effect of financial leverage on investment decisions and in second hypothesis the effect of growth opportunities on investment decisions was tested. The results of analyzing the data showed that first hypothesis was approved and the second hypothesis was used by using tabular data. Additionally, the research findings showed that there is a negative and meaningful relationship between financial leverage and investment decisions.

Noravesh & Yazdani (2010) studied the effect of financial leverage on investment in firms accepted in Tehran Stock Exchange. They selected 98 companies for the time period between 2001 and 2006. The results showed that there is a negative and meaningful relationship between leverage and investment. Also the results showed that the relationship between leverage and investment in firms with less growth opportunities is stronger than those companies with higher growth opportunities.

Sajjadi & et al (2011) studied the effect of firm features on capital structure (debt ratio) in firms accepted in Tehran Stock Exchange. They selected companies for the time period between 2004 and 2008. The results of their research showed that there is a negative and meaningful relationship between firm's growth and capital structure. Also the results showed that companies having higher than %50 debt ratios have had a different capital structure compared to other companies.

### 3. METHODOLOGY

The foundation of the relationship between growth opportunities and investment and financial leverage is related to agency problem. Here we are going to study whether ownership structure and financial leverage are related with the broadness in growth opportunities? Institutional investors were considered as the independent variable in the present research. According to the definition posed by Bushee (2001) the institutional investors are big investors such as banks, insurance companies, investment companies and others whose most operations are related to exchanging their stocks. Additionally, according to the article 1, part 27 of Bonds' law in Islamic Republic of Iran, regarding the institutional investors, every person or legal entity which has more than %5 or 5 billion more than the nominal value of the bonds in the threshold level to be purchased are among this group of investors. (Sinaee et al, 2011).

Therefore, by studying the notes along with financial statements the ownership percentage of these investors from the company's stocks can be recognized. McConnell & Servaes (1995) showed that firm value has a positive relationship with financial leverage in companies having low growth opportunities. They also discovered that this relationship is vice versa for companies having high growth opportunities. Regarding the fact that this research project is studying the relationship between financial leverage and stock ownership and its effects on growth opportunities, it is considered to be among correlation researches and it is post incidental. Therefore, the research is done based on the previous data.

To estimate the relationship between financial leverage and institutional investors with growth opportunities we have used the regression model below:

$$\text{Growth}_t = \beta_0 \text{Debt}_t + \beta_1 \text{InstOwn}_t + \beta_2 \text{Performance}_t + \beta_3 \text{Fixed assets}_t + \beta_4 \text{Size}_t + \beta_5 \text{CFC}_t$$

Where,

Growth<sub>t</sub>: the sum of the market value of equity and the book value of debt scaled by the book value of total assets

Debt<sub>t</sub>: the ratio of book value of debts to book value of assets

InstOwn<sub>t</sub>: percentage of equity held by institutional investors

Also in this research factors which have affected capital structure and ownership structure decisions were considered as control variables.

Performance<sub>t</sub>: earnings before extraordinary items deflated by total assets

Fixed assets<sub>t</sub>: total net plant, property and equipment deflated by total assets

Size<sub>t</sub>: the natural logarithm of book value of total assets

CFC<sub>t</sub>: cash flows operations divided by total assets

#### 3-1- Population and statistical sample

The statistical sample of the present research entails all firms accepted in Tehran Stock Exchange. Due to the broadness of the volume of the statistical sample and the difficulties resulting from it and also the existence of some disharmonies among the members of the society regarding the data needed for the research the following conditions were taken into consideration in choosing the statistical sample and the method used was systematic deletion.

The statistical population for the present research entails all companies having been accepted in Tehran Stock Exchange at least from the beginning of the year 2006 and present there until the end of 2011 and have the following 4 characteristics simultaneously:

- Due to the different nature and categorization of the items of financial statements of investing and financial intermediary companies compare to manufacturing companies, the investing companies of insurance, banks, and financing entities were not investigated in the present research.
- Due to the necessity of calculating research variables and doing hypotheses test for each company, the needed data about the companies should be accessible.
- To observe the comparability the financial period should end at the end of the year.
- During each of the research period years, there should not be transaction stops for more than 3 months.

Regarding the conditions and limitations mentioned above 95 firms from among firms accepted in Tehran Stock Exchange were selected for the time period between 2006 and 2011. Financial statements of the companies above were extracted from the database of Tehran Stock Exchange and the analysis of the data of this research and testing the hypotheses were carried out by using EXCELL and SPSS software.

### 3-2- Research Hypotheses

To achieve the research goals, some hypotheses were posed as follows:

**First hypothesis:** There is a significant relationship between financial leverage and growth opportunities in firms accepted in Tehran Stock Exchange.

**Second hypothesis:** There is a significant relationship between institutional investors and growth opportunities in firms accepted in Tehran Stock Exchange.

### 4. Research Findings

Table 1 shows the descriptive statistics of research variables. As it can be observed the dependent variable of growth opportunities has an average of 4.625 and a criterion deviation of 4.138. The variable financial leverage is 0.54 and it shows a criterion deviation of 0.62 and it shows that about %60 of Iranian companies finance through debts. Also the dispersion amount of this variable compared with others is low. The average stock percentage belonging to institutional investors is %71 and criterion deviation is 11.65. This shows that the stocks of most companies belong to these investors. Also the dispersion amount of this variable is high compared to other research variables.

**Table 1: The descriptive statistics of research variable**

Variables	Mean	Std. Deviation	Skewness	Kurtosis	N
Growth	5.035	4.138	1.290	2.377	624
Debt	0.5077	0.5820	2.022	0.4335	624
InstOwn	74.39	12.27	-0.842	0.460	624
Fixed assets	1.014	2.530	24.98	624.00	624
Size	11.88	0.7310	1.362	4.808	624
Performance	1.328	1.368	2.096	7.221	624
CFC	0.9212	1.828	4.164	29.303	624

\*\*Correlation significant at the 0.01 level (two-tailed)

Table 2 shows the correlation coefficients of the research variables. Correlation coefficient between the variable financial leverage and growth opportunities in %0.01 shows that there is a significant positive relationship between firm debts and growth opportunities. Also the correlation coefficient between ownership structure (institutional investors) and firm debts in 0.01 levels has a reverse and significant correlation. As it was shown in table 2, the variable of ownership structure and growth opportunities did not show any meaningfulness in any levels.

**Table 2: Pearson Correlation Matrix**

Variable	Growth	Debt	InstOwn	Fixed assets	Performance	Size	CFC
Growth	1						
Debt	0.442**	1					
InstOwn	0.052	-0.302**	1				
Fixed assets	-0.039	-0.033	0.014	1			
Performance	0.121*	0.376**	-0.025	-0.018	1		
Size	0.048	0.437**	-0.298**	0.017	-0.026	1	
CFC	0.354**	0.328**	-0.031	-0.027	0.108*	0.036	1

\*Correlation significant at the 0.05 level (two-tailed)

\*\*Correlation significant at the 0.01 level (two-tailed)

Table 3 tested the relationship between financial leverage and growth opportunities. As it can be observed there is a positive and significant relationship between firm debts and growth opportunities in a significant level of 0.01 because the amount of P-value is less than 0.01. This means that firms encountering high debts will have high growth opportunities. Our results were different from those in Myers (1977), Lang & et al (1996), Karimi

& et al (2010), Sajjadi & et al (2011), Yahyazadehfar and et al (2010). They found out a reverse relationship between financial leverage and growth opportunities in their own studies. On the other hand, the results of our research accord with observations done by Vidhan & et al (2002) in Hong Kong bourse. They showed that there is a positive relationship between growth opportunities of firms listed in Hong Kong bourse and debts (financial leverage). The amount of the adjusted identification coefficient equals %35 and this shows that the independent variable can describe the changes of the dependent variables.

**Table 3: The Relationship between Financial Leverage and Growth Opportunities**

Variable	Coefficient	Std. Error	t-Statistic	P-Value
Constant	2.654	0.102	2.541	0.000
Debt	2.410	0.214	3.421	0.000
Fixed assets	-3.689	0.156	-0.583	0.254
Size	-1.350	0.274	-2.426	0.003
Performance	2.651	0.321	4.365	0.000
CFC	0.574	0.106	2.754	0.000
Adjusted R-square	0.352			
Durbin-Watson stat	1.915			
F- statistic	25.416			
Prob(statistic)	0.000			

Table 4 shows the analysis results of the relationship between ownership structure and growth opportunities. As it can be seen there is not any significant relationship between ownership structure (institutional investors) and growth opportunities in 0.05 significant relationship because P-value is bigger than 0.05. Therefore the investment of stockholders in firms accepted in Tehran Stock Exchange, we have used growth opportunities. This means that the investment of stockholders in firms accepted in Tehran stock exchange do not accord with the pattern of growth opportunities. Our results were completely contradicting the observations of Kumar (2004), and Anlin and Kao (2005) and Lopez & Vincente (2010).

**Table 4: The Relationship between Ownership Structure and Growth Opportunities**

Variable	Coefficient	Std. Error	t-Statistic	P-Value
Constant	2.215	1.541	1.104	0.001
InstOwn	0.074	0.018	0.039	0.224
Fixed assets	-4.624	0.007	-0.746	0.378
Size	-0.084	0.207	-0.176	0.617
Performance	0.978	0.124	4.651	0.000
CFC	0.745	0.106	3.845	0.002
Adjusted R-square	0.115			
Durbin-Watson stat	1.769			
F-value	14.620			
Prob(statistic)	0.000			

## 5. Conclusions

The distribution of ownership along with increases in common firm size decreases the power of the owners in these companies and confers a considerable amount of authority to the managers. The increase of power of managers lets them to follow their own benefits which may contradict with those of stockholders'. In accounting texts this is called agency problem. The goal of the present research was to study the relationship between financial leverage and ownership structure and its effect on growth opportunities in firms accepted in Tehran Stock Exchange. To achieve the goals of the research two hypotheses were devised. Growth opportunities were considered as the dependent variable and financial leverage and ownership structure were considered as the independent variables. Also the variables of performance, the ratio of fixed assets to total assets, assets size, and cash flows resulting from the division operations into assets were selected as control variables. Studying the first hypothesis showed that there is a meaningful relationship between financial leverage and growth opportunities that is the higher amount of the debts in a company will result in more growth opportunities. Also the identification coefficient adjusted showed that %35 of the changes of the independent variable can be explained by the dependent variable. Our results were mostly contradicting with the results of the researches done in the country and in foreign countries. Testing the second hypothesis showed that there is not a meaningful relationship between ownership structure and growth opportunities. In fact institutional investors do not pay attention to growth opportunities when they invest in firms accepted in Tehran Stock Exchange.

## REFERENCES

- Anlin, C., & Kao, L. (2005). The conflict between agency theory and corporate control on managerial ownership: The evidence from Taiwan IPO performance". *International Journal of business*, 10(1).
- Berger P, Ofek E, Yermack D (1997) Managerial entrenchment and capital structure decisions. *J Financ* 52:1411–1438.
- Chen C, Steiner T (1999) Managerial ownership and agency conflicts: a nonlinear simultaneous equation analysis of managerial ownership, risk taking, debt policy, and dividend policy. *Financ Rev* 34:119–136.
- Cuervo, A. (2002), "Corporate Governance Mechanisms: A Plea for Less Code of Good Governance and More Market Control" *An International Review*". 10, no. 2:
- Doocheol. Moon., Kishore. Tandon., (2007), The influence of growth opportunities on the relationship between equity ownership and leverage, Springer Science+Business Media, DOI 10.1007/s11156-007-0039-6, pp. 29:339–351.
- Jensen, M. (1986), Agency costs of free cash flow, corporate finance and takeovers. *Am Econ Rev* 76:323–339.
- Karimi, Farzad; Akhlaghi, Hassanali; Rezaeemehr, Fatemeh (2010), "Studying the effect of financial leverage and growth opportunities on investment decisions in firms accepted in Tehran Stock Exchange", *Quarterly Scientific and Research Journal of Financial Accounting*, Second year, PP: 60-74.
- Kumar, J .(2004),"Does Ownership Structure influence firm value?: Evidence from India",Indira Gandhi Institute of Development Research, India.
- Lang, L.H.P.; E. Ofek; and R.M. Stulz. (1996). "Leverage, Investment, and Firm Growth." *Journal of Financial Economics* 40, no. 1: 3–29.
- Lang L, Litzberger R (1989) Dividend announcements: cash flow signaling vs. free cash flow hypothesis? *J Financ Econ* 24:181–191.
- Lopez, I. F., and Vecente, C. (2010), "Do Leverage, Dividend Payout, and Ownership Concentration Influence Firms' Value Creation?" *Emerging Markets Finance & Trade / May–June 2010*, Vol. 46, No. 3, pp. 80–94.
- McConnell J, Servaes H (1995), Equity ownership and two faces of debt. *J Financ Econ* 39:131–157.
- Modigliani, F., and Miller, M.H. (1958), The cost of capital, corporation finance, and the theory of investment. *American Economic Review*, June: 261-297.
- Myers, S.C. (1997). "Determinants of Corporate Borrowing." *Journal of Financial Economics* 5, no. 2: 147–175.
- Noravesh, Iraj; Yazdani, Sima (2010), "Studying the effect of financial leverage on investment in firms accepted in Tehran Stock Exchange", *Quarterly Scientific and Research Journal of Financial Accounting*, No. 2, PP: 35-48.
- Sajjadi, Seyyed Hossein; Mohammadi, Kamran; Salghi, Mohammad (2011), "Studying the effect of firm characteristics on capital structure of firms accepted in Tehran Stock Exchange", *Journal of Accounting Researches*, 3<sup>rd</sup>, year, No. 10, PP: 1-20.
- Sinaee, Hassanali, Salghi, Mohammad; Mohammadi, Kamran (2011), "The effect of growth opportunities on the relationship between capital structure, dividends and ownership structure with firm value", *Quarterly Scientific and Research Journal of Financial Accounting*, Year 3, No. 4, PP: 87-102.
- Stulz, R. (1990), Managerial discretion and optimal financing policies. *J Financ Econ* 26:3–27
- Vidhan, K., Goyal, A., and Lehn,. B. (2002), Growth opportunities and corporate debt policy: the case of the U.S. defense industry. *Journal of Financial Economics*. Vol 64, PP: 35-59.
- Yahyazadehfar, Mahmood; Shams, Shahaboldin; Mattan, Majid (2010), "The relationship between firm characteristics and its capital in firms accepted in Tehran Stock Exchange", *Journal of Accounting Researches*, No. 8, PP: 123-138.