



The Effect of Investment on the Financing of Listed Companies in Tehran Stock Exchange

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ABSTRACT

In the world and in our country, Iran, many researches have been done in the field of financing, but due to the importance of this issue, it needs more thought and contemplation. Therefore, this study assessed “the impact of investments on financing of companies listed on the Tehran Stock Exchange”. The statistical sample is consisted of companies listed on the Tehran Stock Exchange during a five-year period (2010-2014). Ultimately, regarding the limitation of the study and using systematic elimination method, data of 155 companies has been collected. This study in terms of the purpose is a practical research. In terms of type of research design because of relying on historical data, is post-event and its inference method is inductive and in correlation type. This study includes four major hypotheses. In this study to assess the hypotheses, the linear regression has been used. To analyse the data and test hypotheses, EVIEWS software is used. After design and test the study hypotheses that have been done by the separation of each hypothesis, we founded that the current and long-term investments have impact on financing methods through the sale of stocks and debt.

1 Introduction

In theory, making decisions of managers of managers about the composition of financing, are influenced due to different factors such as political, economic and legal regulations, then finding the strategy of financing composition not only is influenced by some macroeconomic variables such as inflation, interest rates, loan policies in the banking and financial system, but also by factors such as the cost of financing, financial risk and business, combining assets with contractual limitations on resources through the creation of debt and revising the rules of the stock exchange. An environment where companies are active is a growing and competitive environment that is such an environment, companies also require developing their activities through new investments to progress and achievement. Industrial projects require providing financial resources and cash and in this respect, companies have to use financing mechanisms. Companies are faced both domestic and foreign sources of financing in decisions on financing. Managers must decide how the funds needed to provide and how use

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their available financial resources [11]. Optimum management requires companies invest their funds (excluding working capital) in profitable or with positive current value net activities and there is no doubt that new investments are necessary for growth, progress and competition in today's world. Financing activities and investment decisions are influenced on corporate value and ultimately shareholder wealth, and since all shareholders to preserve and increase their capital require some information about the factors affecting stock returns, therefore, identifying the patterns and models to better understand the relationship between investment activities and financing with stock returns are important to shareholders [3]. In this study, we sought to answer the question that companies investments effect on which method of financing and use more of which method of financing?

2 Theoretical and Experimental Background

Financing and investment are one and funds of financing will be spent on investment. Investment financing of companies are from two owner assets and the debt. It has been stated the effects of liquidity in under-investment theory; Companies that have more debt obligations, regardless of the nature of their growth opportunities, have less investments. Hence, financial leverage is a mechanism to overcome the problem of optimal over- and under-investment and by reducing inefficient investment (over and under investment), led to the investment performance of the company. Shoaib and Gohar [18] believe that investment opportunities will play an important role in corporate debt financing. So that in high opportunity to investment, corporate debt level is low and when investment opportunities are high, the level of corporate debt is high too. According to investment theory there is a direct relationship between net transactions of external financing through equity and corporate debt (net financing) and investment decisions ,it means the greater amount of financing from the companies, the higher the investment; so that in some cases, this phenomenon will be led to over-investment [11].

It is examined in the literatures that the effectiveness of investment and financing decisions and showed that private and public firms are significantly differently behave in investment decisions and financing. Ding et al. [5] studied the relationship between investment in fixed capital, working capital and financing constraints, and found that the companies have low sensitivity to fixed investment on cash flows, as well as companies that are very sensitive to investment in working capital cash flows ,feel more pressure on foreign financial constraints and found that the stability of investment levels can keep more working capital rather fixed capital and an active management of working capital can be a means to rid them of financing limits. Sullivan and Zhang [20] studied the relationship between investment activities and financing activities with future stock returns and indicated that there is a no relation between abnormally of investment activities and abnormally of financing activities. In addition, the relationship between stock returns and investment activities after controlling financing activities is poor while the relationship between stock returns and financing activities remained significant after controlling investment activities. Li et al [12] examined the relationship between financing through debt and company investment behavior and showed that the average growth companies can easily obtain external financing and use from investment opportunities. Therefore, financing through debt will improve their investment. Umutlou [21] in a study of the effect of financial leverage on investment in emerging markets argued that the effect of financial leverage on investment is important, because the value of the company is determined through expected cash flows from investments, but the channel that by financial leverage affects the investment is unclear.

He examined the effect of financing through markets and financial institutions on real investment and found that the costs of financing are effective on fiscal incomes and firm's real investment. Company size, board size, types of industry and institutional ownership effect on the relationship between financial costs and financial revenues and effective real investment of firms. Aghayi and Ahmadi Gorji [1] examined the sensitivity of investment to domestic financing and political and non-political company's borrowing and showed, non-political companies are faced with a limited financial supply and budget deficit of these company mainly supply through cash financial resources and also part of the funds from sale, so the sensitivity of investment to the domestic financial resources in the company is high. Jahanshad and Sha'bani [10] found that institutional investors and in limited companies in financing has a negative and significant effect on investment cash flows sensitivity and in companies without limitation has no significant effect; also the sensitivity of investment cash flows in companies that have limitations in financing is more than companies that do not have restrictions on financing.

Moradadefard et al [14] examined the relationship between conservatism and investment efficiency with respect to the financing status and ultimate ownership and they showed that in companies that need to external financing, there is a negative relationship between conservatism and investment and in companies that have the need for external financing, this relation is positive. Khani et al [11] in a study reviewed the decisions of financing, market timing and actual investment and found positive relationship of organization outside financing, in both hybrid and pure with abnormal stock return in Capital Asset Pricing Model and negative external financing in both conditions, is the abnormal return stock same as Fama and French model. They examined the relationship between the decisions of financing and investment decisions and have showed that investment decisions have positive effects on financing decisions in less uncertainty and have negative effects on financing decisions in conditions of high uncertainty in the financial crisis. In addition, they examined the impact of bank financings and tax purposes on the relationship between the quality of financial reporting and the efficiency of investment, their results indicated that the quality of financial reporting has a negative relationship with over- and under investment. In addition, the quality of financial reporting in companies that mainly finance through banks has a negative relation with over and under investment. Hashemi et al. [8] examined the role of the earning quality on the model, method of financing and investment efficiency and found that at the total level of sample in firms with large positive discretionary accruals, investment in capital assets is more sensitive to domestic cash flows. In addition, the results showed a negative relationship between current discretionary accruals and future return of assets. Some of authors evaluated the relationship between the structure of the financing and investment decisions about resources in their assets and the results confirmed the main hypothesis regarding the relationship between the structures of the financing and decisions to resources investment in the structure of assets in conditions that just some specific variables be indicative of financing structure.

3 Research Models and Methodology

To check the first and second assumptions, we require estimating

$$Sh_{it} = \alpha_0 + \alpha_1 CInvestment_{it} + \alpha_2 LInvestment_{it} + \alpha_3 Size_{it} + \alpha_4 Lev_{it} + \alpha_5 Profit_{it} + \mu_{it} \quad (1)$$

and for the third and fourth assumptions require estimating

$$LD_{it} = \alpha_0 + \alpha_1 CInvestment_{it} + \alpha_2 LInvestment_{it} + \alpha_3 Size_{it} + \alpha_4 Lev_{it} + \alpha_5 Profit_{it} + \mu_{it} \quad (2)$$

$LD_{i,t}$: financing through debt for the company i in year t ;

$Sh_{i,t}$: financing through the issue of equity for firm i in year t ;

$CInvestment_{i,t}$: current investment of firm i in year t ;

$LInvestment_{i,t}$: long-term investment of firm i in year t ;

$Size_{i,t}$: size of company i in year t ;

$Lev_{i,t}$: financial leverage of the company i in year t ;

$Profit_{i,t}$: the profitability of the company i in year t .

This study applied and done by using the export factor approach. The nature of the data used is panel data type. Information collected by library approach and research data collected referring to the financial statements and explanatory notes and with the Rah Avard Novin and Tadbir Pardaz software. The study population includes all companies listed on Tehran Stock Exchange from 1389 to 1393. The selection process is presented in Table 1.

Table 1: Sampling steps

Number	Sampling steps
520	The number of companies listed on Tehran Stock Exchange at the end of 1393
56	The number of companies that exit of exchange in this period of time
31	The number of companies that inter into the exchange in this period of time
37	The number of companies that change their financial year in this period of time
96	.The number of companies that were investor and financial mediator
108	The number of companies that has more than trading 6 months interval in this period of time
38	The number of companies that have their fiscal year does not end on 29.12
155	The number of sample firms

In Table 1, 155 companies were selected as sample for this study and 775 data-year were calculated for each variable in order to test the statistical hypothesis. According to the theoretical foundations, and to achieve the objectives of the study, the following hypotheses have been developed:

First hypothesis: current investments affect financing through method the sale of shares.

Second hypothesis: long-term investments affect financing method through the sale of shares.

Third hypothesis: the current investments affect financing method through debt.

Fourth hypothesis: long-term investments affect financing method through debt.

In this study, multivariate linear regression model was used to test hypotheses and Eviews software was used to analyze data and test hypotheses.

4 Variables

Dependent variables

A) Financing through debt: is a dummy variable, and if that entity in periods of more than 5% finance its long-term debt at the beginning of the period will be equal to 1 and otherwise 0 [16]. The main sources of this type of financing are personal, family and friends savings, business angels, charities, governments, banks, commissions, financing by the customer, financing by the providers, financing by purchase order and credit cards.

B) Financing through equity emissions: is a dummy variable, and if that entity financed its shareholders' equity in a period of more than 5% at beginning of the period would be 1 and otherwise 0 [12]. Company can supply financial resources by emission and sell common stock to investors. If the company release its ordinary shares and sales them to persons other than existing shareholders actually it divides ownership of the company between both groups of new shareholders and former shareholders.

Independent Variable

A) Current investment: is current assets that is measured using changes in current assets and in order to homogenize is divided on the beginning assets of the period.

B) Long-term investment: is investment in long-term assets that is measured using fixed assets changes and in order to homogenize is divided on the beginning assets of the period.

Control Variables

A) Size of the company, which is the logarithm of assets.

B) The company's financial leverage which is the ratio of debt to assets.

C) The profitability of the company which is net profit that is perceivable from the profit and loss statements and to homogenize is divided on the beginning assets of the period.

5 Results of the Methodology

5.1 Descriptive statistics of variables

Results of descriptive statistics are shown in Table 2. According to this table, the average financing through share emission is more than financing through debt. In general, scattering parameters are criteria for determining the amount of each distribution or dispersion relative to the mean. From most important parameters of dispersion is standard deviation. This parameter for financing through the shares emission is equal to 0.448654. In order to test normality of data distribution is used Jarek-Bera statistics that its amount for financing through the shares emission is 0.159300 and normal.

Table 2: Descriptive statistics of variables

	Financing by emission	Current investment	Long-term investment	size	Financial leverage	Profitability	Financing through debt
average	0.721290	0.131613	1.620171	14.25497	0.603303	0.132013	0.640000
Median	1.00000	0.070000	0.000000	14.01000	0.650000	0.090000	1.000000
The most	1.00000	1.450000	1.510000	19.10000	1.000000	0.630000	1.00000
The lowest	0.00000	-0.430000	-0.220000	10.23000	0.010000	-0.150000	0.00000
Standard deviation	0.448654	0.182450	0.125347	1.586340	0.175129	0.116507	0.480310
Skewness	0.987100	2.077622	4.547070	0.303797	-0.708231	1.352701	0.583333
Elongation	1.974763	10.9640	3.95421	2.615147	3.24339	5.272013	1.340278
Jarck-Bera	0.159300	0.265240	0.402155	0.164854	0.665240	0.403215	0.132540
probability	0.842560	0.745123	0.602154	0.845120	0.436541	0.602151	0.875441
summation	559.0000	102.000	11047.60	467.5600	34.54000	102.3100	496.0000
Summation of Standard deviation	155.7987	25.76488	194.751	23.73874	12.16030	10.50626	178.5600
observations	775	775	775	775	775	775	775
sections	155	155	155	155	155	155	155

5.2 Stability Test of Variables

The results of variables stability test is presented in Table 3.

Table 3: Stability test of the company's strategy in the tax reporting

Method	The test statistic	Probability	Sections	Number of observations
The null hypothesis: there is a single root (common unit root process)				
Levin, Lin and Chow	-12.4892	0000.0	53	212
The null hypothesis: there is a single root (single unit root process)				
Iem-sons and Shin (W-test)	-3.75184	0001.0	53	212
ADF- Fisher (K ² -test)	141.884	0114.0	53	212
PP-Fisher	124.521	0136.0	53	212

According to Table 3, the null hypothesis implies the presence of unit root and is rejected regarding common unit root process and by Levin, Lin and Chow method with 53 sections and 212 observations in significant level of 5%. In addition, the null hypothesis that there is a single unit root is rejected by Iem-sons and Shin test with 53 sections and 212 observations and by ADF-Fisher method with 53 sections and 212 observations and by PP-Fisher method with 46 sections and 184 observations all in level of 5%. Unit root test results on all variables reflect the absence of a single root.

5.3 Hypotheses Analysis Test

The test of first and second research hypotheses are appeared as follows. Limer F-test results of first and second assumptions are presented in Table 4.

Table 4: Limer F-test of first and second hypothesis

Result	Probability	Freedom degree	Statics	Statics
Panel data	0.0023	(154,615)	1.415109	F
	0.0000	154	235.075732	K-Square

Table 5: Hausman test of the first and second hypothesis

Result	Probability	Freedom degree	K-Square Statics
Fixed effects	0.0000	5	41.735406

According the results in Table 4, due to in F-Limer test panel data is not accepted, so in Table 5, Hausman test is done and on the basis of calculations seems is more appropriate for fixed effect model. The results of the analysis of the first and second assumptions are provided in Table 6.

Table 6: Estimating of the first and second hypothesis model coefficients

Probability	t-statics	Standard deviation	Coefficient	Variable
0.0003	-3.658564	0.137222	-0.502034	y-intercept
0.0000	4.316798	0.054423	0.234931	Current investment
0.0000	10.24697	0.007709	0.078997	Long-term investment
0.0000	8.375595	0.009223	0.077249	Firm size
0.9334	-0.083542	0.097445	0.97445	Firm financial leverage
0.0000	4.469426	0.156958	0.701513	Firm profitability
Level of F-probability: 0.0000	Watson – Durbin:2.14	Modified deterministic coefficient: 0.665	Deterministic coefficient: 0.73	

According to the results presented in Table 6, the great amount of Fisher statics (F) indicates that there is a strong relationship between the variables in this model. As the coefficients of determination and modified determination show, confirms the high explanatory power of the model. By the Durbin-Watson statistic value can confirm the lack of correlation in this model, however, due to short period of time to review, this statistic is not needed.

For each coefficient, standard error, t-statistic and the p value is given. As specified in above model, current investment and long-term investments affect the company's financing through the sale of stock and first and second hypothesis is confirmed.

5.4 The Third and Fourth Hypothesis Test

Limer F-test results of third and fourth assumptions are presented in Table 7. According to the results of Table 7, since F with freedom degree of 154 and 615 d F in probability level of 95% is approximately 0.000 and by respect to the calculated F is higher than table F, the null hypothesis implying the combination method of data is rejection, and the hypothesis of the existence of the panel data methods will be accepted.

Table 7: Limer F-test of third and fourth hypothesis

Result	Probability	Freedom degree	Statics	Statics
Panel data	0.0000	(154,615)	3.794765	F

Because in the Limer F-test, combined data method is not accepted, Hausman test in Table 8 is done.

Table 8: Hausman test of the third and fourth hypothesis

Result	Probability	Freedom degree	K-Square Statics
Fixed effects	0.0001	5	26.571151

As seen from results of Table 8 and based on calculations, using fixed effects model is more appropriate. The results of the analysis of the third and fourth assumptions are presented in Table 9. Based on the results in Table 9, the high value of Fisher statistics indicated that there is a strong relationship between the variables in this model. As the coefficients of determination and modified determination shows, it confirms the high explanatory power of the model. By the Durbin-Watson statistic, value can confirm the lack of correlation in this model, however, due to short period to review, this statistic is not needed. For each coefficient, standard error, t-statistic and the p value is given. As specified in above model, current investment and long-term investments affect the company's financing through the debt and third and fourth hypothesis is confirmed.

Table 9: Estimating of the third and fourth hypothesis model coefficients

Probability	t-statics	Standard deviation	Coefficient	Variable
0.1544	-1.425566	0.167900	-0.239353	y-intercept
0.0182	-2.302127	0.009652	-0.022221	Current investment
0.0276	-2.206474	0.135624	-0.299251	Long-term investment
0.0000	5.218161	0.010955	0.057376	Firm size
0.3605	0.914893	0.140047	0.128128	Firm financial leverage
0.0000	9.469582	0.021000	0.198861	Firm profitability
Level of F-probability: 0.0000	Watson – Durbin:2.14	Modified deterministic coefficient: 0.899	Deterministic coefficient: 0.903	

9 Conclusion and Suggestions

This study is seeking to find the impact of investment on financing that according to the results of the research hypotheses, current and long-term investments affect financing through the sale of equity and debt. The results of this study are consistent with the theoretical foundations and research background.

According to investment theory between net transactions of external financing through equity and corporate debt (net financing) and investment decisions, there is a direct relationship, which means the greater amount of financing from the companies, the higher the investment, so that in some cases, this phenomenon led over investment. The theory of over-investment is formed based on the conflict between managers and shareholders. Managers tend to enlarge the size of their companies, however, have to accept poor projects and reduce shareholder wealth. If the excess cash flows are not available, the ability of managers to achieve this goal has been limited, but this limitation can be overcome with financing through debt and capital. Subsequently, manager has to pay the origin and interest of this debt with cash generated from investment return on the poor projects. In this case, the administrator will be faced with a shortage of cash. Hence, financing through debt can be used as a mechanism leverage to overcome the issue of over investment. This theory justifies the negative relationship between leverage and investment in companies that have less growth opportunities. He showed that private and public firms are significantly differently behave in investment decisions and financing which is consistent with the results of this study. They indicated that there is a no relation between abnormality of investment activities and abnormality of financing activities. In addition, the relationship between stock return and investment activities is weak after controlling the financing activities while the relationship between stock return and financing activities remained significant after controlling for investment activities that is somewhat consistent with our results. According to the results of the first hypothesis, given that current investments are as an influencing factor on financing through the sale of share therefore, financial statements users must consider their current investment and also, stock exchange must consider this issue in pricing the company's stock. These findings can be useful to Exchange policymakers and accounting and financial managers. Financial managers can add their financing through the sale of stock by changing the current investments.

According to the results of the second hypothesis and the effects of long-term investments on financing method through the sale of stock, because long-term investments increase potential information advantage of a aware investor The results of this study and other similar internal investigations consider theoretical position and characteristics of investment in long-term financing, according to the company, for the country. In addition, investors and analysts are recommended for short-term and long-term investment decisions also pay attention to the figures provided by companies and capital market factors such as long-term investments. According to the results of the third hypothesis, current investments affect financing method through debt. Therefore, if managers achieve to understand the impact of current investments must be considered the possibility of changing the method of financing via debt and thereby lead to more rational decisions, in other words, managers in decisions related to whether the company's own resources or not, and also, how much resources and under what conditions this happens, can benefit from the results. According to the results of the fourth hypothesis, long-term investments affect financing method through debt, therefore, it is suggested that participants in the capital market, while respecting the importance of long-term investments, consider the findings about financing through debt well. It is suggested that the one examines the quality effect of financial reporting on investment performance and investment impact on unconventional stock return volatility.

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