Evaluation and Comparing the Effect of Financial Providing Via Issuance Of Common Stock and Long Term Bonds on the Return of the Shares on Listed Companies in Tehran Stock Exchange

Mohammad Hossein Alishiri, Mohammad Tavakoli, Mehrzad Sarfarazi

Department of Accounting, Payame Noor University, I.R. Iran
Department of Management and Accounting, Larestan Branch, Islamic Azad University, Larestan, Iran
(Corresponding Author)
Instructor and PhD Candidate, Faculty of Management and Accounting, Qazvin Branch, Islamic Azad University, Qazvin, Iran

Abstract: This research studies the evaluation and comparing the effect of financial providing via issuance of common stock and long-term bonds on the return of the shares on listed companies in Tehran Stock Exchange. The statistical sample in this research includes listed companies in Tehran Stock Exchange which have used the issuance method in common stock or long term bonds for financial security during the years 2001 to 2007. The number of companies which acted in issuing common stock, were 149 and those using long term bonds for financial security were 89. Three hypotheses have been discussed in the present research. It is assumed that return of equity (ROE), return of investment (ROI), and the return of each share (E/P) in the companies that issued common stocks were more than those that used term loans. The above-mentioned hypotheses of research were tested by using Kolmogrove—Smirnov Test, equality variances and independent sample t- test. The results indicate that there is no significant difference among ROE and ROI in the two groups of tested companies. But E/P in companies that have used term loans is more than those that have issued common stock.

Introduction:

The roles of financial markets are absorption of cash in private sector in form of little or common savings and leading them to manufacturing sectors, and also the effects of that on growing of national impure manufacture and inflation halter.

The task of capital market is as a sector of financial market in transferring payments from presenters (facilities officers and savers) to suppliants (exploitative institutions). The resources of proper capital should be prepared for performing and supplementing industrial projects and necessary investment in circulation that this affair shows the importance of financial providing. Financial resources are divided into two parts in accordance with their policy of funding: internal financial resources and external financial resources. About internal financial resources, the company launches to finance from the earned profit; it means that it usually utilizes the profit in the company operational activities for greater efficiency, and launches the financing in the external financing sources from debt and shares instead of dividing profits among shareholders.

Internal sources of financing include available and low-cost payment of the company that faced with constraints. In external sources capital, investors and facilities officers are in contrast to capital debt and equities such as issuance of common stock and bonds and etc. Receiving the long – term facilities and issuance of common stock are the most common external resources among corporation active companies in the Tehran stock Exchange, because both of them have ability to absorb the large amount of money, and are long – term obligations about the financial maturities and repayment. (Ebadi Dolat Abadi, 3, 1381).

The issue expression and its importance: Internal sources of financing including of retained profit and prudential reserve and external sources including of long term debt (borrowing and bonds) and equity (ordinary issuance of stock). The paid interest to bondholders would be the acceptable costs from the calculating taxable profits while the joint stock profit paid to holders of preferred stock and common stock do not have this specificity, and also shareholders will enjoy the bondholders who don't partake in the exceptional benefits in exploitative unit and don't have right to vote.

Stockholders of exploitative unit are seeking more interests or less risky interests. They want that the financial decisions to be organized that their stock price and in total, the revenue of their returns become

more. The issue of funding would provide this question for them that whether the issuance of stock would change the stock price and this change is beneficial or detrimental for them? Also what are the effects of the debt (bonds and facilities) as a financial event on price and stock returns? Therefore, investors are reacting to the financial decisions of companies until to reduce their investment risk or to reach the maximum of returns.

There are different theories about method of financing. Some believe that the financing would save the taxes by facilities, and it has benefit to the company that finance via long term borrowing. Some groups believe that the profitability of company is because of management activity. This study examines these theories in the exchange companies in Tehran stock Exchange. In the present research, we attempt to investigate the effectives of capital increase or long – term debts on price and revenue, and guide the investors to take appropriate decisions.

This study will help the investors to purchase shares in which companies and what companies get long term loans until their wealth increase.

The hypotheses of research:

Hypothesis 1: The Return of Equity (ROE) is more in the companies that finance from the method of common stock issuance in compares to the companies that finance from the long - time debts.

Hypothesis 2: The Return of Investment (ROI) of companies which use the method of common stock issuance, is more than in the companies that finance from the long – time debts.

Hypothesis 3: The Rate of Return on Investment of Each Share (E/P) of the companies which use the method of common stock issuance, is more than in the companies that finance from the long – time debts.

Research methodology:

This study is application research in according to the classification in based of the purpose, and according to the classification in based of method is descriptive. As regards, in this study, the historical information of companies is used and it is quasi – experimental from the research environment.

In the present research, as regarding to the period from the 2004 till 2008, the following criteria are used to determine the sample. The companies listed in Tehran stock since the date 20.3.2004, the companies which had used the financing method of common stock issuance or long term facilities since 2004 through the end of 2008, the companies which have the financial period ending in Esfand of each year, the companies which have had profit by using the long – term facilities or issuance of common stock in fiscal year and the companies which their shares have been transacted by using long term facilities or issuance in fiscal year. The numbers of companies which have

issued common shares during the years 2004 to 2008 are 149 and the numbers of companies that financed via using long – term facilities are 89. Collection of information in this study is from the preliminary information (fiscal form of listed companies in Tehran stock exchange). For doing this affair, first we evaluated the balance sheet of all companies since 2004 to 2008, and determined the companies which had used the issuance of common stock or long term facilities, and we extract the data and calculate the research hypotheses variable by Excel software. The statistical software of this research is SPSS.

The most appropriate statistical method for analysis is T test for two independent samples. The normality of data distribution is the most important condition of this test that the nonparametric Kolmogrove _ Spirnove test is used for evaluation of that. Thereafter, we tested the equality of variances and then we did the T test.

Statistic function of test is expressed as follows:

Kolomogrove _ Spirnove test: Kolomogrove – Spirnove test is done for normality of data and all hypotheses. This test is a nonparametric test which is based on the statistic as follows: $D_n = \sup_{x \in R} |F_n(x) - F_0(x)|$

That $F_n(x)$ is the empirical distribution for existent data and F. (x) is the theoretical distribution (here is normal). Kolmogrove, the Russian mathematician in 1933, suggested the goodness of fit test by D_n for the first time as follows: $H_0: F(x) = F_0(x)$
$H_1: F(x) \neq F_0(x)$

And we reject the zero hypotheses when the value of D_n is so big.

Variances equality test: After determination of data normality, the variances should be equal for the independent T test. We can use the Leven test for comparing the variances of two independent samples which are from normal populations. The statistic of that is: $F = f = \frac{s_1^2}{s_2^2}$ that s_1 and s_2 are the standard deviation samples related to the first and second population, respectively. This statistic has F distribution with freedom degrees (n_1-1, n_2-1).

This test is as follows:

$$\begin{cases} H_0: \sigma_1^2 = \sigma_2^2 \\ H_1: \sigma_1^2 \neq \sigma_2^2 \end{cases}$$

And the Zero hypothesis is rejected, when the value of F is bigger than 1.

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{S_p^2 \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

T test for two independent samples: For comparing means of two independent samples which are from the normal populations with equal variances,

we can use this test which is at the base of follow statistic:

Where, it is $S_p^2 = \frac{(n_1-1)S_1^2+(n_2-1)S_2^2}{n_1+n_2-2}$. This statistic with the assuming of equality variances of populations has the **t** distribution with $n_1+ n_2- 2$ freedom degree.

This test is as follow:

$$\begin{cases} H_0: \mu_1 = \mu_2 \\ H_1: \mu_1 \neq \mu_2 \end{cases}$$

And the Zero hypothesis is rejected when absolute value of **t** is so big.

The judgment of **t** test of two independent groups is as follows that if the calculated absolute value of **t** is bigger than the **t** chart statistics (significant level of independent **t** test is less than 5%) indicates that there are significant differences between two groups and it will be decided according to the calculated mean about confirmation or rejection of the hypotheses. If the mean of variable for each hypothesis of companies which have used common stock is more than the companies which have used long term facilities, then the hypothesis of research become accepted, otherwise Zero hypothesis would be accepted and research hypothesis would be rejected.

Research hypotheses test:

Because in all of the hypotheses of study, we search the comparison of a distinctive feature in two independent gropes _ it means that 1- group of companies which finance through the issuance of common shares method 2- group of companies which finance through the long – term debts method _, and the existent data is a number with relative scale, so the most appropriate statistical method for analyzing is the **t** test for two independent samples. The normality of data distribution is the important condition for using this test that the nonparametric Kolomogrove – Sprinove test is used for evaluation of that, and once this condition of research was fulfilled, the equality of variances was tested, and then we did **t** test. Here are the steps of doing test to the first hypothesis, and the other hypotheses of test have been tested in the same manner.

Hypothesis 1:

The Return on Equity (ROE) in the companies financing through the issuance of common stock method is more than the companies financing through the long – term debts method.

- Kolmogrove – Sprinove test.

Chart 1: Kolmogrove – Spirnove test for primary data of the first hypothesis

Regarding to the values of P- value calculated, it is not significant in any of the test cases. Because the calculated values are less than 0.01 and 0.05 [the absolute value of the Z statistic is bigger than table number (1.96)]. In the other words, the hypothesis of normality of data distribution can not be acceptable.

Thus before doing **t** test, we have to vindicate the normality hypothesis through using the proper conversion. In this case, after using different conversion and doing Kolmogrove _ Spirnove Test on the converted data, finally the conversion of $y = \sqrt{x}$ (means the square root of primary data) is recognized well that their result are in chart 2-4.

Chart 2: Kolmogrove _ Spirnove Test for the converted data of the first hypothesis

Regarding to values of **P-Value** calculated, the condition of normality for doing **t** test is vindicated through a proper conversion.

The test of Variances Equality

First we evaluate the variances equality hypothesis of two groups by using Leven Test. The results of this test are in chart 3-4:

Chart 3: Leven Test for evaluating variances equality hypothesis of the converted data of the first hypothesis

Regarding to P-Value, we can do the **t** test with the hypothesis of variances equality.

The results of doing **t** test are in chart 4-4:

- Independent **t** Test

The statistic test is as follows:

Zero Hypothesis (H_0): The ROE of companies which have financed through issuance of common stock method is not more than companies which have financed through long term facilities method.

Research Hypothesis (H_1): The ROE of companies which have financed through issuance of common stock method is more than companies which have financed through long term facilities method.

Chart 4: **t** Test for the Converted data of the first hypothesis

Because the calculated P-Value is bigger than 0.05 [the absolute value of the T statistic is bigger than table number (1.96)], the test is not significant and H_0 is accepted, and there is no reason to reject the H_0.

The Second Hypothesis Test:

Zero Hypothesis (H_0): The ROI of companies which have financed through issuance of common stock method is not more than companies which have financed through long term debts method.

Research Hypothesis (H_1): The ROE of companies which have financed through issuance of common stock method is more than companies which have financed through long term debts method.

The results of doing **t** test are in Chart 5:

Chart 5: **t** test for the converted data of the second hypothesis

Because the calculated P-Value is bigger than 0.05 [the absolute value of the T statistic is bigger than table number (1.96)], the test is not significant and there is no reason to reject the H_0. Thus, the H_0 is accepted.

The Third Hypothesis Test:

Zero Hypothesis (H₀): The ***(E/P)*** of companies which have financed through issuance of common stock method is not more than companies which have financed through long term debts method.

Research Hypothesis (H₁): The ***(E/P)*** of companies which have financed through issuance of common stock method is more than companies which have financed through long term debts method.

Chart 7: ***t*** test for the data of the third hypothesis

While the calculated P-Value is less than 0.05 [the absolute value of the T statistic is bigger than the table number (1.96)], the test is not significant, and the equality hypothesis of means of two groups is rejected in the level of 5 percent. In the other words, the hypothesis of research is rejected in this level, and as regards, the calculated average in the second group (18.54) is more than the calculated average in the first group (16.43). The opposite of research hypothesis is accepted.

Results of Hypotheses Testing:

This study examines this issue that dose the price and stock returns of companies which have financed through the issuance of common stock method are more than companies which have financed through the long – term debts method? Therefore in this study, four hypotheses were proposed and tested that further, the results of the test of these hypotheses will be evaluated more.

The First hypothesis: The Return on Equity (ROE) in companies which finance through issuance of common stock method is more than in companies which finance through long term debts method.

The results of this evaluation show that in confidence level 95%, the Return on Equity (ROE) in companies which finance through the issuance of common stock method is less or equal in companies which finance through the long – term debts method. Or in the other words, the Return on Equity in two groups of companies that have had the issuance of common stock method and the companies that have financed through the long – term facilities method, does not have the significant difference.

The Second Hypothesis: The Return on Investment (ROI) of companies which finance through the issuance of the common stock method is more than companies which finance through the long – term debts method.

The results of the evaluation of this hypothesis express that the (ROI) in companies that finance through the issuance of common stock method is less or equal in compares of companies which finance through the long – term debts method. Or in the other words, the Return on Investment in two groups of companies that have had the issuance of common stock method and the companies that have financed through the long – term facilities method, does not have the meaningful difference.

The Third Hypothesis: The Rate of Return on Investment of Each share (E/P) in companies which finance through the issuance of the common stock method is more than companies which finance through the long – term debts method.

The results of the evaluation of this hypothesis represent that the (E/P) in companies that finance through the issuance of common stock method has the significant difference in compares of companies which finance through the long – term debts method. As the mean of (E/P) in companies which finance through the long – term debts method significantly is more than in companies which finance through the issuance of common stock method.

Discussion and conclusion:

The results of examining information in this study implicate that the criteria of the rate of return on equity and the return on investment in companies which have financed through the common stock and the companies that have used the long – term facilities does not have significant difference. Or in the other words, we can say that the cost and efficiency of a company is same regardless of financing facilities method or issuance of stock. Finally, we reached to this conclusion that the cost and return of a company is independent of the method of financing of that company.

But about the return on investment of each share (e/p) in companies which have used the long – term facilities is more than in companies which have financed by using the issuance of common stock that this result is consistent with the preferential theory and the hierarchy theory of the mentioned theories in the second chapter. According to these theories, companies prefer financing through internal resources method than external resources.

Suggestions:

The results of the done evaluations in this research represent that there is no significant difference between the rate of return of equity, the rate of return on investment and the prices of stock of companies which have used long- term facilities. Therefore financial managers of companies and investors in the stock exchange are suggested that consider to the other criteria of evaluation.

Regarding to the different factors affecting the choice of financing method, It is recommended that financial manager and investors attention to the relation of return on investment of each share (e/p), and according to this matter that the rate of return in companies which have financed through the long – term facilities is more than the companies which have financed through the issuance of common stock, prefer

the use of facilities with respect to other variables to use the stock.

Suggestion for the future researches:

1. It is suggested that "the evaluation on effect of short term financial providing methods on return and price of stock" is searched.

2. It is recommended that " the evaluation on long term financing methods and their effects on risk and value of clerical stock" is searched.

3. It is suggested that "the evaluation on methods of financial providing by using theory of dynamic financing" is searched.

4. It is recommended that "the evaluation and comparing the return and value of stock in methods of short term and long term financial providing" is searched.

Chart 1: Kolmogrove – Spirnove test for primary data of the first hypothesis

P-Value	Statistic Value (Z)	Standard Deviation	Average	Method of Financing
0.001	2.205	56.72	54.27	Issuance of Common Stock
0.003	2.013	59.72	58.25	Long term debts

Chart 2: Kolmogrove _ Spirnove Test for the converted data of the first hypothesis

P-Value	Statistic Value (Z)	Standard Deviation	Average	Method of Financing
0.128	1.211	2.67	6.85	Issuance of Common Stock
0.149	1.134	3.04	7.23	Long term debts

Chart 3: Leven Test for evaluating variances equality hypothesis of the converted data of the first hypothesis

P-Value	Statistic Value (F)	Number	Method of Financing
0.508	0.593	149	Issuance of Common Stock
		89	Long term debts

Chart 4: *t* Test for the Converted data of the first hypothesis

P-Value	Statistic Value	Standard Deviation	Average	Freedom Degree	Number	Method of Financing
0.359	-0.971	2.67	6.85	236	149	Issuance of Common Stock
		3.04	7.23		89	Long term debts

Chart 5: *t* test for the converted data of the second hypothesis

P-Value	Statistic Value	Standard Deviation	Average	Freedom Degree	Number	Method of Financing
0.381	0.898	1.79	3.892	236	149	Issuance of Common Stock
		1.83	3.705		89	Long term debts

Chart 7: *t* test for the data of the third hypothesis

P-Value	Statistic Value	Standard Deviation	Average	Freedom Degree	Number	Method of Financing
0.029	-2.471	8.61	16.43	236	149	Issuance of Common Stock

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