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Evaluation of the effect of stock issue and long-term loan on stock return and price of companies admitted into Tehran stock exchange

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ABSTRACT

The present research reviewed the effect of share issued and long-term loan on stock returns and price of shares of companies admitted into Tehran SE between the years 2001 and 2005. This research attempted to determine whether different methods of financing like share issued and long-term loans affect the price and return of shares or not, or that their effects are different or similar. We used t-test to test the hypothesis. Also, the Kolmogorov-Smirnof Test was employed to determine the normality of the data. The results obtained in this research were shown that the average share prices and share return is higher in companies that had financed via share issued than the companies which have used the long-term loan facilities.

Introduction

Industrial advancement and production growth of every country have required long, medium and short term investment planning and in this way a strong economic bankroll can also be achieved for each country. To secure the needed capital for this planning there are various methods which include: Using others' capital as debt, using shareholders' capital, using accumulated profits, a mixture of these and probably other methods. One of the objectives of the financial management is maximizing the shareholders' wealth and all the decisions made by this group of managers, are subject to realizing this important. On the other hand, there has always been this apprehension among economists, investors and company managers that what kind of relation between various methods of financing and price and share return exist in market and can we alter the value of shares in the market by altering the structure of the capital or, is there an optimum capital structure. To this end, decision makers have always shown regard for the cost of using each of these methods. Creditors and loan givers expect stable profits in the form of interest for their capital without regards for returns or profitability and in the case of dissolution or bankruptcy they will be the first to receive any sum. Beside this group there are the shareholders who own the company and share the profits or losses and the company is not liable to pay their capital or its returns and therefore, their requested turnover is higher than the first group. A change in what we consider as capital expenditure may cause changes in price and shares turnover in the market. This research is meant to review the relation between share issuance and long-term loans and share price and turnover of companies active in the Tehran SE which in continuation, the theoretical essentials and background and also research methodology, data analysis and research conclusions are reviewed.

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Research objectives

The theoretical aspect of this research seeks to find out whether various methods of financing like share issuance and long-term loans effect the price and turnover of shares and whether their effect is one or different. The overall objectives of this research can be summed up as follow:

First objective: Evaluation of effect of share issuance and long-term loans on price and turnover of shares of companies accepted in the Tehran SE.

Other objectives of the research include:

1. Providing informational needs of companies/managers and the next stage, institutions linked to the companies and their shareholders so that a realistic picture of the companies' future conditions can be realized by knowing more of their financial activities.
2. Identifying ways of long and short term financial security

Statement of the Problem

Capital structure is basically one of the important subjects in modern financial theory which has been the focus of researchers' attention over recent decades. The need for loans in the first place stems from the reduction of company capital due to outside factors such as rate of exchange, inflation and banks' interest rates. Secondly, company activities cause them to seek finances for buying new assets, increasing production capacity, employing new manpower and purchasing raw material. These financial sums are expressed as financial resources. Financial resources are divided into internal and external. Internal resources include accumulated profit, capital accumulation and depreciation allowances. External resources are capital debts (loans and bonds), shareholders returns (issuance of ordinary and preference shares). Using external resources is much debatable and indecisive in terms of capital expenditure, interest and dividend share, advantages of each and its effects on returns and share price. Financial resources can have short and long term effect on returns and share price. Long-term effects regard future consequences from spending these sums in positive net present value projects for price and shareholders interest in total. Because when a company attracts suitable resources and has optimum uses, its net profit and value will increase. The short or instant term regards the leaking of company's internal information to the market. Because, any financial or production information which seem important and effective to shareholders and market experts can cause capital reaction. Capital debts create financial obligations for the company and too much reliance on that can lead to financial leverage increase and consequently probable bankruptcy and nonpayment of principle and interest of loan. In particular, for companies in not suitable financial situation to use any capital debt increases their obligations and worries the shareholders. Consequently, demand for shares of companies in the exchange reduces. Lack of demand for shares and more investment risk in such companies will result in reduction of share price and consequently returns. Increase of companies' capital is done by extra associations. Issuing shares makes desirable investment possible and leads to optimum investment, increased returns and finally increase of shareholders' wealth.

Research background

In recent decades discussion on capital structure and ways of securing financial resources and their effect on shareholders' interests has been the focus of researchers and in this section researches done outside and inside the country will be discussed.

Researches outside the country

1. In 1958 an article was published by Modigliani & Miller which due to presenting a new view on capital structure hypothesis, it became the source of a widespread discussion. This view argued that regardless of capital structure or method of securing finance, the value of company remains constant. This is because the value of total investment of companies depends on profitability and their risk and is not dependent on company's relative changes to financial components. Following publication of the article, many researchers such as David Durande (1959), Fredo Weston (1963), Dawson & Jacob (1965), Hemis & Springle (1969), R. C. Motern (1977) and Jack Picker (1978) discussed and expressed opinions in support or in criticising the Modigliani & Miller theory. Modigliani & Miller (1963) accepted that tax savings due to giving interests will increase the company value and suggested that companies use maximum debt in their financial resource components.
2. Donaldson, Myres and Bradley conducted a research in 1961 about large companies' financing performance and observed that the management fiercely adhere to the internal financial resource as a new financial resource and even put aside external resources and in case of needing more external financial resource, they use borrowing. Even at a time when the price was higher than the profit, and despite suitability of time for selling ordinary shares, they showed no interest in issuing share, so much so that they secured capital expenditure in supplies and other current assets from internal resources.
3. Scott & Martin (1976) in a research conducted in the US about capital structure concluded that the type of industry is an effective factor and determinant in companies' financial structure.
4. Smith studied the effects of presenting new shares on price and share returns and concluded that this circumstance would have a negative effect on the price of the company shares.
5. Crowar in 1983, Skit & Mollens in 1986, Dan and Michaelson & Remalen and De Angel concluded in their researches that on average, when companies attempt to issue shares, the price of shares declines and in turn, when they attempt to buy back the shares the, share prices have a tendency to increase.
6. Studies by Myers & Majolof in 1984 with Austin in 1992 reveal that shares of companies which have relatively high position and value in market tend to decline when those companies issue shares and sell them on the stock exchange.
7. Fugitak & Matsuno reviewed the Japanese companies' financing activities with regard to economical situation in Japan and concluded that 30% of financing and investments of those companies is related to IT.
8. Jebgerge & Sorron Kyhi reviewed financing in projects where job creation is important and concluded that financing is not the only possible condition in choosing projects rather, it is a basic presuppose which without paying attention to it the subject of job creation in projects will reach a minimum level.

Researches inside the country

9- A research was conducted in 1998 by S. J. Delavari a postgraduate student at Tarbiat Modares Univerity of Tehran entitled: "Review of Impact of Financing methods on the ratio of returns of company shareholders". Results indicated that although leverage ratio for company groups which have received loans in comparison with companies which have increased capital has a significant difference in statistics term however, the ratio of shareholders returns and also the ratio of sales to total assets and ratio of net profit to sales in two groups of companies do not have a significant difference.

10- Tirgar Fakheri, Shafi (2000) in their postgraduate thesis entitled "Various Methods of Financing companies and the impact on share prices of companies in Tehran Stock Exchange" concluded that companies which have financed by means of loans have not been able to use those loans for investment and development or increase share returns in a desirable way.

11- Ismail – Ali (2004) in a translation of an article entitled "In search of Desirable Capital Structure" (English article in Accounts monthly printed in Sep. 2004) expressed that companies with high profitability have limited investment opportunities which adopt a low level of debt in determining their capital structure and vice versa.

12- Darabi-Baratali in their postgraduate thesis entitled "Impact of Capital Structure (debt) on company value with various growth opportunities in companies admitted into the Tehran SE" concluded that between the capital structure and company value there is no correlation and must consider other effective factors for increasing company value.

Research questions

1. Is there a significant difference between share of companies which financed via share issuance and companies which have done so via long-term loans?
2. Is there a significant difference between share returns of companies which financed via share issuance and companies with long-term loans?

Research hypothesis

After the initial studies regarding research subject and considering objectives and questions above, the below hypothesis are presented herewith:

H1) There is a significant difference between share price of companies which financed via share issuance and companies which used long-term loans.

H2) There is a significant difference between share returns of companies which financed via share issuance and companies which used long-term loans.

Research scope

Research scope has been presented in 3 different zones as follow:

Subject scope – The subject of this research domain is "Evaluation of share issuance and long-term loan impact on shares returns of companies admitted into Tehran Stock Exchange".

Time scope – The time scope in this research covers all stock exchange companies which presented their financial statements to the exchange between 2001 and 2004.

Locality scope – The locality scope of this research includes companies which were admitted into SE before 2001 and some dealings on their shares have been done.

Research operational variables

The present research's variables are independent and correlated based on their relation with each other which are classified as below table:

Hypothesis	Independent Variable	Dependent Variable
First	Share Issue & long term loans	Share Price
Second	Share issue & long term loans	Share Return

Share Issuance: Issuing shares is a permanent source of financing for a company which includes issuing ordinary and preference shares. Ordinary shares lack maturity and their profit is not constant and depends on decisions by board of directors and shareholder societies. Owners of these shares are the real owners of the institution and accept the risk of ownership of the company. Ordinary shareholders are allowed to divide up the company income between them after paying the bond owners and preference shareholders and in case of liquidation or bankruptcy their interests are subject to paying out rights of other interested groups. Preference shares often considered as bilateral bonds which have common features ordinary shares and also with bonds. It is therefore referred to as hybrid bonds too.

Loans: Long-term loans are considered a major source of funds needed for profit making units.

Share returns: Returns of an investment include realizable cash flow which is earned by the investors over a certain period of time. Returns are stated as a percentage of the investment value at the start of the period. The overall formula of the returns is expressed thus:

$$\frac{D+(P_1-P_0)}{P_0}$$

k=

P_0 = Bond price at start of period

P_1 = Bond price at end of period

D = Profitability of bonds at the time

Share price: Price of each share is the average annual share price which is obtained by the following formula:

$$\text{Average price} = \frac{\text{Total amount of dealings}}{\text{No. of shares dealt}}$$

Statistical universe

Considering that the stock exchange is the only source of accessible information and there are no other universal and complete data centers to use for research study purposes, the statistical universe as described below, was selected from companies admitted into the Tehran Stock Exchange using the elimination process.

For this aim, we prepared a list of companies which during 2001-2005 just issued shares and also companies which only used long-term loans. However since the number of companies with suitable high conditions during the last five consecutive years were low we therefore, determined the statistical universe separately each year and then selected our statistical samples from amongst those companies. The number of companies in 2001 which issued shares were 22, and in 2002 there were 36 companies, 2003 34 companies, 2004 34 companies and in 2005 22 companies. And the number of companies which received long-term loans was 27 companies in 2001, 27 companies in 2002, 28 companies in 2003, 34 companies in 2004 and 28 companies in 2005.

Sample size and sampling method

Considering the small number of companies in statistical universe, all the available companies in universe were reviewed and tested and hence, there is no need for the sampling process in this research.

Information gathering method

The present research's data were gathered by field survey method. The research variables' data were collected from software bank of the existing library at the Tehran Stock Exchange so that the balance sheet data can be gathered for the particular period. The available data about companies which have used loan facilities are obtained from footnotes of the financial statements in stock exchange site www.rdis.ir (Iran Economic Researches). By referring to articles, publications and the Internet sites, the necessary data relating to the background and theoretical context of the research were gathered and reviewed and analyzed by using the Excel and SPSS software.

Data analysis and test statistics

In analyzing each one of the theories, we used descriptive statistics and for generalizing their sample information to the whole society we used inferential statistics.

The statistical tests used in this research are as follow:

1. Kolmogorov-Smirnov test for determining normalization of data
2. Homogenous tests of variances
3. T-test for independent groups

Hypothesis test

Kolmogorov-Smirnov test

Before conducting the process of hypothesis test, we had to test the variables to ensure their normality. We used the Kolmogorov-Smirnov test for this purpose as described below:

Test's statistics hypothesis:

H0: Data has no normal distribution

H0:sig<0.05

H1: Data has normal distribution

H1:sig≥0.05

Method of Judgment

If sig = p value is less than 0.05, the H0 hypothesis is accepted and H1 rejected and, if sig is greater than 0.05 the H0 hypothesis is rejected and H1 is accepted.

Chart 1-1 Data normalization test

Variable	Share Price	Share Returns	Share Issue	Long-term Loans
Level of Significance	0/20	0/20	0/07	0/06

Results of above chart show that the significance level of all 4 variables is greater than 0.05. Therefore, the normality of all four is confirmed.

Results of First Hypothesis Analysis

The first hypothesis of the research is:

There is a significant difference between share prices of companies which issued shares and those which used long-term loans.

For testing this hypothesis we must first carry out homogenous test of variances.

A-Results of homogenous test of variances:

For homogenous test of data variances in the 1st hypothesis, the below thesis is expressed:

H0: Variances of price in companies which have financed via share issue and those which have used long-term loans are not homogenous.

H1: Variances of price in companies which have financed via share issue and those companies which have used long-term loans are homogenous.

Chart 1-2 Variances homogenous test

Year	Variable	sig	F amount of test	F amount of Chart
2001	Share Price	0/06	1/420	1/84
2002	"	0/07	1/630	1/87
2003	"	0/065	1/320	1/95
2004	"	0/08	1/80	2/15
2005	"	0/06	1/42	1/75

Results obtained from the homogenous test of variances show that the F of test is lesser than F of chart and this confirms hypothesis H1 with certainty of 0.95. Also, the same results have been obtained by virtue of significance level as described below:

Results of homogeneity of share price variances are as follow:

sig = p value > 0.05

Since the amount of probability related to the homogeneity test of variances is greater than 0.05, the hypothesis H1 of homogeneity of variances is confirmed and can be said:

The price variances in companies which issue shares are homogenous with companies which have received long-term loans.

B- T-test for independent groups

For hypothesis test the thesis H0 and H1 are expressed thus:

H0: There isn't a significant difference between share price of companies which finance via share issuance and companies which use long-term loans to finance.

H1: There is a significant difference between share price of companies which finance via share issuance and companies which use long-term loans to finance.

In the inference analysis of this hypothesis with regard to independence of samples, the t-test has been used for reviewing the data average difference. According to above chart, the test t is greater than t obtained from the chart and this means there is a significant difference between share price of companies which have issued shares and companies on long-term loans. Meanwhile, these results are obtained by virtue of significance level.

sig = p value < 0.05

Therefore, the H1 hypothesis is confirmed by certainty of 0.95 thus it can be said:

There is a significant difference between share price of companies which issued shares and companies on long-term loans. And, since the price average of the first group us greater than the second group, it can be claimed that share price in companies which issue shares is greater than companies on long-term loans. Results correlate with findings of Tirgar Fakheri (2000) and Ali Ismaili (2004) and differ with Smith's findings in 1977.

Results of Second Hypothesis Analysis:

The 2nd hypothesis of the research is thus:

There is significant difference between share returns of companies which issue shares and companies which used long-term loans.

To test this hypothesis we must first test the homogeneity of the variances.

A- Results of homogeneity test of variances:

To test the data variances homogeneity in 2nd hypothesis the below thesis are expressed:

H0: The returns' variances in companies that issued shares are not homogenous with companies on long-term loans.

H1: The returns' variances in companies which issued shares are homogenous with companies on long-term loans.

***Chart 1-4* Variances homogenous test**

Year	Variable	sig	Test's f	Chart's f
2001	Share Returns	0.07	0.102	1.84
2002	Share Returns	0.08	0.107	1.75
2003	Share Returns	0.06	0.103	1.64
2004	Share Returns	0.07	0.108	1.32
2005	Share Returns	0.075	0.105	1.42

Results from homogeneity test of variances show that test's F is lesser than chart's F and this confirms H1 hypothesis with certainty of 0.95. Meanwhile, these results are obtained by virtue of a significant level as shown below:

Results of share prices variances' homogeneity are thus:

sig = p value >0.05

Since the amount of probability relating to homogeneity test of variances is greater than 0.05, the H1 hypothesis is hereby confirmed and can be said:

Returns' variances in companies which have issued shares are homogenous with companies on loans.

B- T-test for independent groups

For hypothesis test, firstly H0 thesis and H1 thesis are expressed thus:

H0: There is no significant difference between share returns of companies which issued shares and those of companies on long-term loans.

H1: There is a significant difference between share returns of companies which issued shares and those of companies on long-term loans.

In inference analysis of hypothesis with regard to independence of samples, t-test was used for independent samples to review the difference between the data averages. According to above chart, the test's T is greater than the T from the chart and this means there is a significant difference between share returns of companies issuing shares and those on loans. Meanwhile, results are obtained by virtue of meaningful level:

sig = p value <0.05

Therefore, H1 thesis is confirmed with a 0.95 certainty. Thus, can be said:

There is a significant difference between share returns of companies issuing shares and those on long-term loans. And, since the returns' average of 1st group is greater than 2nd group, it can be said that share returns of companies issuing shares is more than companies on long-term loans. This result does not correlate with Delavari's findings in 1998 and those of Donaldson, Myres and Bradley in 1961.

Conclusion

Conclusion is considered the final phase of a scientific research whose results are a confirmation of all hypothesis at a 95% certainty.

Chart 1-3 Test statistics of share price

	Statistics Indexes of Variables	Sample No.	Average	Standard Deviation	t Amount	Chart t	sig
2001	Companies Issuing Shares	22	1727.303	817.79	4.561	2.101	0.03
	Companies on Long-term Loans	27	1212.697	615.35			
2002	Companies Issuing Shares	36	2329.182	1363.387	5.217	2.228	0.02
	Companies on Long-term Loans	27	1766.641	934.468			
2003	Companies Issuing Shares	34	1647.48	968.658	8.258	2.245	0.01
	Companies on Long-term Loans	28	1519.696	1190.559			
2004	Companies Issuing Shares	34	2572.77	813.266	5.567	2.131	0.02
	Companies on Long-term Loans	23	1488.75	564.453			
2005	Companies Issuing Shares	22	1408.74	934.388	6.621	2.16	0.03
	Companies on Long-term Loans	28	1034.388	684.184			

Chart 1-5 Share returns test statistics

	Statistics Indexes of Variables	Sample No.	Average	Standard Deviation	t Amount	Chart t	sig
2001	Companies Issuing Shares	22	8.14	5.48	4.71	2.101	0.04
	Companies on Long-term Loans	27	6.21	5.01			
2002	Companies Issuing Shares	36	38.60	11.216	8.63	2.228	0.03
	Companies on Long-term Loans	27	33.45	8.256			
2003	Companies Issuing Shares	34	54.34	18.064	6.53	2.231	0
	Companies on Long-term Loans	28	34.81	11.627			
2004	Companies Issuing Shares	34	14.69	8.719	3.26	2.121	0.03
	Companies on Long-term Loans	23	12.76	8.128			
2005	Companies Issuing Shares	22	13.07	5.815	4.59	2.16	0.02
	Companies on Long-term Loans	28	12.07	4.311			

The main objective of this research is to review the impact of external financing resourcing on share price and returns between the years 2002-2006. To asses a suitable model, after a general review of hypothesis and practical works on capital structure, financing resources and their impact on share price and returns in various countries, the difference in share price and returns of companies issuing shares and those on long-term loans was reviewed via the t-test. The tentative review of the research shows that share price and returns in companies issuing shares is greater than companies on long-term loans.

Therefore, with respect to results obtained in this research we can suggest that financing via capital market and shares is priority for companies. Of course, if the precious behavior of the market is a suitable base for its future behavior. Also, since the companies noted in this research which have financed via increasing capital have faced share price increases. We therefore suggest that companies issue shares or increase capital when there is little dealing on their shares or dealers show less tendency to deal in those shares.

Research limitations

This research has limitations as others some of which are as follow:

- Incomplete and out of date financial data of companies and in some cases,
- Lack of centralized and mechanized data in the Tehran Stock Exchange data system
- And finally, wide dispersal of data specially data relating to share dealing prices and companies borrowing.

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