

Factors Related to Annual Abnormal Stock Return in the Initial Public Offering of Shares in the Tehran Stock Exchange

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Abstract

Background/Objectives: In public offer of shares, Pricing should be done carefully. it is necessary to know impact of purchasing shares from the initial public offering on the efficiency and increase shareholder wealth. **Methods/Statistical Analysis:** Variables of research were studied in the first step. Rah Avard Novin software was used to analyze data. Excel is used for calculate of variables of research. Eviews software was used for test of hypotheses of research by descriptive and inferential statistics including correlation analysis. **Results:** There is a negative significant relationship between Annual abnormal return and independent variable share prices. It has a positive significant relationship with offered shares amount. **Conclusion/Application:** It is recommended to the managers and stockholders of the companies that it has a significant relationship with concentrated ownership. Intrinsic stock value is more confident indicator for wealth measurement for shareholders.

Keywords: Abnormal Returns, Ownership Concentration, Price, The Initial Public Offering, Volume

1. Introduction

The development of each country requires optimal use of resources and guidance in the right direction. In any society, different organizations can take steps to achieve this goal and play an effective role in this way. Capital markets and their related institutions are one of the most important factors in this process. Despite the diversity of institutions in the capital market, the Tehran stock exchange is considered the main center for capital transactions. Obviously, the efficiency of the institutions involved in the right decision-making of its factors. Every day, many companies enter to capital market for the first time by equity¹. Usually these companies grow so fast that their financial resources are not sufficient to provide for the development of these companies. Since finance is a very important step

in the growth of the companies, it is important for these companies that their stock price reflects the true value of their assets and investment opportunities. On the other hand, potential investors are the most active group in the capital market. So, their correct decision-making can play an important role to direct capitals and their efficient allocation. Public offer of shares is one of the most common methods of transfer of state-owned enterprises to the private sector. In this method, government divests all or part of its share in the form of shares to the public in the divested units. It is noteworthy that this is now commonly done through the Tehran Stock Exchange². Undoubtedly, the suitable pricing of the initial public offering of shares of suitable companies that enter to capital market for the first time is very important. If the price of offered initial stock was determined less than the intrinsic value, the

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company will not achieve its needed financial resources. If the price is determined more than its real value, investors do not buy it. So, the company will be deprived of access to required financial resources. Public offering of stock has attracted the attention of researchers and financial economists for a long time. According to definition of the efficient capital markets hypothesis, share prices reflect the intrinsic value of the stock at any point in time, given the available information on market³. However, the initial public offering literature confirms the fact that in the initial public offer of shares there are distinguished three phenomena are incompatible with the principles of the efficient markets hypothesis as follows:

1. Initial under pricing or creating of a positive return in the short term.
2. Long run underperformance in comparison with market index or stock returns of similar companies in the industry.
3. The proportion of initial positive abnormal return and the number and volume of initial public offerings in the market in certain periods.

In explaining these phenomena, scientists and researchers have offered various financial theories and hypotheses. Generally, these theories and hypotheses based their argument on the “information asymmetry” between the three groups of stakeholders in the process of providing initial supply, i.e. company supplier of shares, bank of investor, potential investors, and each phenomenon is attributed to special factors and variables. However, most financial and economic experts believe that unconventional initial public offering of stock in the short term and long term, refers to less than real pricing phenomenon of this shares^{4–10}.

As Iran is in Over the Counter Market (OTC), there is no market price for those shares that are accepted for exchange for the first time. Due to the lack of investment banks that take the responsibility for determining the stock price, determining the value of the shares is associated with many problems. As situation of economy is in transition period, it creates particular situation⁵. Due to it, the evaluation and determination of price for an economic unit is very difficult. During the transfer of companies, suppliers or vendors of the shares may be criticized in 2 aspects as follows, some for cheap prices and some of expensive prices. There are two general approaches for stock assessment:

Some believe that the company's stock price is obtained of the price components of assets such as land, buildings, plant and machinery, etc., after deducting liabilities (the first approach). Others believe that a company's shares value equal to the present discounted value of the cash proceeds from to be obtained with regard to the financing risk factor (the second one). In other words, the assets of a company can create value when the company's management uses of its assets properly and yield good income for shareholders of that company. Therefore, if due to external factors or internal factors, profitability is in low-level and expects to improve is very poor, profitability of the company's shares will be very low. Valuation and pricing of the companies' shares on the second approach is difficult because of the difference in cash flows in different years.

Even in countries where capital markets are developed and, the shares of their companies are traded and evaluated for more than 200 years, determining the value of shares is associated with many problems¹. Thus, pricing of shares in the public offer of shares must be done with care too. If the stock price is increased after the initial supply, this would be welcomed by most people to buy other companies' shares. But if the stock price after the initial supply does not increase or decrease, this would be the loss for people, and suppliers and vendors selling shares of stock price are criticized for selling expensive shares and the subsequent sale of the shares will fail. For this reason it is necessary to know what is the effect of buying shares of initial shares supply place on efficiency and increase of shareholder wealth.

2. Theories

2.1 Capital Market

Capital market is considered as a market for assets with over one year maturities (long-term financial instruments). Savings of people becomes investment by issue of securities by the applicant with the opportunity for capital investment and long-term financing needs. Supply and demand for capital in the capital market, determines the rate of return on investment. From the perspective of financial market instruments traded life is divided into two groups as follows:

1. Initial Public Offering.
2. Second Market.

In the primary market, bonds issued by companies being offered for the first time and thus financial assets or long-term financial resources are exchanged and capital formation takes place. In the secondary market, securities that are already on the market are exchanged. New financing is not taken place in these markets⁶.

Stock return: Return on investment is a driving force which makes motivation. It is considered as a reward for investors. Return of investment is important for investors, because investment is done to gain profit. An assessment of the efficiency is the only logical way (before risk assessment) that investors are able to do to compare different alternatives investment that they do for better understand the performance of the investment, a measure of actual return (of the past) is required. Specifically, the study of returns in past times has an important role to estimate the future returns. Also, stock market regulators can also control and observe the efficiency of capital achieved by value-create activities⁷.

2.2 Achieved Returns in Contrast with Realization Return

Determining the difference between the achieved returns and the Realization Return is very important, because these 2 words are used widely in investment tests.

2.3 Realization Return

It is defined as estimated return of an asset that investors expect to gain in next period. Realization Return is associated with uncertainty and is likely to be met or not met. To gain the realization return, investors should buy a type of asset. They should consider a reality that this return may not realized. Investing in risky and long-term securities can meet the realization return of investors, while it occurs less in the long-time¹.

2.4 Realized Return (Real Return)

It is a type of return that is obtained (Ibid). Add value method is one of the common methods to calculate the real rate of return. This method, overseeing the company's past performance. In addition to stock price changes, it considers received dividends during the year⁸.

2.5 Price

It is a value that is determined based on supply and demand for each share. Day-value of each company is determined based on price. At any time, the number of

shares of each company is obtained by dividing capital to price that is known as subscription price⁸.

2.6 Stock Volume

Volume is defined as a quantity which represents the amount of space occupied by a body. The volume of shares offered in the first week indicates how many shares were presented in the first week by company (Ibid).

2.7 Time of Stock Offer

Time is a standard including occurrence of event. Time of Stock offer represents moment of acceptance of the company in initial public offering. Total Index Stock is used in this research to assess it to comply it with all other variables of research (Ibid). Different studies have been conducted in connection with the initial public offering. Scholars presented different opinions about it. Alen and Favel Haber (1989) stated that supply of new shares cheaper than real price may be very attractive to provide a suitable atmosphere for initial shares offer. Tinic (1993) stated that rule impacts significantly on pricing of new shares. Woll, Sarig, Kandel (1997) found out that The initial offer price cheaper than real price constitutes a premium for uncertainty about the elasticity of demand for the stock. According to Bradlly and Jordan (2000), Companies that offer the highest turnover on the first day had the most negative abnormal returns. Brav and Gampers (2000) found out that Companies that have no risk of investment return received more welcome to sell more shares. According to Fert (2001), there is a positive significant relationship between profit estimation error and abnormal stock returns. According to Alvarez and Gonzales (2000), there is a positive significant relationship between initial offering of cheaper than real price and long-term Return of initial offering.

Eckbo and Norli (2000) found out that stock supplier companies have less leverage and higher liquidity in each of the three years after their initial release, that realizes reduction of risk and realized return⁸.

Lin, Lee, Liu (2003) stated that supplier companies stocks that absorbed attention of legal persons to themselves were relatively large companies in the capital market.

According to Mohammad Omran (2004), an issued share has abnormal positive return since start of publication until a year later. It has negative abnormal returns in a period of three to five years.

Gaeu et al (2004) mentioned financial variables, capital expenses, non-financial variables, the development and completion and effective legal protection of price of shares of pharmaceutical companies and biotechnology⁹.

Godakeri, Cambell, Zalloki (2004) stated that long-term return in different industries and in main board and sub panel of initial supply of difference is significant.

3. Hypotheses of Research

Hypothesis 1: there is a significant relationship between price of offered shares and annual abnormal return result of initial offer price in new-entered companies.

Hypothesis 2: there is a significant relationship between volume of offered shares and annual abnormal return result of initial offer price in new-entered companies.

Hypothesis 3: there is a significant relationship between time of shares offer and annual abnormal return result of initial offer price in new-entered companies.

Hypothesis 4: there is a significant relationship between the degree of concentration of ownership of offered shares and annual abnormal return result of initial offer price in new-entered companies.

4. Methodology

It is an applied-method research. Aim of applied research is to develop an applied knowledge in a specific field of study. In addition, it is a descriptive- correlative research. Determining relationship between variables is purpose of this research. Statistics population of this research includes all companies newly arrived in Tehran Stock Exchange during 2007–2013, considering the following conditions:

1. There is not long-term pause in trade of their shares (more than 4 months).
2. The required data to calculate variables of research are available for all of the related companies.

Table 1. Descriptive statistics of research

Variables	Mean	Median	Max	Min	SD	Skewness	Kurtosis
Abnormal returns	-0.227	-0.246	1.38	-1.35	0.515	0.547	4.31
The price of offered shares	8.14	7.89	10.78	6.91	0.96	0.803	3.18
The volume of offered shares	17.46	17.99	20.71	11.48	2.31	-1.13	.583
Time of offering shares	6.23	6	12	1	3.04	0.129	1.94
The degree of concentration of stock ownership	0.514	1	1	0	0.507	-0.057	1.003

Library method was used to collect primary data of countries. Rah Avard Novin software was used too. Also, data was collected by referring to Tehran Stock Exchange to study financial statements of the companies accepted in Tehran Stock Exchange.

5. Analysis of Results of Research

According to descriptive statistics of unusual return, mean of this variable is -0.227, and its median is -0.246. These numbers are close to each other very much. As SD is 0.515, Dispersion around the average for the variable is average. As SD is 0.515, variance for this variable is average. On the other hand, as Kurtosis of this variable is 0.547, it represents desire of data distribution toward left side. It desires toward smaller numbers. On the other hand, Kurtosis of this variable is 4.31. With regard to kurtosis of normal distribution as 3, its Kurtosis is symmetric somehow. Generally, variable distribution is appropriate. Descriptive Statistics of other variables can be seen in the Table 1. Generally, according to amounts of above table represents descriptive statistics of variables of research, it is concluded there is average variance in all of variables. It is concluded based on SD. in addition, symmetry of variable is concluded based on difference between mean and median, all variables are with relative symmetry. Pearson correlation coefficients test was done to study about existence and direction of linear correlation between independent variables. Results are presented in Table 2.

According to Table 2, correlation coefficients between independent variables of research represent their independent. As explained before study on relationship between price, volume, the degree of concentration of stock ownership and abnormal returns of shares in newly arrived companies in Tehran Stock Exchange is aim of this research. Therefore, 4 hypotheses were prepared. They are reviewed by model as follows:

$$R_t = b_0 - b_1P_t - b_2V_t - b_3T_t - b_4M_t - e$$

Table 2. Pearson correlation coefficients

Variables	Abnormal returns	The price of offered shares	The volume of offered shares	Offering shares time	The degree of concentration of stock ownership
Abnormal returns	1				
The price of offered shares	0.315	1			
The volume of offered shares	-0.079	-0.307	1		
Time of offering shares	-0.221	-0.172	0.151	1	
The degree of concentration of stock ownership	0.203	0.304	-0.029	-0.322	1

Where:

Rt: abnormal return.

Pt: shares price.

Vt: offered shares volume.

T: shares offering time in general market conditions.

M: The degree of concentration of stock ownership.

According to results in Table 3, considering F-test and error level of it, in 99 % confidence, the variables impact on unusual return result of primary offer of companies. Also, according to adjusted coefficient of determination obtained for pattern, independent variables of research explain more than 31% of dependent variables of research.

Classic regression test is done before testing hypotheses of research. Results are as follows:

Table 3. The results of model assessment

Variable	Coefficient	t-Student Test	Sig	Test VIF
Intercept	0.002	1.59	0.11	-
The price of offered shares	-0.083	-2.73	0.006	1.14
The volume of offered shares	0.281	4.76	0.000	1.215
Time of offering shares	0.005	3.07	0.002	1.129
The degree of concentration of stock ownership	0.016	1.17	0.242	1.22
Fisher F test (significant)	4.18 (0.000)			
Adjusted coefficient of determination	0.318			
Durbin-Watson	1.96			

6. Classic Hypotheses Test

The lack of serial autocorrelation between the remaining sentences of models Gaad-Feri test is used to study this hypothesis. The autocorrelation test series is available with various interruptions. According to a survey conducted, the considered optimal interruption in this model is number 2. H0 and H1 of this test are as follows:

H0: there is not autocorrelation series among remaining sentences of model.

H1: there is autocorrelation series among remaining sentences of model.

According to results Table 4, H0 is confirmed. So, there is not autocorrelation series grade 1 and 2 in remaining sentences of this model.

Check the normality of the remaining clauses of the model

Jarco-brau test is used here to study this hypothesis. H1 and H0 of this test are as follows:

H0: distribution of the remaining sentences of model is normal.

H1: distribution of the remaining sentences of model is not normal.

According to the result Table 5, H0 is confirmed. So, distribution of remain sentences of this regression model is normal.

Table 4. Results of autocorrelation series

F-test	Sig	Result
0.0201	0.98	H0 is accepted

Table 5. Results of normality test

F-test	Sig	Result
3.481	0.175	H0 is accepted

6.1 Investigation of Variance Matches of Remaining Sentences of Model

White test is used here to study this hypothesis. H0 and H1 are as follows:

H0: variances of remaining sentences of model are the same

H1: variances of remaining sentences of model are not the same

According to the results Table 6, H0 is confirmed. So, variances of remaining sentences of this regression model are the same.

Table 6. Normality test results

F-test	Sig	Result
0.263	0.899	H0 is accepted

6.2 Check the Absence of Multicollinearity among the Independent Variables of the Model

VIF was used for it. If this test is less than 10, it is accepted there is not a severe multicollinearity among independent variables, which creates problems in statistics results. According to results in Table 3, it is concluded there is not a severe multicollinearity among independent variables. In next stage, results of hypotheses of research are presented.

7. Results of Hypotheses of Research

7.1 The Result of Analysis Hypothesis 1

Purpose of hypothesis 1 of research is to know if there is significant relationship between the first presented shares piece and annual unusual profit of primary offered price in new companies in the Tehran Stock Exchange. According to assessment of the model, the coefficient and the error level of offered share price were -0.083 and 0.006, which represents a negative relationship between this variable and annual unusual return result of primary offer price. So, there is not document for rejecting this hypothesis. So, this hypothesis is accepted.

7.2 The Result of Analysis Hypothesis 2

Purpose of hypothesis 2 of research is to know if there is significant relationship between presented shares volume

and annual unusual profit of primary offered price in new companies in the Tehran Stock Exchange. According to assessment of the model, the coefficient and the error level of offered share price were 0.281 and 0.000, which represents a significant positive relationship between this variable and annual unusual return result of primary offer price. So, there is not document for rejecting this hypothesis. So, this hypothesis is accepted.

7.3 The Result of Analysis Hypothesis 3

Purpose of hypothesis 2 of research is to know if there is significant relationship between shares offering time in public terms of market and annual unusual profit of primary offered price in new companies in the Tehran Stock Exchange. According to assessment of the model, the coefficient and the error level of offered share price were 0.005 and 0.002, which represents a significant positive relationship between this variable and annual unusual return result of primary offer price. So, there is not document for rejecting this hypothesis. So, this hypothesis is accepted.

7.4 The Result of Analysis Hypothesis 4

Purpose of hypothesis 2 of research is to know if there is significant relationship between the degree of concentration of ownership of offered shares and annual unusual profit of primary offered price in new companies in the Tehran Stock Exchange. According to assessment of the model, the coefficient and the error level of offered share price were 0.016 and 0.242, which represents lack of a significant positive relationship between this variable and annual unusual return result of primary offer price. So, there are some documents for rejecting this hypothesis. So, this hypothesis is rejected.

8. Conclusion

As a result of general conclusion of testing hypotheses of research to know if there are significant relationships between independent variables of research and annual unusual profit of primary offered price in new companies in the Tehran Stock Exchange during 2007-2013 it is concluded there is a negative relationship between the first presented shares piece and annual unusual profit of primary offered price. There are positive significant relationships between presented shares volume and annual unusual profit of primary offered price. There is

no relationship between the degree of concentration of ownership of offered shares and annual unusual profit of primary offered price. Finally, claims of Fama (1970) and French and advocates of Concepts of intrinsic stock value are true in Iran capital market. Confirming this topic represents that traditional accounting systems and indicators are not sufficient. They are not strong enough in front of increasing capital markets and owners. Also, intrinsic stock value is more confident indicator for wealth measurement for shareholders.

9. References

1. Elahi A, Mohebi HB, Asayesh K. A study on the correlation between liquidity leverage and real earnings management. *International Journal of Review in Life Sciences*. 2015; 5(1):61–6.
2. Zui B, Kane A, Alan J. *Investment*, 3rd ed; 1996. p. 236.
3. Bausch AE, Barbara W, Blome M. Is Market value Based Residual Income a superior performance Measure Compared to book value–Based Residual Income? Working paper. 2003; 12(1):122–30.
4. Bao BH, Bao DH. Usefulness of value added and Abnormal Economic Earnings: An empirical examination. *Journal of Business Finance and Accounting*. 1998; 25(1):251–64.
5. Hampton JJ. *Financial Decision Making*. Prentice-Hall: Englewood Cliff, New Jersey; 1992. p. 33.
6. Chen S, Dodd JL. EVA: A New panacea? *Business and Economic Review*. 1996; 42(4):26–8.
7. Zanjirdar M, Kabiribajadeh A. Examining relationship between ownership structure and performance of intellectual capital in the stock market of Iran. *Indian Journal of Science and Technology*. 2011; 4(10):1369–77.
8. Eharbar A. *EVA: The Real key to Creating Wealth*. John Wiley and Sons: New York; 1998.
9. Fabozzi Frank J. *Investment Management*. Prentice-Hall: USA; 1995. p. 115.
10. Shabahang R. *Accounting theory*, first edition. Accounting and Auditing Press; 2003. p. 86.
11. Fitch DE, Jordan RJ. *Security Analysis and Portfolio Management*, 4th Edition. Prentice Hall: USA; 1987.