Investigating the effect of floating stocks on the price and stock returns of listed companies In Tehran Stock Exchange

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ABSTRACT

Introduction: During the last two decades, the stock market in developing countries has been considered as a tool to increase savings and investment and ultimately economic growth. Capital market development through several mechanisms on It affects the economic growth of countries. Thus, a portfolio is an asset portfolio that the investor maintains with a variety of different combinations of financial assets. Because people keep different combinations of cash, stocks, bank deposits, bonds, gold and currency in their portfolio of financial assets.

Objective: The purpose of this study is to determine the effect of floating stocks on the price and stock returns of companies listed on the Tehran Stock Exchange.

Method: In this study, screening method was used, so that all member companies of the statistical community that have the above conditions and criteria, were included in the statistical sample and those companies that did not meet the above conditions, were excluded from the sample. The statistical population of this research is all manufacturing companies listed on the Tehran Stock Exchange during the period 2015 to 2020 (5-year period) and the sample is for 167 companies listed on the Tehran Stock Exchange (835 years-company). In this research, databases and statistics and information available in the stock exchange organization were used to collect information.

Results: In the study of the significance of research models, according to the presented results, the probability of F statistic is significantly less than 0.05, which is confirmed with 95% confidence that the research model is significant. The results of this study show that in the Iranian capital market and at the level of all companies, a significant relationship can be observed between the amount of free floating stock and stock return, so that increasing or decreasing the percentage of free floating stock has a significant effect on the company's return. Puts active in the Iranian stock market.

1. Introduction

Public diplomacy describes in different ways, but broadly Today, due to the growth of liquidity in the market and government planning to use people's capital to develop the capital market is an important step in attracting capital. The capital market, on the one hand, provides the liquidity needed for large investments by equipping small savings, and on the other hand, allocates equipped savings optimally. The capital market also facilitates the process of obtaining information about investment opportunities. In this way, it leads to small savings to the most profitable and most profitable sectors and reduces the cost of financing for companies. A portfolio is an asset portfolio that an investor maintains with a variety of different financial assets. Because individuals hold different combinations of cash, stocks, bank deposits, bonds, gold, and foreign exchange in their financial portfolios, changes in money supply, exchange rates, inflation, and bank interest rates have led to a growing demand for The maintenance of each of these assets, including the demand for shares, affects this issue, and this in turn affects the stock price (Sajjadi et al., 2010).

The main motivation of the stock exchange as a basic pillar of the capital market is to attract and direct savings and stray and scattered liquidity in the society towards high-yield activities and optimal allocation of scarce financial resources. In addition, one of the important roles of the stock exchange is to facilitate the possibility of re-trading and re-converting stocks into cash. This can only be achieved when at least a percentage of the company's stock is available for sale in the market. On the other hand, companies have two types of shareholders: strategic shareholders who hold a high percentage of shares and are not willing to sell them and use them to guide and control the company. In contrast, shareholders are the component that owns the rest of the company's stock. Individual shareholders have no purpose other than to obtain returns from price differences and dividends, and are willing to offer their shares with relatively reasonable returns. The amount of shares held by these shareholders is called free float. Therefore, with the increase of each of these shareholders, the other party is affected and as a result, the degree of control also changes. Changes in company control also affect the company's performance, which can have a positive or negative effect on the price and stock returns of listed companies (Khajavi and Rostamzadeh, 2013).

Considering the above and the importance of the Tehran Stock Exchange market on the economic return of the country, the present study seeks to investigate the effect of floating stocks on the price and stock returns of companies listed on the Tehran Stock Exchange.

Statement of the problem

Capital markets in the broadest sense of the word constitute a large part of financial markets. While the capital market in its specific sense, ie the stock exchange, as a part of the capital market in the form of a well-organized and disciplined market for trading certain types of financial resources or long-term financial assets to help the country's economic development. It comes. These long-term assets are: ordinary shares, preferred shares, pre-emptive rights of any kind, participation bonds, long-term tradable bonds ... and so on. The main role of the stock exchange is:

equipping the community savings in order to allocate them optimally for the purpose (Khatibi, 2012)

One of the main features of a stock exchange is that first, the stock exchange meets large capital needs by equipping small savings. In addition, the stock market encourages various savers to invest in manufacturing by converting short-term financial resources into long-term expenditures. In other words, by creating a permanent buying and selling mechanism, the saver can satisfy his liquidity need at any time by selling his financial assets through the stock exchange. At the same time, despite this feature, the consumer can rely on these resources for a long time and use them for a long time. In addition to the above, the optimal allocation of scarce capital resources is another basic task of the stock exchange. This task can provide the economic resources of the society in a desirable way. Optimal allocation of resources is not possible except under capital market efficiency conditions. Before entering into the discussion, it should be noted that the greater the number of instruments or financial assets, the more diverse its type, the larger its volume, and finally the faster its trading time, and finally the prices of securities on the stock exchange at its true value. The closer the assets are, the more complete and efficient the market will be. Given this, any contribution to efficiency can in some way lead to a change in the capital market. The stock exchange is an indicator of the country's economy and the source of capital production for economic development, the main beneficiaries of which are the people and the government.

Free floating stock is a number of shares of a company that are expected to be available in the near future at a current price and will be available to buyers, or a portion of a company stock that can be traded without any restrictions. Subtract the total shares of the company from one, the percentage of free floating shares is obtained (Kotar, 1997)

In another definition, free-floating shares are shares that do not belong to strategic shareholders. The workers and employees of the company, shares in the possession of institutions and foundations, shares in the possession of pension and social security funds, shares in the possession of banks and insurance companies, are strategic shareholders (Abbasi and Marzloo, 2011).

In general, free float shares are the number of issued shares, minus the number of non-tradable shares and the ratio of free float shares is equal to the number of free float shares divided by the number of issued shares (Kashanipour and Rezaei, 2015).

In the summer of 2003, for the first time, the Tehran Stock Exchange announced a permissible daily fluctuation range of stock prices by announcing 15% free float for all stock exchange companies; Thus, if the daily trading volume of a company's shares is more (or less) than 15% of the number of shares divided by 250 working days, then the price of that share is allowed to increase (or decrease) by 5%. The purpose of this contract was to limit the stock price fluctuations of companies that had strategic and major shareholders who did not intend to buy or sell shares. Exercising this control was expected to increase the supply and sale of stocks and thus improve the liquidity of stocks. According to Article 17 of the Trading Regulations in the Tehran Stock Exchange, the free floating share of any

company is a part of that company's shares whose holders are ready to offer and sell those shares and do not intend to participate in the company's management by maintaining that part Letter of transactions in Tehran Stock Exchange Company, 2004).

One of the important functions of the stock market is to increase the liquidity of stocks. If the stock market is not a cash market, it will not create an incentive to attract investment. To increase the liquidity of stocks, it is necessary to increase the percentage of free floating stocks of companies. The importance of free float stocks is such that most countries today use this coefficient to adjust the market index. If a company's free float is high, its market is potentially more cash and its price fluctuations are lower, resulting in reduced investment risk. These relationships, in turn, increase demand. Free-floating stocks can affect the investor demand model, stock holding period, type of information and its distribution. They are accepted, if at the end of the financial period, with the approval of the Exchange Organization, they have at least 20% free floating shares, 20% 10% of their income tax will be forgiven, respectively.

The efficient market hypothesis states that the price of securities reflects all the information that exists in the market without any kind of bias or uniformity. In other words, wherever there is new important and influential information about certain securities and it seems that it can affect (change) investors' expectations, the securities price equation must react quickly. And reflect it (Hendrickson and Brady, 1992).

Due to the high diversity of investment options, investors choose from different options. This choice is based on the characteristics of risk and return. Every rational person invests with the goal of being able to get a good return (Rahmani and Fallahnejad, 2010). The resulting floating stock is the percentage of a company's capital available for trading or a portion of a company's stock that can be traded without any restrictions. The world, in addition to variables such as: number of stock exchange companies, number of shareholders, market day value and trading volume, etc. One of the evaluation variables to determine the standard of stock markets in the world is the amount of free float that determines liquidity rating. Stocks of listed companies are effective: Free floating stocks increase liquidity by adjusting stocks where a significant portion of the issued stock is not in the hands of investors.More stock liquidity leads to trading stocks at a lower cost and in less time. If the free float of the company is small, the major shareholders can The stock market, at its intrinsic value, can make changes in stock prices more easily, but if there is a higher free float rate, especially for large companies, the possibility of price manipulation and interference in the pricing system that determines the market. Does, decreases; This is also true for smaller companies, but due to the low capital of these companies, it is possible to manipulate in the conditions of high free float share. Most of the observational (inductive) research shows that the price of securities offered in the stock market reacts to new information (Shabahang, 2016). We are floating on the price and stock returns of companies listed on the Tehran Stock Exchange.

Importance and necessity of research

This study seeks to find the effect of floating stocks on the price and stock returns of companies listed on the Tehran Stock Exchange.

The stock exchange is an indicator of the country's economy and the source of capital production for economic development, the main beneficiaries of which are the people and the government. Securities, especially the country's banking system, is a safe haven for the country's capital. Today, with the monetization of economies and the consequent separation of savers from investors, it is necessary to have the tools to transfer funds from those who have surpluses to those who are in deficit. In fact, financial markets (such as stock markets and equity securities) and financial institutions (such as banks and financial institutions, etc.) as the main components of the financial system, the task of transferring funds from people with surpluses to people with In other words, they are our tools for transferring savings and turning them into investments and financial intermediaries (Mansouri and Monsef, 2010). According to the theory of the central bank (2004), financial markets are markets in which financial assets are exchanged. Unlike real assets or physical assets (tangible), financial assets are considered as a kind of right or claim of one economic unit from other economic units. Real estate provides physical services to its holder, but financial assets act as a store of value and the holder expects to receive revenue from it in the future. One of the basic and influential economic markets of any country is the financial markets. The stock market is also an important component of financial markets as a center for collecting savings and liquidity of the private sector. Currently, the issue of studying the impact of macroeconomic variables on stock markets is one of the topics of interest to academics and investors. In general, stock prices are believed to be determined by some macroeconomic variables such as inflation rate, exchange rate, interest rate and liquidity volume. Numerous studies have been conducted to investigate the impact of economic forces on stock returns in different countries. One of the most important of these studies is the application of arbitrage pricing theory by Ross (1976), Chen et al. (1986) to explain the effect of some macroeconomic variables on stock returns in the United States. Their findings showed that industrial production, changes in risk taking and changes in the periodic structure had a positive relationship with expected stock returns. This was while the relationship between forecast and unpredictable inflation rates and expected stock returns was significantly negative (Baseri, 2003).

The results of other similar studies presented in the research background section show the impact of economic variables on the stock market. Studies and researches have shown that no research has been conducted in the country on the effect of floating stocks on the price and stock returns of companies listed on the Tehran Stock Exchange, therefore it is necessary to conduct research in this case to The country should be covered, so it can be said that conducting research in this area seems necessary and the results can be useful. In other respects, the need for this research requires officials to identify problems related to decrease and increase. The amount of free float stocks is based on the stock returns of companies, the decrease and increase of free float stocks is based on the stock prices of companies, and the changes in free float stocks are on the stocks of different companies,

which can be an introduction to designing, providing and presenting plans. Are suitable for increasing trading volume and improving returns on the stock exchange. By examining the effect of floating stocks on the price and stock returns of companies listed on the Tehran Stock Exchange, while examining the changes in these variables in the returns of the Tehran Stock Exchange, this superior stock market can be used as a model and their solutions can be used.

The results of this study can provide useful information to those involved in the stock market in the field of changes in floating stocks on the price and return of the stock market to make the necessary plans to address the deficiencies if there is a problem in this area.

Hypotheses

1- Floating stocks affect the stock prices of companies listed on the Tehran Stock Exchange

2- Floating stocks affect the stock returns of companies listed on the Tehran Stock Exchange

Research Methods

Doing this research is in the framework of deductive-inductive reasoning. Thus, the theoretical foundations and previous studies of this research are in the form of a library in the form of deductive and collecting information related to testing hypotheses in the form of inductive.

Deductive reasoning: Deductive reasoning is the promise of the author of several theorems that, when accepted and certain, another result is inherently necessary from it, and reaching from the whole to the part or predicting the individual cases is based on theory.

Inductive reasoning: reaching from the part to the whole or the reality to the theory, if it turns out that all the details are subject to a sentence, a general or general sentence can be issued about them.

Methods and tools of data collection

In this research, the required information and data will be collected in two stages. In the first stage, to compile the theoretical foundations of research from the library method and to refer to Persian and English dissertations and articles through the relevant sites, and in the second stage, to collect the desired data based on the data and reports of the Stock Exchange Organization. Tehran has been collected. In this research, databases and statistics and information available in the Stock Exchange Organization will be used to collect information.

First, information and resources about theoretical literature in this research were collected from the library method, and then data were collected through the financial statements of companies listed on the Tehran Stock Exchange. Also, to study the effect of floating stocks in different industries, the same statistical methods mentioned above were used for the selected industries (basic metals industry, automobile and parts manufacturing industry, investment industry and chemical products industry).

How to measure research variables

A) The volume of stock transactions

The number of shares traded over a period of time. The trading volume is calculated for each company in one year intervals. In this study, the natural logarithm of stock trading volume for each company was used. The formula used in this research is as follows:

- Relationship 1

$$V_t = \alpha_0 + \sum_{i=1}^{m} \alpha_i V_{t-i} + \sum_{j=}^{n} B_j R_{t-j}$$

B) stock returns

In this research, the stock returns of companies were taken into account. In this method, the companies' return is calculated on the assumption that the investor has been present in all the increase of the company's capital from the place of receivables and brought, and has deposited the underwriting amounts of the preemptive right. In this case, the stock return at the end of each year is calculated through the ratio of changes in stock prices and cash dividends paid to shareholders to the price at the beginning of the year. The formula used in this research is as follows:

- Relationship 2

$$R_{it} = \frac{(1+\alpha_{it}) * P_{it} - P_{i(t-1)} + D_{it} - M}{|P_{i(t-1)}}$$

Return on stock price

To calculate the stock return price, the difference between the stock return this year and the previous year will be used. The formula used in this research is the following relation:

- Interface 3

$$SRV = \beta_1 IO + \beta_2 FS + \beta_3 LR + \beta_4 NI + \beta_5 II + \beta_6 Lv + e_i$$

Floating free shares of companies

Free floating shares of companies listed on the Tehran Stock Exchange were calculated every three months in accordance with the method specified in the instructions for admission to the Tehran Stock Exchange (approved by the Board of Directors of the Stock Exchange and Securities Organization on December 22, 2007) and its status report. Informs the general public about investors, analysts, members and publishers. In accordance with the following note of paragraph 3 of the article of this instruction, any of the following items, if they are more than or equal to 5% of the total shares of the company, will not be considered as floating shares:

A) Shares held by each of the shareholders, b) Shares belonging to family shareholders (first-degree relatives of the first and second classes), c) Shares belonging to legal entities of the same group with direct or indirect ownership. Also, according to this instruction, companies that are classified in the main board of the first market, the sub-board of the first market and the second market must float at least 20, 15 and 10% of their registered shares, respectively. In this research, the amount of free float shares of companies at the end of March of each year has been used. The formula used in this research is the following model:

- Relationship 4

$$A_t = \sum_{j=1}^{30} P_j \times Q_j \times F_j$$

Statistical population and statistical sample

The statistical population consists of a number of desirable elements that have at least one specific attribute (Azar and Momeni, 2008). A statistical population, also called a statistical population, is a set of individuals or elements

(depending on the subject of research) that have a common feature or characteristics and are researched. (Khaki, 2007)

The statistical sample of the research is a group of members of the statistical community through which the information required for the research can be obtained. The relationship between the sample and the population is in many ways the same as the story of the sample sample. In other words, the sample in statistics should represent the population under study (Abbasi Esfanjani, 2011).

The statistical population of this study was all manufacturing companies listed on the Tehran Stock Exchange during the period 1395 to 2020 (5-year period). In this study, samples were selected from companies listed on the Tehran Stock Exchange, based on the following criteria:

- Companies must have all the necessary information to conduct this research in the period 1395 to 2020.
- The financial year of the companies should end on March 20 of each year.
- Companies must all be listed on the stock exchange before 2016 and until the end

In 1399, their symbol has not been removed from the stock exchange trading board.

In this study, screening method was used, so that all member companies of the statistical community

Which have the above conditions and criteria, will be part of the statistical sample and those of

Companies that do not meet the above requirements will be excluded from the sample.

Based on the above conditions, 167 manufacturing companies have been selected and surveyed as a sample.

Data analysis

In this study, statistical analysis of the tests was performed as follows using Ives software software. Also in this study, multivariate regression method and econometric models were used. The research hypotheses are based on the combined test data and statistical analysis using software. To test the hypotheses, t-statistic method was used to determine the significance of each variable, F-statistic was used to determine the significance of the whole regression and r2 was used to determine the efficiency and explanation of the dependent variable by independent selected variables.

Descriptive Statistics

Descriptive statistics is a set of methods used to collect, summarize, classify, and describe numerical facts. In fact, this statistic describes the research data and information and provides an overview or pattern of data for faster and better use. In a conclusion, with the appropriate use of descriptive statistics, the characteristics of a group of information can be expressed. Central and dispersion parameters are used for this purpose. The function of these criteria is that they can express the main characteristics of a set of data as a number, and thus, in addition to helping to better understand the results of a test, it also facilitates the comparison of test results with other tests and observations. .

The following table contains descriptive statistics for all variables used in the research. The number of valid and correct observations for each variable is 5 years. The required data are for 167 companies listed on the Tehran Stock Exchange (835 years-company). has taken. In the first part, the most important central indicators and dispersion of research variables are presented. Among the central indices, the mean and the scatter indices, the standard deviation of the variable, have been used. In addition, a maximum and a minimum are provided for each variable. The average is the main and most used central index, the value of which is exactly at the equilibrium point or center of gravity of the distribution. Finally, the standard deviation is the most important scattering parameter obtained from the root of variance. These indicators are presented in Table 4-1.

Table 4-1. Descriptive statistics for model variables

Probability of statistics	Jark statistics for	Elongation	Elongation1	Standard deviation	minimum	maximum	Middle	Average	symbol	
0/000	19616/400	19/559	-1/390	0/124	-1/548	0/528	0/012	0/010	R	Share returns
0/000	500/527	2/787	1/337	0/416	0/000	1/000	0/000	0/222	FCF	Floating stock
0/000	1188/126	5/581	1/613	2/407	1/000	12/000	3/000	3/275	VOL	Turnover
0/000	293/264	1/463	-0/681	0/473	0/000	1/000	1/000	0/661	MKT	Number of share transactions
0/000	57935/610	31/240	2/964	0/250	0/061	4/003	0/666	0/617	PE	Price-to-earnings ratio
0/000	3971/673	9/319	2/070	0/696	0/548	6/528	1/412	1/607	QTOBIN	Growth opportunities
0/000	162/377	3/696	0/680	1/660	9/943	19/940	13/633	13/755	SIZE	size of the company
0/000	5213572/000	276/655	-3/104	6/381	-145/593	121/510	2/049	2/305	MTB	Market value to book value
0/000	2506/733	8/963	-0/342	0/141	-1/063	0/627	0/087	0/101	ROA	Return on assets

Source: Research Findings

Assessing the reliability of research variables

The application of conventional econometric methods in model estimation is based on the assumption that pattern variables are stable. A variable is constant when its mean,

variance, and autocorrelation coefficients remain constant over time. In general, if the temporal origin of a variable changes and the mean, variance, and covariance do not change, then the variable will be anonymous.

If the pattern variables are unstable or have a single root, then testing the research hypotheses will not be valid. To evaluate the significance of the variables, the single root test of Levin, Lin and Chow were used.

In Levin, Lin and Chav unit root test, if the significance level is less than 0.05, it indicates that the variables are meaningful. The results of Levin, Lin and Chao's mana test are shown in Table 4-2, which indicates the mana boon of all variables at a significance level of 0.05.

Table 4-2. Results of Levin, Lin and Chow's mana test

Probability value	Test statistics	Symbol	variable
0/000	-22/604	PRICE	Share price
0/000	-18/2502	R	Share returns
0/000	-4/58401	FCF	Floating stock
0/000	-19/1002	VOL	Turnover
0/693	-2/461	MKTSHARE	Number of share transactions
0/000	-8/54702	PE	Price-to-earnings ratio
0/000	-8/226	QTOBIN	Growth opportunities
0/000	-5/462	SIZE	size of the company
0/000	-29/65	MTB	Market value to book value
0/000	-12/16	ROA	Return on assets

Test of research hypotheses
Defaults

In this section, using the multiple regression analysis approach, the proposed research model is reviewed, the results of which are as follows. Before examining the proposed research model and examining the research hypotheses, the assumptions have been thoroughly examined as follows:

A) Data type: In estimating a model whose data is of the hybrid type, the type of estimation model must first be specified; In other words, it must first be examined in which class of integrated or panel data the model under consideration falls. For composite data, first the F-Limer test is performed to select the model estimation method. The hypothesis of this test is:

The width of the origin is equal in all sections (integrated data) H0:

The width of the origin is not equal in all sections (panel data): H1

The results of F-Limer test in Table 3-4 show that both models studied in the research hypotheses are panel data (p-value <0.05); Therefore, the research model is estimated using panel data method.

Table 4-3. Results of F-Limer test

Result	p- value	Amara F	Research model
Panel data	000/0	47830/2	Model 1
Panel data	000/0	36721/3	Model 2

B) Type of effects: Considering that panel data is used to estimate the research models, in this stage, Hausman test has been used to choose between the method of fixed effects and random effects. The hypothesis of this test is:

The effect is random.H0:
The effect is constant .: H1

The results of Hausman test in Table 4-4 showed that the appropriate method for estimating patterns is the fixed effects method. (P-value <0.05);

Table 4-4. Results of Hausman test

Result	p- value	Amara k2	Research model
Fixed effects method	0/0051	21/8978	Model 1
Fixed effects method	0/0009	19/43910	Model 2

C) Multiple alignment: In data analysis, when predictor variables are correlated with each other, it is said that there is multiple alignment between them. Multiple alignment occurs when two or more predictor variables are highly correlated with each other.

Correlation here means a linear relationship between predictor variables. In statistics, the variance inflation factor evaluates the multiplicity of linear intensities in the regression analysis of ordinary least squares. If the research variables have a variance inflation factor of less than 5, the assumption of non-alignment between the variables is observed. In the proposed model, according to the values obtained in Table 4-5, it can be said that there is no multiple alignment between the predictor variables, so this assumption is established in the presented model.

Table 4-5. Check multiple alignments

Inflation variance factor (VIF)	Symbol	variable
153/1	FCF	Floating stock
073/1	VOL	Turnover
098/1	MKTSHARE	Number of share transactions

031/2	PE	Price-to-earnings ratio
827/1	QTOBIN	Growth opportunities
974/1	SIZE	size of the company
021/1	MTB	Market value to book value
852/1	ROA	Return on assets

D) Investigation of variance heterogeneity:
One of the assumptions of the regression equation is that the variance of the residual statements is constant, which is known as the assumption of variance homogeneity. If the residual sentences do not have a constant variance, it is said that there is a variance heterogeneity. Of course, this problem is more common in cross-sectional data. One of the tests for heterogeneity of variance is the use of Pagan test.

In Pagan test, the two hypotheses H0 and H1 are presented as follows:
H0: There is variance inequality.
H1: There is no variance heterogeneity.
In this test, if the significance level is less than 5%, the H0 hypothesis is not rejected, and if the significance level is above 5%, the H0 hypothesis will be rejected and the H1 hypothesis will not be rejected. The results of this test are given in Table 4-6.

Table 4-6. The result of Pagan test

Test result	Significance level	Amara F	Research model
There is variance inequality	۰/۰۰	85/16291	Model 1
There is variance inequality	002/0	71/23183	Model 2

As can be seen, to estimate the research model, we are faced with variance heterogeneity for regression errors and to solve the problem of variance heterogeneity in these models, we will use the white correction factor.
E) Autocorrelation test

According to econometric topics, the existence of autocorrelation in the residues of each model leads to erroneous estimates of standard errors and consequently incorrect statistical inferences for equation coefficients. To avoid such an error in this study, we examine this issue using the Watson camera correlation test.

Table 4-7. Autocorrelation test results

Test result	Watson Camera Statistics	Research model
It has no self-dependence	038/2	Model 1
It has no self-dependence	961/1	Model 2

The results of the Watson camera test show that there is no correlation between the rest of the research models, since it is between the critical values of 1.5 to 2.5.

Test hypotheses test results
In the significance study of the research models, according to the results presented in Tables 4-8 and 4-9, the probability of F statistic is less than 0.05, which is confirmed with 95% certainty that the research model is

significant. The value of the Watson camera for the model is 2.038, which is between the critical values of 1.5 to 2.5; Therefore, there is no correlation between the remainder of the research models themselves.
Also, the value of the adjusted coefficient for the model is equal to 0.197, which shows that the independent and control variables of the model explain about 19.7% of the changes in the share price variable.

Table 4-8. Test results of a research model

$$Price_{i,t} = \beta_0 + \beta_1 FCF_{i,t} + \beta_2 VOL_{i,t} + \beta_3 MKTSHARE_{i,t} + \beta_4 PE_{i,t} + \beta_5 QTOBIN_{i,t} + \beta_6 SIZE_{i,t} + \beta_7 MTB_{i,t} + \beta_8 ROA_{i,t} + \varepsilon_{i,t}$$

Probability value	Amara t	Standard deviation	Coefficient	Symbol	Variable
00502/0	81/2	1184/0	333/0	C	Fixed coefficient
02823/0	076/1	0147/0	016/0	FCF	Floating stock
83389/0	21/0	0018/0	0003/0	VOL	Turnover
01669/0	383/1	0117/0	016/0	MKTSHARE	Number of share transactions
02144/0	303/2	0242/0	056/0	PE	Price-to-earnings ratio
0223/0	-288/2	0078/0	-018/0	QTOBIN	Growth opportunities
00134/0	213/3	0088/0	028/0	SIZE	size of the company
00204/0	09/3	0005/0	001/0	MTB	Market value to book value
623/0	492/0	0424/0	021/0	ROA	Return on assets
Watson's camera statistics		The amount of probability	Amara F	Adjusted coefficient of determination	Determination coefficient
2/038		000/0	243/3	197/0	285/0

Hypothesis 1: There is a significant relationship between floating stocks and stock prices.

According to Table 4-8, the study of the significance level of the floating stock variable equal to 0.028 and the value of the t-statistic of the floating stock variable of 1.087 shows that this variable has a positive and significant effect at the error level of 5% and the confidence level above 95%. Has a share price, so there is a significant relationship between floating stock and share price and the first hypothesis of the research is confirmed. According to Table 4-8, the impact rate is equal to 1.6%.

Results of control variables

According to Table 4-8, the study of the significance level of the variable number of share transactions equal to 0.016 and the value of t-statistic of the floating stock variable shows 1.383 that this variable has a positive effect on the error level of 5% and the level of confidence above 95%. It has a significant effect on the share price, so as a result, there is a positive and significant relationship between the number of share transactions and the share price, and the second sub-hypothesis of the research is confirmed. According to Table 4-8, the impact rate is equal to 1.6%.

According to Table 4-8, the study of the significance level of the trading volume variable equal to 0.833 and the value of the t-statistic of the trading volume variable of 0.21 shows that this variable has a negative and non-significant effect at the error level of 5% and the confidence level above 95%. It has a share in the price, because the significance level (0.833) is higher than the 0.05 level. As a result, there is no significant relationship between trading volume and share price and the third sub-hypothesis of the research is rejected.

The result of testing the second hypothesis of the research

Second research hypothesis: There is a significant relationship between floating stocks and stock returns.

To test this hypothesis in the research regression model, the coefficient and significance of the floating stock variable are considered. Examining the level of significance (0.00) and the value of t-statistic of the price ratio variable on share earnings shows that this variable at the error level of 5% has a positive and significant effect on share returns and due to the positive statistics It can be concluded that there is a significant relationship between floating stocks and stock returns and the second hypothesis of the research is confirmed. Based on the obtained coefficient, it is determined that the effect of floating stock variable on share return is equal to 3.6.

In relation to control variables, it can be said that: The estimated coefficient of market variables to book value, company size and market value in Table 4-8 shows a significant relationship between these variables with share price at the error level of 0.05 Is. Among these, the growth opportunity variable has a negative impact and the market value variables have a positive effect on book value and company size, because the calculated probability for the coefficient of these research control variables is less than 0.05.

The estimated coefficient of return on assets in Table 4-8 indicates that there is no significant relationship between this variable and share price at the error level of 0.05. Because the calculated probability for the coefficient of this control variable of the research is more than the error level of 0.05.

Conclusion

With the expansion of stock markets and the increase of listed companies, and since it was not possible to study price changes and transactions of each share separately and present it to the public for more information, so the disclosure of dimensions and direction Stock market movements, price fluctuations as well as trading volume through the appropriate index have always been discussed among academic circles, capital market stakeholders and market participants. Among the latest developments in this field is the design of an adjusted index called the Free Floating Stock Index, which is calculated based on the number of tradable stocks available to stock market investors. Free float is a percentage of a company's capital that is available to investors to trade in the stock market and can be traded without any restrictions. The small amount of free float is a number that is obtained by subtracting the number of non-tradable shares from the total shares of the company.

In Iran, free float stocks gained legal and regulatory status in the early eighties, and since then, free float stocks of companies have been calculated and published. The experiences of countries and capital markets in estimating free float stocks indicate that recognizing floating stocks covers a wide range of market functions, so the need to identify free float stocks from various dimensions such as the importance of liquidity, the importance of information and how it is distributed in the market. The demand curve can be examined in relation to the amount of supply and floating stocks and the need to change and adjust the index based on free floating stocks.

Research shows that after free-floating stocks, investor behavior leads to a change in stock demand. This means that investors review their portfolio and withdraw their capital from a company with a low free float weight and transfer it to a stock with a higher free float weight. In many stock exchanges around the world today, companies with less than 25% of their shares floating free are removed from the list of listed companies. Because if the owners of the company do not want at least 25% of their shares to be distributed among the people and are interested in keeping the shares for themselves, there is no reason for them to be present in the capital market. Free float is one of the variables affecting the increase of market depth and efficiency. Studies show that increasing free float reduces the possibility of price manipulation and achieving a fair price close to intrinsic value. The small free float indicates that a small amount of the company's stock is available and therefore it is not possible for buyers and sellers to set a fair price in a short time. It is quite clear that restrictions on stock volatility increase the possibility of stock price manipulation or speculative activity, as major shareholders can easily falsely raise non-floating stock prices. Therefore, it is expected that by reducing the amount of free float stocks, the possibility of obtaining returns will decrease. Therefore, the main question that this study faces is whether the share returns and price changes of companies are affected by the amount of their free float or not?

Therefore, according to the above questions and inspired by the literature and theoretical foundations of the research, two hypotheses are explained and using selected sample

data from 167 companies during 2015 to 2020, the hypotheses are tested through the combined data regression method. Table 5-1 summarizes the results of testing the research hypotheses.

Table 5-1: Summary of test hypotheses test results

Result	Description	Hypothesis
Confirmation	There is a significant relationship between free float and share price changes.	1
Confirmation	There is a significant relationship between free float and share returns.	2

The results of this study show that: In the Iranian capital market and at the level of all companies, a significant relationship is observed between the amount of free float stocks and stock returns, so that increasing or decreasing the percentage of free float stocks has a significant effect on returns. Puts companies active in Iran Stock Exchange. Perhaps one of the reasons for this is the free float changes in investors' decisions. According to the results of studies by Khakpour (2008), Mollah Hosseini and Ghorbannejad (1999) and Kashanipour and Rezaei (2011), which indicates that in the Iranian capital market, free floating stocks are effective in the return of companies and considering The findings of this study indicate that in the Iranian capital market and at the level of all companies, there is a significant relationship between the amount of free float and stock returns. This shows. Therefore, the findings of this study are somewhat consistent with previous studies, and given that the issue of free float stocks in Iran is not yet seriously used in the decision-making of market participants, so it seems that more and more in-depth research More on this issue and introducing and informing the users of the benefits of this issue in helping to make more informed decisions in the market.

Offers

Practical suggestions

Based on the results of the hypothesis test, which indicates the effect of stock returns on the amount of free float stocks, and taking into account the results of studies by Khakpour (2008), Ghorbannejad (2007) and Kashanipour and Rezaei (2011), which confirm the effect. The amount of free float stocks is based on the return on stocks of companies operating in the Iranian capital market, investors are advised to include information about the amount of free float stocks in order to earn returns in their decisions.

Suggestions for future research

Finally, to continue the research and spread the literature in this field in Iran, suggestions for future research are presented as follows:

1) Investigating the position and role of free float stocks in increasing the efficiency of Tehran Stock Exchange.
2) Investigating the effect of free float on the cost of capital of companies.
3) Investigating the relationship between the percentage of free float shares and corporate dividend policies
4) Investigating the role of free float stocks in stock liquidity.
5) Investigate the relationship between the percentage of free float and the risk of stock price changes

6) Investigating the relationship between free float stocks and trading volume on the Tehran Stock Exchange
7) Investigate the effect of changing the amount of free floating stock on stock prices
8) Study of the effect of free float changes on market liquidity
9) The effect of timely dissemination of company information on stock liquidity
10) Liquidity, stock returns and capital structure in Tehran Stock Exchange
11) Change the method of calculating the base volume based on the application of free float percentage in order to prevent speculation

research limitations

In research work, like any other work, there is the possibility of disturbing and disturbing factors that hinder the normal flow of affairs and affect the research results. It is obvious that the effect of these factors in some cases causes the research results to fade and in some cases causes them to become more intense. In either case, controlling the impact of these factors is as important as controlling the unwanted factors. The main limitations of the present study that could possibly affect the generalizability of the research results are:

1) Due to the limited statistical population to companies listed on the Tehran Stock Exchange that were manufactured, the dissemination of results to other companies should be done with caution.
2) The existence of price bubble conditions in 1998 and 1999 can affect the company's performance and on the other hand also affect the abnormal return, and this can affect the results of the research as a whole.
3) The existence of limitations such as the limit volume of the base and the limit of the range of stock price fluctuations can affect the calculations related to stock returns.
4) The existence of some conditions such as unexpected events and political conditions that affect companies (in the micro state) and the country (in the macro state), have not been considered in the present study. Therefore, caution should be exercised in generalizing the research results.

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