Investigating the Effects of Investment Excess Volatility on Companies' Share Abnormal Return

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ABSTRACT

The purpose of the present study is to investigate the relation between investment excess volatility and companies share abnormal return. Investment excess volatility can affect the companies' share return and cause abnormal return. In this research attempts was done to investigate the effects of investment excess volatility resulted from three factors of dividend irrelevance, company risk and stock growth rate on abnormal return of companies. In order to do this, the required data was extracted in library and analytic – practical approach based of panel data analysis from financial information of 106 accepted companies in Tehran's stock exchange during 2007 – 2012 (636 company / year). In order to analyze the results of the research we used softwares SPSS 20, EVIEWS 7 and MINITAB 16. According to the analysis carried out we found out that investment excess volatility resulted from dividend irrelevance affects the abnormal return of shares and it has a direct and meaningful relation. Investment excess volatility resulted from company risk affects the shares abnormal return and this relation is direct and significant. Investment excess volatility resulted from stock growth rate affects the shares abnormal return and this relation is direct and significant.

KEYWORDS: investment excess volatility, shares abnormal return, expected return, dividend irrelevance

1. INTRODUCTION

Profit seeking investors try to purchase companies shares in capital market. They more seek return along with constant increasing rate of volatilities (Bradshow, 2006). In this path, excess reaction, is considered as one of the abnormalities of capital market and it happens when the share prices change more than normal rate according to new data. When several positive and negative currents happen, the market makes believe that this process will continue in long time period and hence it will incline to that path. So, most of investors, exaggerate in reacting to share prices and their decision making moves toward following the gossips and atmosphere of market. This behavior of them is considered as an important factor in investment markets (Grinbat & moskovit, 2004). So, investigating the effects of factors increasing investment excess volatility and after that, the effects of these factors on share return and the relation between these two, are passive aspects of this research. So according to the main purpose of this project, the researcher seeks to answer this question: do investment excess volatility resulted from dividend irrelevance, company risk and stock growth affect the abnormal return of accepted companies in Tehran's stock exchange? Ang et al (2006) argued that there is a two – way relation between share return and company's investment which finally will result in a positive relation between these two variables. The importance of this positive relation can be explained as: high return of shares has an important role in empowering managers in order to carry out future investments (Pastor & Stambaugh, 2003).

2. Theoretical background and review of literature
2.1 theoretical bases

In each decision making for investment, there are two factors having high importance which are bases of investment. These two factors are risk and return. Every investor who follows growth of his investments should identify and calculate the risk and its composing factors and investment return. Investment in each sort of asset has its qualitative and quantitative returns. Qualitative return includes: accounting profit and capital gain. Quantitative return includes company's credit, social advantages and social effecting power (Shahrabadi and Bashiri, 2010). In analyzing the behaviors of investors, we can imply two hypotheses about investment volatility: 1- Dibunet & Thaler's (1985) hypothesis of excess reaction 2- Brown & Harlu & Tinik's (1988) hypothesis of uncertain information. Excess reaction hypothesis claims that investors excessively react to unexpected happenings in a way that in reacting to unfavorable news, understate the value of shares and in reaction to favorable news overstate it. Uncertain information hypothesis claims that entrance of unexpected

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information, good or bad, increases uncertainty and non – pragmatism in capital markets. Investment volatility is the result of several factors which differently affect share return. What are considered in the present research, are investment excess volatility resulted from dividend irrelevance, company risk and stock growth rate, which will be explained in following sections. The main purpose of the present research is finding a logical and significant relation between these three variables and share return. It is worth mentioning that investors' reaction is a key factor in creation of return. If this reaction increases, the abnormal return will be increase (Daniel et al, 1998). Intemperate reaction of investors increases share – value, ruins the relative price constancy and decreases investment safety in market. In addition, managers' decisions or individual investors receive higher risks. Risk is applied to situation in which we can attribute subjective possibilities to distribution of uncertain returns. Infact, risk is the possibility of real return rate being different with expected return rate of investor. Markouetz, defines risk as multi – period standard deviation of one variable and introduces a numerical index for risk. In investment, return and reward include current income (such as annual profit) or increase or decrease in asset (profit or loss of capital). We illustrate the amount of income or increase or decrease in assets by percent. As a result, return rate shows total annual income and gain and loss of capital is stated as a percent of invested capital. Hence, in order to calculate return of a typical share, we divide profit of each share to its price. So the return of investment can be divided in two groups:

1) Received amount for share profit or profit of bond
2) Gain or loss of capital resulted from changes in stock price during investment period

Some terms which we use frequently during the present research are defined as following:

Abnormal return: is calculated as difference of real return of share and the expected return of share (Subrahmanyam, 2010)

Actual return: is a return which is realized or a return which is obtained and happened (Cia et al, 2005)

Expected return: it is a return which the investors are expected to obtain and they feel that they have rewarded enough (Chang et al, 2013).

Dividend irrelevance: a profit divided among shareholders (Miller, 1961).

Stock growth rate: difference of remained stock in current year and remained stock in previous year.

Investment excess volatility: investment excess volatility defines as volatilities resulted from total investments in companies during the current year compared to the previous year. These volatilities are resulted mostly from dividend irrelevance (Brochet et al, 2008).

2.2 research background review

Jegadeesh & Titman (1993), investigating movement progress of shares, considered strategy of purchasing winner's share and selling loser's share based on last three months' operation. The method was to categorize the shares based on 3 to 12 last - month return in 10 portfolios with equal weight. They set buying winner's portfolio (including shares with high return in the current period) and selling loser's portfolio (including shares with very low return in the current period) as their agenda. The time span in this research was from 1965 to 1989. The result of choosing this strategy was increasing the returns.

Fama & French (1996), in their researches on companies' expected return, presented a reliable support for the relation of size and the proportion of official value to market value with share return. They found a positive and significant relation between the proportion of official value to market value and share value and also a negative relation between the size and return of shares during several one and multi – dimensional tests. In fact they doubted the sensitivity of Beta in capital assets pricing model and found out that the major difference of share returns are explained by two factors: size of company and proportion of official value to market value.

Sullivan & Zhang(2011) in investigation of relation between investment and financial providence abnormalities, using Fama & French's model, found out that capital assets pricing model (CAPM) and three - agent model of Fama & French did not have the required ability to state investment abnormalities.

Wang & Ma (2014), in a research, investigated the effect of long term investment and short term investment on companies' share return. Their study was carried out during 1963 up to 2010. The results of this study showed that high volatility investments, creates higher return in companies' shares.

Mokhtarian (2004) studied the effective factors on investors' decision making. The results of the study showed that the share price process has more importance compared to other factors such as return and profit of each share. Also investors in investment decision makings do not pay much attention to financial relations.

Nikbakht and Moradi (2004) investigated the reaction of normal investors in Tehran's stock exchange. The results showed that in Tehran's stock exchange there are over reactions to the published information.

Mehrani and Nonahal Nahr (2008), evaluated under reaction of investors, regarding 6 – month spans as formation period and portfolio test. In this research, the average of accumulated abnormal returns was examined in two test periods and the results showed no under reaction and under estimated reaction of investors.

Bagher Zadeh (2009), in a research titled as "investigating factors affecting expected return of shares of accepted companies in Tehran's stock exchange", empirically studied the evidences from years 1001 to 2007.

His study showed that there is a very significant and linear relation between market risk, size of company, transaction volume and the proportion of official value to market value.

Fakhari et al. (2010), in a research studied the "relation between foundational investment and volatility of share return among accepted companies in Tehran's stock exchange". The findings showed that presence of foundational investors increased operational monitoring on managers functions, decreased asymmetric information and finally decreases the volatility of share return by increasing the ownership percent of this group of shareholders. These findings can be useful for capital market investors in composing regulations for settlement and enforcement of foundational investors' role (in company commandment), also it can be practical for investors to present a basis for decreasing volatility risk of investment return.

3. research hypotheses

In order to investigate the effects of investment excess volatility on share return, research hypotheses are presented as following:

H1: investment excess volatility resulted from dividend irrelevance affects the abnormal return of shares.

H2: investment excess volatility resulted from company risk affects the abnormal return of shares.

H3: investment excess volatility resulted from stock growth rate affect the abnormal return of shares.

4. RESEARCH METHODOLOGY

The research method used in this research is correlation – descriptive. Argumentation method of the present research is analogical – inductive. Analogical, because data collection was done in path of initial data in order to confirm or void the hypothesis. In this research we used panel data according to types of data and analysis and statistical investigation. Population of the present study includes all accepted companies in Tehran's stock exchange. We used omissive method for sampling. To do so, we considered below variables and if a company meets all criteria, is selected as a sample companies.

1. According to the required data from 2007, the companies should be accepted in Tehran's stock exchange up to the end of Esfand, 2006 and their name shouldn't be deleted from the list of those companies up to the end of 2013.
2. During the time span of research, their shares should be transacted actively in stock exchange.
3. In order to increase the comparability of companies under the study, their financial period should end on 29th ensfand and should not change during study period.
4. They should not be member of financial mediation companies (investment, Holding, leasing, banks and insurances) due to their different functions.
5. The required data should be accessible.

4.1 definition of variables and measuring method

The variables of the present research are classified into three groups:

1) dependent variables
- Abnormal return of company i in year t.
2) Independent variables
- Investment excess volatility resulted from dividend irrelevance of company i in year t.
- Investment excess volatility resulted from risk of company i in year t.
- Investment excess volatility resulted from stock growth rate of company i in year t.
3) Control variables
- Size of company i in year t.
- Growth opportunities of company i in year t.
- Investment cycle of company i in year t.

4.2 operational definitions of dependent variable:

Abnormal return ($R_{s,t} - R_{f,t}$):

According to the research of Brochet et al (2008), in order to measure abnormal returns in this research we should initially obtain expected return and monthly real return of companies. The expected return is calculated using total stock index TEDPIX (price return and cash profit of share) as below:

$$r_m = \frac{p_1 - p_0}{p_0}$$

p_0 : Index number at the beginning of the month
p_1 : Index number at the end of the month
r_m: Market return

After calculation of real return and expected return, we will calculate abnormal return as below (Brochet et al, 2008):

$$R_{s,t} - R_{f,t} = r_s - zr_m$$

$R_{s,t} - R_{f,t}$: Abnormal return
r_m: Market return
r_s: share return

4.3 operational definitions of independent variables

Investment excess volatility resulted from dividend irrelevance ($VDq_{i,t}$):

According to the research of Chang et al (2013), we use the formula presented below in order to calculate investment excess volatility resulted from dividend irrelevance:

$$\text{VD(q)} = q\overset{\Delta}{\delta_1^2} - \overset{\Delta}{\delta_q^2} = q\sum_{k=1}^{n}\frac{(p_k - p_{k-1} - \overset{\Delta}{\mu})^2}{n-1} - \sum_{k=q}^{n}\frac{(p_k - p_{k-q} - q\overset{\Delta}{\mu})^2}{m}$$

In which:

p_k : Equals to the profit resulted from investment in the current year.

p_{k-1} : Equals to the profit resulted from investment in the previous year.

μ : Equals to dividend irrelevance of company in the current year.

n : Equal to the number of years under the investigation.

p_{k-q} : equals to the difference of investment profit in the year previous to the current year and the expected return.

$q\mu$: Equal to the contradiction between expected return and dividend irrelevance in the current year.

m : Equal to the initial amount of investment in current year.

Investment excess volatility resulted from company risk ($VRq_{i,t}$):

According to the researches of Asai & Brugal (2013) we use the formula below in order to calculate Investment excess volatility resulted from company risk:

$$\text{VR(q)} = \frac{\overset{\Delta}{\delta_q^2}}{q\overset{\Delta}{\delta_1^2}} = (n-1)\sum_{k=q}^{n}\frac{(p_k - p_{k-q} - q\overset{\Delta}{\mu})^2}{qm\sum_{k=1}^{n}(p_k - p_{k-1} - \overset{\Delta}{\mu})^2}$$

In which:

δ_q^2 : equals to company risk volatility which is calculated as below:

According to Paliva (2012), the proportion of systematic change is calculated as following:
We first calculate the systematic risk as below:
CAMP states that the expected return rate of company equals to safe return rate plus mere risk which is shown as:

$$E(R_i) = R_f + [E(R_m) - R_f] * \beta_i$$

$$\Rightarrow R_{it} = R_{ft} + (R_{mt} - R_{ft})\beta_i + e_{it}$$

R_{it} : Return rate of company i in period t.

R_{ft} : Safe risk return rate in period t.

β_i : Beta of stock exchange (systematic risk) of company i.

R_{mt} : Market portfolio return rate in period t.

e_{it} : Intruder factors

It is worth mentioning the in order to calculate systematic risk, we use information related to the return rate of bonds and market portfolio existing in stock organization. Stock organization uses the formula below in order to measure real return of stock exchange (Berger et al, 2000):

$$R_{i,t} = \frac{(p_t - p_{t-1}) + DPS_t + SO_t + SR_t}{P_{t-1}}$$

$R_{i,t}$: Return of company i in period t.

P_t : The price of each share at the end of period t.

P_{t-1} : The price of each share at the end of period t-1.

DPS_t : Dividend irrelevance belonging to each share in period t.

SO_t : The value of share purchase authority certificate granted during period t.

SR_t : The value of primacy of granted share purchase during period t.

Accounting Beta (systematic risk) is calculated by the formula below:

$$\beta_i = \frac{COV(R_{it}, R_{mt})}{VAR(R_{mt})}$$

R_{it} : Return rate of company i in period t.

R_{mt} : Portfolio return rate of market in period t.

In continue we calculate systematic risk as below:

$$Risk_{i,t+1} = Risk_{i,t} - Risk_{i,t-1} / Risk_{i,t+1}$$

$$\text{In which:}$$

$Risk_{i,t}$: equals to systematic risk in current year.

$Risk_{i,t-1}$: equals to systematic risk in previous year.

Investment excess volatility resulted from stock growth rate ($VIVq_{i,t}$):

According to Dumas et al (2009) in order to calculate Investment excess volatility resulted from stock growth rate we use the formula below:

$$d(VIVq)) = \frac{2qVD(q)}{\delta_1} d(\delta_1) - q\delta_1^2 d(VR(q))$$

In which:

$VDq_{i,t}$: equals to investment excess volatility resulted from dividend irrelevance.

δ_1 : equal to company risk

$q\delta_1^2$: equal to stock growth rate of which calculation is as below:

$$q\delta_1^2 = INV_{i,t} - INV_{i,t-1} / INV_{i,t-1}$$

$INV_{i,t}$: equals to remaining stock in current year

$INV_{i,t-1}$: equals to remaining stock in the previous year.

And the accounting return resulted from net profit to official value of total assets is obtained.

Operational definition of control variables

Size of company ($Log(Size)_{i,t}$)**:**

It is equal to natural logarithm of official value of fix assets of company (Babchuk & Farid, 2003):

Growth opportunities ($Log(M / B)_{i,t}$):

It is equal to the proportion of market value of shareholders rights to shares' official value (Ashku et al, 2006).

$$Log(M / B)_{i,t} = \frac{\text{market value of shareholders rights}}{\text{Official value of shareholders rights}}$$

Investment turn ($Log(TURN)_{i,t}$):

It is equal to total number of investments done in current year (Avramov et al., 2006).

$\varepsilon_{i,t}$: Accidental error of company i at the end of year t.

4.4 research model

In order to examine the research hypotheses we use the modulated model used in Chang et al (2013) as below:

$$R_{s,t} - R_{f,t} = \alpha_0 + \beta_1 VDq_{i,t} + \beta_2 VRq_{i,t} + \beta_3 VIVq_{i,t} + \beta_4 Log(Size)_{i,t} + \beta_5 Log(M/B)_{i,t}$$

$$+ \beta_6 Log(TURN)_{i,t} + \varepsilon_{i,t}$$

In which we have:

i indicating the company (segment units) and *t* indicating the year.

$\varepsilon_{i,t}$ is the accidental error of company i in year t.

5. findings of research

First we present a summary of descriptive statistics of research variable in order to get more familiar with population and variables of the study and then the normal distribution of dependent variables will be examined.

Figure1. Descriptive statistics of variables

variable	No of observations	mean	SD	minimum	maximum	Skewness	elongation
Abnormal return	636	0/5117	0/3451	0/0025	2/8231	1/431	5/593
Investment excess volatility resulted from dividend irrelevance	636	0/0709	0/2408	0/0000	3/7495	10/665	140/730
Investment excess volatility resulted from risk	636	0/9441	0/2854	0/0589	1/8100	-0/571	0/687
Investment excess volatility resulted from stock growth rate	636	0/0924	0/2174	0/0000	2/6743	6/556	56/591
Size of company	636	5/9184	0/6108	4/7761	8/0074	0/708	0/546
Growth opportunities	636	0/6748	0/4815	0/0227	2/8586	1/195	1/409
Investment returns	636	0/6877	0/3241	0/0000	1/0000	-1/108	-0/091

The method for hypothesis examination in the present research in panel data method which was done using SPSS 20, EVIEWS 7 and MINITAB 16 softwares. According to fig 1, abnormal return mean of sample companies equals 0.5117 and min and max of its amount are respectively 0.0025 and 2.8231. Investigation on the amount of Skewness and elongation of this variable, which should be 0 and 3 respectively in order for variable to have normal distribution, shows that this variable does not have normal distribution. According to descriptive statistics presented in fig 1, mean of investment excess volatility resulted from dividend irrelevance, investment excess volatility resulted from risk and investment excess volatility resulted from stock growth rate of sample companies during the time span under the study equal to 0.0709, 0.9441 and 0.0924 respectively. Also the positive mean of size of the company and growth opportunity are 5.9184 and 0.6748 respectively. And finally the mean of investment return which have been on the basis of minimum and maximum equals to 0.6877 respectively. Normal dependent variable is a necessary condition for regression models, so it is important to normalize this variable before the hypotheses are examined.

The results of H1 examination

The purpose of H1 examination is to investigate that if investment excess volatility resulted from dividend irrelevance affects abnormal return? Its statistical hypothesis is stated as below:

H0: investment excess volatility resulted from dividend irrelevance does not affect abnormal return.
H1: investment excess volatility resulted from dividend irrelevance affects abnormal return.

This hypothesis is estimated using model 2 as panel data and is confirmed if coefficient β1 in confidence level of 95% is significant.

$$\begin{cases} H_0 : \beta_1 = 0 \\ H_1 : \beta_1 \neq 0 \end{cases}$$

The results related to Chow (in order to identification of using panel data or combination data) and Hasman (in order to use constant or accidental effects method in panel data methods) for model 2 are presented in figure 6:

Figure 6: results of Chow and Hasman test

Test	Item	Item value	Degree of freedom	P – value
Chow	F	3/2338	(524,105)	0/0000
Hasman	χ^2	3/1465	6	0/0002

According to the results of Chow test and its P – value (0.0000), the first research hypothesis (H0) is voided in confidence level of 95% and this indicates that we can use data panel approach. Also, according to the results of Hasman and its P – value (0.0002), which is lower than 0.05, H_0 is voided with confidence level of 95% and H_1 is accepted. So, we need to estimate model through constant effects method. In investigating the classic regression assumptions also the results of Jarque - Bera test shows that the remaining values resulted from research model estimation have normal distribution in confidence level of 95% in a way that the possibility of this test (0.3227) is higher than 0.05. Also according to the importance level of the Breusch - Pagan test which is lower than 0.05 (0.0120), H_0, which is based on similar variances is voided and we can say that this model has dissimilar variance problem. In this hypothesis, we used estimation of generalized least squares (GLS) in order to obviate this problem. In self – correlation test, the remaining of model which was done using Durbin Watson item (DW), the value of DW was 2.05 and because it is between 1.5 and 2.5, we can conclude that the remaining values are independent.

Furthermore, according to the fact that Ramsey test significance is higher than 0.05(0.44466), so the H_0, based on this model being linear, is confirmed and the model has no explicit error. The summary of results is presented in figure 7 below:

Figure7. Result summary related to statistical assumptions of model 2.

Jarque-Bera item		Breusch-Pagan item		Durbin-Watson item	Ramsey item	
χ^2	$P-Value$	F	$P-Value$	D	F	$P-Value$
1/4365	0/3227	0/3465	0/0120	2/05	6/0647	0/4466

According to the results obtained from Chow and Hasman test and also the results of examination of statistical assumptions of classic regression, model 2 of the present research is estimated using panel data method and in form of constant effects. The results of this model estimation are presented in figure 8 below:

Figure8. The results of fourth, fifth and sixth hypotheses examination using constant effects method

Dependent variable: investment excess volatility Observations : 636 company / year				
variable	coefficient	T - value	P - value	significance
Constant element	0/1445	1/1044	0/2669	Insignificant
Investment excess volatility resulted from dividend irrelevance	0/4166	1/8516	0/0314	Positive
Investment excess volatility resulted from risk	0/2433	5/6824	0/0005	Positive
Investment excess volatility resulted from stock growth rate	0/7439	1/4457	0/0472	Positive
Company size	0/0056	0/2804	0/7793	Insignificant
Growth opportunities	0/0003	0/0186	0/9851	Insignificant
Investment returns	-0/0307	-1/3014	0/1937	Insignificant
Model's determinant coefficient				0.6529
F value				5.6328
P value				0.0000

The estimated form of model, using EVIEWS 7 software is presented as below:

$$R_{s,t} - R_{f,t} = 0.1445 + 0.4166 VDq_{i,t} + 0.2433 VRq_{i,t} + 0.7439 VIVq_{i,t} + 0.0056 Log(Size)_{i,t}$$
$$+ 0.0003 Log(M/B)_{i,t} - 0.0307 Log(TURN)_{i,t} + \varepsilon_{i,t}$$

In investigating the significance of total model, according to the fact that F value is lower than 0.05, (0.000), the significance of model is confirmed with confidence level of 95%. Model's determinant coefficient also indicates that 65.29 percent of abnormal return of shares is determined by inserted variables in model. In investigating the significance of coefficients, according to the results presented in figure 8, because the possibility of t value for variable coefficient of investment excess volatility resulted from dividend irrelevance is lower than 0.05 (0.0314), the significance of relation between investment excess volatility resulted from dividend irrelevance and abnormal return is confirmed in confidence level of 95%. So, H4 is confirmed and we can say with 95% confidence level that there is a significant relation between investment excess volatility resulted from dividend irrelevance and abnormal return. The positive coefficient of this variable (0.4166) indicates the direct relation between investment excess volatility resulted from dividend irrelevance and

abnormal return in a way that with increasing investment excess volatility resulted from dividend irrelevance by 1 unit, abnormal return will increase by 0.4166 units. So, according to the analyses carried out related to the confirmation of H1, we can conclude that investment excess volatility resulted from dividend irrelevance affects abnormal return and this relation is direct and positive.

The results of second research hypothesis examination

The purpose of H2 in this research is that if investment excess volatility resulted from company risk does affect abnormal return? in investigating the significance of coefficients, according to the results presented in figure 8, because the possibility of t value for investment excess volatility coefficient resulted from risk is lower than 0.05 (0.0005), as a result, the significance of relation between investment excess volatility resulted from company risk and abnormal return in confidence level of 95%. So, H5 of the present study is confirmed and with confidence level of 95% we can say that there is a significant relation between investment excess volatility resulted from company risk and abnormal return. The positive coefficient of this variable (0.2433) indicates the positive relation between investment excess volatility resulted in company risk in a way that with increasing investment excess volatility resulted from company risk by 1 unit, abnormal return will increase 0.2433 units. So according to the data analysis carried out related to the confirmation of the second research hypothesis we can conclude that investment excess volatility resulted from company risk affects abnormal return and this relation is significant and direct.

The results of H3 examination

The purpose of H3 in this research is that if investment excess volatility resulted from stock growth rate does affect abnormal return? in investigating the significance of coefficients, according to the results presented in figure 8, because the possibility of t value for investment excess volatility coefficient resulted from stock growth rate is lower than 0.05 (0.0472), as a result, the significance of relation between investment excess volatility resulted from stock growth rate and abnormal return in confidence level of 95%. So, H6 of the present study is confirmed and with confidence level of 95% we can say that there is a significant relation between investment excess volatility resulted from stock growth rate and abnormal return. The positive coefficient of this variable (0.7439) indicates the positive relation between investment excess volatility resulted in stock growth rate in a way that with increasing investment excess volatility resulted from stock growth rate by 1 unit, abnormal return will increase 0.7439 units. So according to the data analysis carried out related to the confirmation of the third research hypothesis we can conclude that investment excess volatility resulted from stock growth rate affects abnormal return and this relation is significant and direct.

6.   Discussion and conclusion

There have been lots of studies carried out about overreaction of investors to share price in stock exchange. But about the effects on investment excess volatility resulted from investors' overreaction on returns of companies little investigations have been done. In this research we empirically investigated the effects of investment excess volatility on companies' share return. We interpret from the results of the present research that investment excess volatility affects the companies' share return. Increasing (decreasing) investment volatility will increase (decrease) abnormal return of companies. Also:
1. The results of the present research illustrate the special importance of investment volatility in stock exchange. Because investment excess volatility shows inefficiency of financial markets. So it is suggested to stock and bond exchange organization to more clearly show the volume of investment information.
2. According to the fact that based on the results of the present study, investment excess volatility in long term will increase the share return, so it is suggested to investors to strategically select their share basket in investment and not to be afraid of volatility.
3. Because increasing the amount and level of investment excess volatility resulted from dividend irrelevance, investment excess volatility resulted from risk, investment excess volatility resulted from stock growth rate and their mutual effects in share return can importantly affect the investors' decisions, complete and transparent presentation of information by managers can be significantly useful in this field.

7. Suggestions for further research

In order for the results of the present research to be best used and to contribute to illustration of the effects of investment excess volatility resulted from dividend irrelevance on abnormal return of companies in future, the topics which are presented below can receive major attention:
1. Using other control variables for evaluation such as company's credit rate and financial limitations in investigation of the effects of investment excess volatility resulted from dividend irrelevance on short term and abnormal return of companies.

2. Investigating the effects of macro – economic variables such as inflation, oil price and currency value on identification of effects of investment excess volatility resulted from dividend irrelevance on short term and abnormal return of companies.

3. Carrying out another similar research considering the investment excess volatility resulted from dividend irrelevance, investment excess volatility resulted from risk, and investment excess volatility resulted from stock growth rate caused by political matters and its effects on inherent values of companies.

4. According to the fact that companies with financial mediator activities was deleted from research sample, it is suggested that a research about the relation of investment excess volatility resulted from dividend irrelevance on short term and abnormal return in such companies be carried out and the results be compared to the results of the present research.

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