THE IMPACT OF CAPITAL MARKET CONDITIONS ON THE INVESTORS DECISION-MAKING IN TEHRAN STOCK EXCHANGE

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ABSTRACT

In this study, the relationship between the four important variables of the type of financial market conditions, capital market activity, market prices and rates of return for the period 1999-2013 were examined. Data was collected from the archives of the Central Bank and Tehran Stock Exchange. To analyze the data, and test the hypothesesthe software SPSS19 was used and by the help of inferential statistics such as the analysis of comparing the ratio of the two communities, research data was analyzed and it was found that a significant difference in the average turnover in terms of symmetric and asymmetric conditions cannot be seen, in other words, the types of financial market conditions (symmetric - asymmetric) have not significant effect on the Tehran Stock Exchange turnover volume. The impact of capital market (symmetric - asymmetric) showed a significant correlation with the price index of capital. A significant difference in the average rate of return on the market in terms of symmetric and asymmetric conditions can be seen in other words the type of financial market conditions (symmetric - asymmetric) has an impact on the rate of return on Tehran Stock Exchange.

Keywords: Symmetric Financial Markets, Asymmetric Financial Markets, Price Index and Return on Capital Market

INTRODUCTION

Investment managers are always looking for suitable investment options to obtain the desired benefit and increase their wealth in the long term. About the stock market which the investor can make investments by buying and selling financial assets (stocks and bonds) several studies have been done on the impact of the financial market (symmetric - asymmetric) on the decision-making variables, "Estrada" (2002) invented a model as a model reduced capital asset pricing whichshowed that in the asymmetric market conditions the risk and expected rate of return has been estimated less than the Sharpe model (Estrada, 2002) and also "Krause and Litzenberger" stated the effect of skewness in the distribution efficiency as a factor influencing investment returns (Krause and Litzenberger, 1988).

Therefore the main issue that will be paid to in this research is investigating the impact of capital markets from the perspective of symmetric and asymmetric market conditions on the type of investors' decisions meaning that is symmetrical and asymmetrical market conditions for capital market variables (capital market activities - prices - the market rate of return).

The researcher also intends to challenge the new theory that the current situation has a tremendous impact on investor behavior and discover the important variables that affect capital market conditions or market capitalization (market-rate index Price- capital market activities) and provide a scientific approach to capital market investors to identify macroeconomic variables in two different financial market conditions, as well as the researcher's theory suggests two main questions:

First: how can the Iranian capital market conditions of symmetric or asymmetric beidentified?

Second: Can the relationship between prices index, capital market activity and market rates of return on any investment market conditions be determined?

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Literature Review

Capital Market

The market for financial assets with maturities greater than one year (long-term financial instruments) is considered. Through establishment of stock by the capital applicant units of a suitable investment opportunities and long-term financing, people savings change to investment. In the market of supply capital and capital demand, the rate of return determines the capital. Capital markets are divided into two main parts: the primary market and the secondary market (Davani, 2002).

Symmetric and asymmetric market

By analysis of the risk and return, skewness effect on expected returns is examined. Skewness represents a large number of positive and negative observations in the distribution. In contrast, if distribution of returns has a positive skewness it means that there will be many positive variable, researchers use Skewness as a tool to explain previous results. This means that instead of using the model it is showed that the stock price sensitivity coefficient is measured (so investors receive higher returns than expected) or if the price is higher than the sensitivity coefficient (in this case the yield investors receive less than their expected returns) Mc Annali, found the same results, but also found that stocks with high sensitivity coefficient, have high positive skewness. These results can explain the fact that investors in high risk stocks that have high positive skewness preferred to provide opportunities for them to earn higher returns. Krause and Litzenberger tested this relationship as the CAPM test with skewness factor and found that the investors expect a reward for positive skewness (Krause and Litzenberger, 1988).

The researcher concluded that the CAPMcorrects three-stage standard CAPM in the absence of correct stock price in the deal with high risk and low risk. Subsequent tests by Friend and Westerfiel extracted complex model, but the importance of skewness in the study of Wei and Sears and in following Limwere confirmed (Lim *et al.*, 1988).

Return on Common Stock

Return on common stock is divided into two parts: dividends and capital gain or loss. The total returns on common stock are:

Relation (1): Profit (loss) capital +return on dividend profit = TR

In which:

TR= Return of shares at a specified Time

Return on dividend profit is the ratio of dividend profit to the market price of dividend profit is paid to the owner of common stock in cash. Profit (loss) capital is profit or loss of capital arising from the purchase of shares at a price and then sells them at a different price. Overall returns a good measure of the return of common stock and is calculated by the following formula.

Relation (2):
$$TR = \frac{D_t + P_c}{P_B}$$

In which:

 D_i = Dividend profit in the period t (a year, a month, a season), p_c = Price changes at a specific time,

 P_B =Purchase price or initial purchase price.

Real return is realized return or earned and occurred return. Expected return is estimated return of assets that investors expect to earn in a future period. Expected return is associated with uncertainty and it is likely to be fulfilled or not. To calculate the expected return of an exchange, the investor needs to fulfill likely returns of exchanges, plus the probability of each possible return. The sets of these probabilities equal to 1. Given the probability distribution of potential returns for each exchange I, the expected return $(E(R_i))$ can be calculated as the expected value of a probability distribution:

Relation (3):
$$E(R_i) = \sum_{k=1}^{m} (P_k) P R_k$$



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In which:

 $E(R_i)$ = Expected return of exchange, such as I, P_k = Probability of each potential rates of return, $P(R_k)$ = Potential returns for exchanges, m= the number of potential returns for each of the exchanges,

m= the number of potential returns for each of the exchanges.

Investment in more than one type of shares (a financial asset or Issue) is named investment portefeuille or collection. Investment in various financial assets is performed to reduce risk. In this form, the risk and return of a series is not equal to the sum of the risk and return on assets of individual constituent.

Expected return on investment is simply a weighted average of the returns of individual assets of that set. Weights to be used for average are ratios of investment funds that are invested in each stock. Combined weight of portefeuille is total of one hundred percent of investment funds, expected returns are calculated as follows:

Relation (4):
$$E(PR) = \sum_{i=1}^{n} W_i E(R_i)$$

In which:

E(P R) = The expected return on the portefeuille, W_i = the share of exchanges investment funds I, $E(R_i)$ = Expected return on bonds, I, (Jones, 2005).

Evaluation Techniques based on Relative Evaluation Approach

In this approach the stock price is calculated based on changes of earnings, cash flow, book value or selling stock estimate is created.

The coefficient of income P_E :

This approach which is also common as the ratio of price to earnings per share is of the most important elative evaluation criteria. Many investors prefer to estimate the value of the common stock at the rate of income. The reason for this approach is that the value of the investment is equal to the present

value of future earnings. We consider indefinite period cash dividend discount in calculating P_{F} :

Relation (5):
$$P_i = \frac{D_l}{K - g} \rightarrow : E_l \Rightarrow \frac{P_i}{E_i} = \frac{\frac{D_l}{E_l}}{K - g}$$

Therefore, $\frac{P}{E}$ ratio is defined as follows:

1. Expected cash dividend payout ratio $\frac{D_l}{E_l}$

2. The expected rate of return of estimated stock (K)

3. Expected growth rate of dividends per share (g)

Price to Cash Flow Ratio $P/_{CF}$

Growth in the use of relative value is due to the tendency of some companies' major changes in their earnings per share. While the lower value of cash flow can be affected by such changes.Cash flow per share in evaluation plays an important role in the calculation of the present value of cash flows. In the company's credit analysis price to cash flow ratio is calculated as follows:

Relation (6):
$$\frac{P}{CF_j} = \frac{P_t}{CF_{t+1}}$$

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 $\frac{P}{CF_i}$ = Price / cash flow for enterprise, P_t = the price per share at period t, CF_{t+1} = Expected cash

flow per share for the enterprise, the earnings before interest, taxes and depreciation.

Ratio of Price to Book Value P/BV

This ratio has been widely used as a measure of relative valuation of the banking industry in many years. This ratio is used to assess the credit worthiness of the company as well as the relative evaluation method for all types of businesses.

Relation (7):
$$\frac{P}{BV} = \frac{P_t}{BV_{t+1}}$$

 $\frac{P}{BV}$ = Ratio of price to book value of the enterprise, P_t = the price per share at period t, BV_{t+1} = Book

value at the end of year share price estimate for the enterprise which is calculated based on the number of shares division of equity.

The Price to Sales Ratio $P_{\rm S}$

This method is used for two reasons:

1. Strong and stable sales growth is a means for the company growth and it means that the growth should be started by sale.

2. All data is on the balance sheet and profit and loss statements and sales information is a simpler subject than other data.

Relation (8):
$$\frac{P}{S} = \frac{P_t}{S_{t+1}}$$

In which:

 $=\frac{P}{S}$ The price to sales ratio of the enterprise, P_t = Stock prices in the period t, S_{t+1} = The expected

contribution to business sales.

Research Hypothesis

1) The impact of capital market (symmetric - asymmetric) has a significant relationship with the capital market activities.

2) The impact of capital market (symmetric - asymmetric) has a significant relationship with the Price index.

3) The impact of capital market (symmetric - asymmetric) has a significant relationship with the rate of return on the market.

MATERIALS AND METHODS

The present study from the classification perspective is based on the purpose of the application and the method is of comparative research method used in this study is descriptive, comparative and correlation using historical data after the event meaning using past information required data has been collected from the archives of the Tehran Stock Exchange. The population size in this study is the sample size, population size is equal to all listed companies in Tehran Stock Exchange from 1999 to 2013 and taking into account the characteristics of the financial year ending 29 Esfand and financial information is in the stock. In this study, the price index, the rate of return on market prices and financial market activity are considered as the dependent variable and the condition in Iran's financial market (symmetric and asymmetric) is considered as an independent variable. In this research the first population is asymmetric and the second population is symmetric market.

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Library data collection method, which uses the library, Internet and Rahavard software have been used in this study of weekly data on oil prices, dollar, gold, stock market returns Tehran Stock Exchange (TEPIX) from 1999 to 2013 will be used, the above variables bookmen Tehran stock exchange will be prepared. To analyze the data, data on market prices index and rates of return and capital market activities, the Rahavard software is used which is special for exchange market and sorted by Excel and categorized

based on the year and the coefficients β and β^{D} were calculated.

And then to test the hypothesis the SPSS software was used and by the help of descriptive statistics and inferential statistics such as the mean of the F, T population was analyzed for correlation analysis.

Data Analysis

Test of Normality of Research Dependent Variables H_0 = the distribution of the dependent variable is normal.

 H_1 =the distribution of the dependent variable is not normal.

		x1	x2	x3	
N		180	180	180	
Normal Parameters ^{a,b}	Mean	14.15	15.70	17.40	
	Std. Deviation	1.395	1.947	2.80	
Most Extreme Differences	Absolute	.243	.181	.185	
	Positive	.243	.140	.115	
	Negative	208	181	185	
Kolmogorov-Smirnov Z	-	.768	.573	.585	
Asymp. Sig. (2-tailed)		.597	.897	.884	

Table 1: Kolmogorov-Smirnov test (Ks)

About the variables of research because of the significant variables is greater than 0.05 (the error) the normal distribution assumption is accepted. Therefore, the analysis of the data can be used to compare the ratio of the two populations. It should be noted that assuming linearity test results for each hypothesis test is presented below.

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Identification of Capital Market Conditions of Symmetrical and Asymmetrical
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To identify the capital market activities daily trading volume in the Tehran Stock Exchange is used. The type of financial markets in the study is extremely important, so in the condition of asymmetric market which forms based on risk premium it is sufficient to prove $R_f > R_m$ it can be concluded that Iran's

market condition is symmetric (Estrada, 2002). The purpose of ${}^{R}_{f}$ is investment without risk which in ${}^{R}_{f}$

Iran government bonds are considered and the purpose of $\binom{R}{m}$ is risky investment which is return rate in exchange market. Also, the volume of capital market activity has been identified in this research.

The condition of financial market	Year	The condition of financial market	Year
Symmetric	2007	Symmetric	1000
Asymmetric	2007	Symmetrie	2000
Asymmetric	2008		2000
Symmetric	2009	Symmetric	2001
Asymmetric	2010	Symmetric	2002
Asymmetric	2011	Symmetric	2003
Symmetric	2012	Symmetric	2004
Symmetric	2013	Asymmetric	2005
		Asymmetric	2006

Table 2: Identification of the type of market

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Hypothesis Test

First hypothesis: The impact of capital market (symmetric - asymmetric) showed a significant correlation with capital market activities.

 H_0 = The impact of capital market (symmetric - asymmetric) has no significant correlation with the capital market activity.

 H_1 = The impact of capital market (symmetric - asymmetric) has significant correlation with the capital market activity.

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

Table 3: Comparison of the test results (symmetric - asymmetric) in relation to capital market activities

		Test leven For the comparison of two of the t test									
		F	sig	t	df	sig	Diffe rences	Standard	95% signif	icance level	
				in means	deviation	lower limit	upper limit				
Capital Market	Variances equity	3.321	.069	1.772	3114	.076	2.02694E10	1.14355E10	- 2.15248E9	4.26914E10	
Activity	Variances Inequality			1.730	2.572E3	.084	2.02694E10	1.17193E10	- 2.71076E9	4.32496E10	

The above output which is related to inferential statistics, which contains test results and includes two parts:Part I deals with testing the equality of two population and Part II presents the equality test results for both equality and inequality of the variance. Statistical hypothesis is related to test for equality of variances of the two populations (test leven) as follows: $H_1: \delta^2 = \delta^2$.

$$H_0: \delta_1 - \delta_2$$

 $H_1: \delta_1^2 \neq \delta_2^2$

(sig) Significant results of the test (leven) is equal to zero and not less than the significance level of 5% consequently, assuming equal variances (H_0) is not rejected. Therefore, the first row of data is examined to draw conclusions about the mean.

Table 3	Cable 3: Comparison of the test results (symmetrical - asymmetrical) in relation to the price index												
		leve	n	For the comparison of two of the t test									
		F	sig	t	df	sig	Diffe rences	Standard	95% signifi	cance level			
							in means	deviation	lower limit	uppe r limit			
Price index	Variances equity	.291	.590	5.927	3111	.000	882.80722	148.93807	590.78036	1,174.83408			
	Variances Inequality			5.927	3.034E3	.000	882.80722	148.94812	590.75777	1,174.85667			

(sig) Significant results from the assumption of equal variance test for equality of means is more than 5%, as a result H_0 is not rejected and the claims of inequality mean in financial market conditions in symmetric and asymmetric 5% error level is not confirmed.

Second hypothesis: The impact of capital market (symmetric - asymmetric) showed a significant correlation with price index.

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 H_0 = Thetype of financial market (symmetric - asymmetric) has no significant correlation with the price index in Tehran Stock Exchange.

 H_1 =Thetype of financial market (symmetric - asymmetric) has significant correlation with the price index in Tehran Stock Exchange.

The above output which is related to inferential statistics, which contains test results and includes two parts: Part I deals with testing the equality of two population and Part II presents the equality test results for both equality and inequality of the variance.

 $H_0: \delta^2_1 = \delta^2_2$ $H_1: \delta^2_1 \neq \delta^2_2$

(sig) Significant results of the test (leven) is equal to zero and not less than the significance level of 5% consequently, assuming equal variances (H0) is not rejected. Therefore, the first row of data is examined

to draw conclusions about the mean. (sig) Significant results from the assumption of equal variance test for equality of means isless than 5%, as a result H_0 is rejected and the claims of inequality mean in financial market conditions in symmetric and asymmetric 5% error level is confirmed.

Third hypothesis: The type of financial market (symmetric - asymmetric) showed a significant correlation with the rate of return on the capital market.

 H_0 = Thetype of financial market (symmetric - asymmetric) has no significant correlation with therate of return on the capital market.

 H_1 =Thetype of financial market (symmetric - asymmetric) has significant correlation with the rate of return on the capital market.

Table 4: Comparison	of the tes	t results	(symmetrical	- asymmetry	etrical) in	relation	to tl	he ra	ate of
return on the capital m	narket								

		leve	n	For the	e compar	ison (of two of the t test				
J		F	sig	t	df	sig	Diffe rences	Standard	95% significance level		
							in means	deviation	lower limit	upper limit	
Price index	Variances equity	.853	.357	-4.006	154	.000	-2.45881	.61381	-3.67138	-1.24625	
	Variances Inequality			-4.130	137.519	.000	-2.45881	.59540	-3.63614	-1.28149	

The above output which is related to inferential statistics, which contains test results and includes two parts:Part I deals with testing the equality of two population and Part II presents the equality test results for both equality and inequality of the variance.

 $\mathbf{H}_0: \boldsymbol{\delta}_{1}^2 = \boldsymbol{\delta}_{2}^2$

 $H_1: \delta^2_1 \neq \delta^2_2$

(sig) Significant results of the test (leven) is equal to zero and not less than the significance level of 5% consequently, assuming equal variances (H_0) is rejected. Therefore, the first row of data is examined to draw conclusions about the mean.

(sig) Significant results from the assumption of equal variance test for equality of means isless than 5%, as a result H_0 is rejected and the claims of inequality mean in financial market conditions in symmetric and asymmetric 5% error level is confirmed.

 Table 5: Summary of the results of hypothesis tests

Capital market variables	Asymmetric Financial markets	Symmetric Financial markets
Price index	Increase	Decrease
Rate of return on the market	Decrease	Increase
Capital market activity	No effect	No effect

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RESULTS AND DISCUSSION

First Hypothesis

Significant results of the test (leven) is equal to zero and not less than the significance level of 5% consequently, assuming equal variances (H_0) is not rejected. Therefore, the first row of data is examined to draw conclusions about the mean.Significant results from the assumption of equal variance test for equality of means is less than 5%, as a result H_0 is not rejected and the claims of inequality mean in financial market conditions in symmetric and asymmetric 5% error level is not confirmed.

Results of the researcher's guide Rudposhtiand (2010) in a study acknowledged that the financial market conditions (symmetric-asymmetric) have impact on macroeconomic variables of capital market. VakiliFard and Derakhshan (2008) found in a study, that the financial market conditions (symmetric - asymmetric) is effective in the management decisions. Alizadeh *et al.*, (2011) showed that in different capital market conditions investors' behavior is not rational. Estrada (2002) showed that the average behavior - good approximation of the variance in asymmetric financial market conditions can betteradvice investors investment.

Second Hypothesis

Significant results of the test (leven) is equal to zero and not less than the significance level of 5% consequently, assuming equal variances (H_0) is not rejected. Therefore, the first row of data is examined to draw conclusions about the mean.Significant results from the assumption of equal variance test for equality of means is less than 5%, as a result H_0 is rejected and the claims of inequality mean in financial market conditions in symmetric and asymmetric 5% error level is confirmed. When Fisher and Jordan (2011) in their study of the changing market conditions financial assumptions on their investment style announced and demonstrated that symmetric and asymmetric market conditions will change investors' comments. Poon and Taylor (2012), a similar study of Chen and colleagues (2012) conducted in the UK market and they concluded that the financial market conditions have impact on many variables, including the type of investment styles and influences.

Third Hypothesis

Significant results of the test (leven) is equal to zero and not less than the significance level of 5% consequently, assuming equal variances (H_0) is not rejected. Therefore, the first row of data is examined to draw conclusions about the mean.Significant results from the assumption of equal variance test for equality of means is less than 5%, as a result H_0 is rejected and the claims of inequality mean in financial market conditions in symmetric and asymmetric 5% error level is confirmed.

Estrada (2002) has developed a model as the capital asset pricing reduction model in asymmetry market conditions provide good estimates of expected returns. He said that in terms of asymmetric market conditions CAPM about 38% and DCAPM, 55% provide good estimates of expected returns.Estrada revealed that risk mitigation measures on standard risk measures in variability of the cross returns in emergingmarkets is superior.

Pedersen and Huang (2003) in investigating English companies showed that asymmetric market decline compared to the beta CAPM provides a better estimate of the expected rate of return. Post and Van (2004) suggest that the impact of capital market has a significant impact on investors' decisions. Esteradaans Serra (2005) studied 1,600 companies in 30 countries to examine the factors affecting the expected return. This research's aim is to make the impact of capital market (symmetric-symmetric) more beneficial.

Suggestions

First Hypothesis

When the results of these tests show that the mean value of the financial market conditions vary depending on the variable type, it can be concluded that the variable of financial market conditions (independent variable) has impact on the dependent variables as indicators of capital market activity. In this study, since the upper limit is positive and lower limit is negative, the mean difference of two populations has not been significant and the equity of the mean of two populations is not rejected, in other words, no significant differences in the average turnover cannot be seen in terms of symmetric and asymmetric conditions in other words types of financial market conditions (symmetric-asymmetric) has

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not a significant impact on the Tehran Stock Exchange trading volume. Thus, It is recommended to investors given that the financial market conditions in terms of symmetric and asymmetric has impact on the capital market activity index in its decision to enter the capital market consider other effective variables to move toward maximizing their capitalon the other hand, in recent years due to several factors that have affected the capital market activity including privatization of the turnover in the last few years has affected the Tehran Stock Exchange.

Second Hypothesis

When the results of these tests show that the mean value of the financial market conditions vary depending on the variable type it can be concluded that the variable of financial market conditions (independent variable) has impact on the dependent variable of price index. In this study, since the upper limit is positive and lower limit is also positive, the difference between two population means greater than zero and the population mean (asymmetric market) is larger than the second (symmetrical market) and the equity of average is rejected, In other words, there is a significant difference in average prices can be seen in the context of symmetric and asymmetric conditions in other hand, the type of financial market conditions (symmetric-asymmetric) has a significant impact on the market price of the Tehran stock exchange, therefore, it is suggested, given that investors seek better returns from capital market should know that in addition to the macroeconomic variables that affect the stock market there is another component of the capital markets that affect performance results. So in this regard, investors should focus on symmetrical and asymmetrical elements of financial market conditions in the investment. *Third Hypothesis*

When the results of these tests show that the mean value of the financial market conditions vary depending on the variable type it can be concluded that the variable of financial market conditions (independent variable) has impact on the dependent variable of the rate of return on investment. But in this study, since theupper limit and lower limit both are negative, the difference of two populations less than zero and the population mean (asymmetric market) is smaller than the second (symmetrical market) and the equality of two population means is rejected. In other words, there is a significant difference in the average rate of return on the market in terms of symmetric and asymmetric in otherhandthe financial market conditions (symmetric-asymmetric) have impact on the rate of return on the Tehran stock

exchange. Therefore, investors are advised to identify financial market conditions (symmetric- asymmetric) on their decisions according to the results of the study also it is recommended risk taking and risk aversion investors in different conditions of capital markets to use the results ofoptimizing the investment decision, investors are recommended in symmetrical market conditions, which the relationship between risk and return is clear (Sharpe, 1964) move toward risky investments so that they can earn more profits against more risks and less likely to invest in areas without regard to risk but when the market is asymmetric, the relationship between risk and return is unknown (Estrada, 2002) without risk to the investors risk-free investments (such as short-term investments).

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