

## Investigation on monetary policies effect in view of efficiency of private banks stock admitted in stock market

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**ABSTRACT:** This research work targets to scrutinize the effect of using monetary policy related tools on the return of private banks stocks admitted in stock exchange with stress on the volume of liquidity, the rate of interest, and the amount of partnership bonds. The objective is to investigate the simultaneous effects of independent and control variables on dependent variables. Using panel data, testing the research hypotheses has been carried out through an analysis of multiple-regression. Generally, the results shown that there was a weak significant correlation between volume of liquidity and the amount of published partnership bonds and the return of the stocks of private banks admitted in stock market; meanwhile, the interest rate at an assurance level of 95% had a negative and significant correlation with the return of the stocks of private banks admitted in stock exchange.

**KEYWORDS:** Efficiency of stocks, liquidity scale, multivariable regression, monetary policy interest rate.

### 1 INTRODUCTION

An effective transfer mechanism is achieved when the investment efficiency increases. One of the major goals of enacting monetary policies in all economies is to guarantee price stability and sufficient job opportunities capable of providing a stable economic environment for the sake of economic prosperity of the country. Among main concerns of monetary policy makers, one can mention expanding the monetary policies into real sections of economy in order to develop the economy and this goal can be achieved when the monetary policies are specifically transferred to macro economy through different channels including the interest rate, the credit channels, and the price levels [1]. An effective transfer mechanism is achieved when the investment efficiency increases. If the interest of each stock increases, the investors can gain profits from the efficiency of their investment. Therefore, comprehending how these policies affect the variables of macro economy indeed demands a deep knowledge of how the policies affect the main financial markets and how the changes in prices and the efficiency of assets of such markets affect the behavior of families and companies and other stake holders in particular and the economy in general [2].

The present research intends to scrutinize the effect of monetary policies of Iranian Central Bank on the efficiency of the stocks of private banks registered into stock market. Variables relating to the monetary policy included the amount of published partnership bonds, the liquidity scale, and the interest rate, which are, by themselves, reasonable variables for explaining the performance of monetary policy in Iran, with regards to the results of previous researches carried out on economy in Iran and different Countries.

### 2 THEORETICAL BACKGROUND

In stock market is clearly dependent on the overall performance of economy. In other words, stock exchange is a representative of the whole economy of a country.

A wise investor decides in different situations where to invest his money in such different areas as stock exchange or other rival markets such as gold, housing, and savings bond. In the meantime, different factors affecting the stock exchange should be recognized in order that one invests in the appropriate time. Numerous Investment companies, venture investors, and analysts certainly investigate the factors that affect bonds on a daily basis, but there are still investors who are not that much familiar with such factors.

One of the factors that can tremendously change the efficiency of stock and thus affect the policies of interest distribution in companies is the monetary and financial policy utilized by governments for controlling the liquidity [3]. Monetary policy is a measure designed to affect the scale of money, money route, and credits with the aim to achieve desirable economic ends [4]. Central bank of each country, as the representative of their government, regulates and administers one tarry policy so as to achieve several objectives. This is expressed as the access of required evils in main activities, the exchange rate, the level of prices or inflation, the balance of payments, the real production, and employment [5]. Stock market has, moreover, a considerable sensitivity to changes of monetary policies but this sort of sensitivity can be different in various economies [6]. Comprehending how monetary policies affect the economies in developing countries is very vital if we want to decide on investing in such markets. Since the nature of financial markets and the economic structure of developing countries is very different from those of the developed countries, our knowledge of how monetary policies affect the economy of developed countries is not applicable to developing countries [7]. On the one hand, it is believed that monetary policy can affect financial markets, especially the stock market. It seems that monetary policy has a key role in identifying the efficiency of stockholders' rights by changing the rate of re-interest or affecting the participants' expectations of future economic activities in markets.

On the other hand, some narrative evidences make the policy makers' decisions affect the behavior of stock markets [8]. Enforcing such monetary policies as changing the interest rate of Central Bank has an indirect effect on major variables of economy, thus imposing considerable auses to the mechanism of policy transfer. Larger financial markets like stock markets, the market of savings bonds of governments and major corporations, the market of housing loans, or the markets of foreign exchanges will quickly react to new information and, therefore, a direct and instant effect of changes in devics of financial policy can be discernible by using financial data. Since changes in the price of assets has a key role in different channels, one can claim that identifying the relationship between the monetary policies and the price of financial assets is very necessary in order to gain a better insight into the mechanism of monetary policy transfer [9]. Since changes in the price of assets has a key role in several channels, it can be an important factor for identifying how expansive or contraction-form monetary policies affect the performance of stock market in various countries. The relationship between monetary policy and the performance of stock market is also significant due to various reasons.

There is a consensus among investors and researchers stating that having a precise evaluation of the reaction of price of assets to monetary policies is very significant since it causes economists and the Central Bank authorities comprehend the results of their measures in a better way and identify the effectiveness of the channels of stock market against transfers of monetary policy. Central Bank authorities and the participants in stock market should be completely aware of the relationship between monetary policy and the performance of stock market if they want to fully comprehend the effects of monetary changes. The relationship between monetary policy and stock market can be observed in two perspectives including the effect of monetary policy on stock market and the effect of stock market on monetary policy. Economists have different opinions over this issue; the reaction of the price of assets to monetary policies is a key component for analysis of the effect of monetary policy on economy, regarding the effect of stock markets on monetary policies and, due to its potential effect on stock market trends, is probably a determinant factor for decision makings related to monetary policies. Central bank can improve the performance of economy through controlling and adjusting the price of assets. Stock market is one of the most important financial institutions of economy and therefore is a necessary factor for the stability of development in the long term and thorough the regulation of financial institutions. Monetary policy-makers of different countries should identify the operation mechanism appropriate to their country and thus comprehend the channel through which financial motivators affect the performance of stock market [5]. It is claimed that economic variables like inflation, liquidity, exchange rate, etc. can affect the changes of stock prices and this claim has theoretically been confirmed, too.

However, in the previous decades several attempts have been made with the aim to theoretically investigate the effect of economy forces and to empirically measure its effects. The dynamic relationship between the variables of macro economy and the efficiency of stocks has been widely investigated. Such investigations were heavily based on the theories confirming that stock prices reflect current value of future cash trends of that stock (the current value model). Therefore, future cash trends as well as the expected efficiency rate (the interest rate) are also necessary and the economic variables affect both future cash trends and the expected efficiency rates, being consequently able to exert an effect on stock prices [10].

### 3 LITERATURE REVIEW

In more recent literature, various studies have been carried out focusing on the relationship between monetary policies and capital market, especially stock market, the results of which generally indicating that the capital market is sensitive to sudden changes in monetary policy and the scale of this sensitivity depends on the specific situation of economy. Vithssonthi and Techarongrojwong have investigated the effects of decisions related to monetary policy on the efficiency in Thailand [7]. Their results of regression show that the expected changes in repurchase rate has a negative effect on stock market in contrary to the results obtained from various other studies carried out in the same subject.

Surprisingly, sudden changes in repurchase rate do not have any effect on the efficiency of stocks. Aleemran et al., have investigated the effect of monetary policies on stock market in Iran [11]. The method used in their study is automatic-distributed regression model; the results show that monetary policy has a negative effect on stock market while monetary policies have a positive effect on stock market. Furthermore, their results show that the effect of monetary policy on the efficiency of stock is more than that of financial policy; hence, the monetary policy increases the efficiency of stock in the long term but leaves a negative impact on it in the short term.

Qayyum and Anwar have investigated the effect of monetary policy on fluctuations of stock market in Pakistan [12]. They have used interest rate as a monetary policy tool and have utilized EGARCH method for investigating the relationship between their two variables. The results show that each change in monetary policy leads to meaningful changes in stock market of Pakistan.

Albaity has analyzed the effect of monetary policy tools on the efficiency of the index of Islamic stock market [13]. He has investigated the effect of monetary policy, the interest rate, and the inflation rate on indices of Islamic stock market in Malaysia as well as on the indices of the US stock market as a non-Islamic one. The results show that the indices of Islamic stock market in Malaysia has a positive relationship with M3 and with the inflation rate but a negative relationship with the interest rate, while the index of Islamic stock market in the USA has no single relationship with such variables.

Okpaapra has studied the effect of monetary policy on the efficiency of stock market in Nigeria [2]. He has used the minimum two-stage squares method on a collection of equations. His results show that the monetary policy determines the long-term efficiency of stocks in Nigeria. Aziza has investigated the effect of monetary policy on the performance of stock market His identified model has been calculated in three seasons using vector error correction model (VECM) in order to determine the effects of monetary policy on the performance of stock market [5]. The results show that monetary policy tools are effective through various methods in different places and at different periods of time. This research also indicates that there is no visible difference between developed and developing countries in terms of the effects of monetary policy on stock markets. Kurov has investigated the investor's behavior in stock market and the reaction of stock market to monetary policy [14]. The results show that the shocks produced by monetary policy have a strong effect on the investors' behavior at times of recession. In addition, the stock market has a severe sensitivity to monetary policies, showing a considerable reaction to them.

Ionnidis and Kontonikas have studied the effect of monetary policies on the price stocks in 13 member countries of Economic Union [10]. Self-regression method with distributed lags has been applied for calculation of the econometrics of equations. The results show that changes of monetary policy have meaningful effects on the efficiency of stocks. Rigobon and Sack have examined the effect of monetary policies on the prices of assets [15].

Results of regression indicate that the increase in short-term interest rate has a negative effect on stock price and an even bigger effect on NASDAQ index.

The increase in interest rate within three months decreased the S&P 500 index by 1.7% and the NASDAQ index by 2.4%. Their results also show that the short-term rates have positive meaningful effects on interest rates of the market.

### 4 THEORETICAL FRAMEWORK

The present research investigated the effect of monetary policies on the efficiency of the stocks of private banks admitted in Iranian stock market in a time periods 2005 to 2010 on a seasonal basis. Three variables of liquidity scale, interest rate, and the amount of published partnership bonds were considered as independent variables while the efficiency of stocks of private banks admitted in stock market was selected as our dependent variable. Moreover, the three variables of exchange rate, company size, and oil revenues were put into the model as control variables as well as dependent and independent variables.

## **5 RESEARCH HYPOTHESES**

Our research hypotheses include the following:

1. There is a meaningful relationship between the liquidity scale and the efficiency of the stock of private banks admitted in stock market.
2. There is a meaningful relationship between the interest rate and the efficiency of the stocks of private banks admitted in stock market.
3. There is a meaningful relationship between the scale of published partnership bonds and the efficiency of the stocks of private banks admitted in stock market.
4. There is a meaningful relationship between the liquidity scale, the interest rate, and the scale of published partnership bonds, and the efficiency of the stocks of private banks admitted in stock market.

## **6 METHODOLOGY**

The research method was based on correlation, investigating the relationships and correlations between the variables through regression; the research methodology was based on post-events (using previous data). The data relating to the efficiency of the stocks of the banks in stock market were inquired from Tehran Stock Exchange using Reheard-e-Novin software and the data related to monetary policies (our independent variable) were collected through economic indices published by Iranian Central Bank before getting analyzed through the required finalizations and calculations in Excel software. Final analyses were co-administered using Eviews 7 software. Other data required for the research were gathered through investigating and studying web and library sources available in this area. In our research, RET is the symbol of dependent variable (the rate of efficiency of the stocks of private banks admitted in stock market) and the independent variables of VL, IR and PB respectively represent the volume of liquidity, the interest rate, and the amount of published partnership bonds; the control variables of FER, CS, and IO respectively stand for foreign exchange rate, company size, and the income of oil.

To test the permanency of the variables, the unit root test was utilized (a test previously conducted by Levin, Leen and Chu); the results of Levin, Leen and Chu tests show that the rate of the return is at a permanent level. Other variables except for the volume of liquidity became permanent at difference level of the first time while the volume of liquidity became permanent at difference level of the second time. Multi-variable regression equation was applied in order to investigate the relationship between these two variables in the next section. Firstly, the normality of regression was examined using the statistics of Jarque-Berae. Our model was then normalized by inserting the dummy variable. To investigate the existence of self-correlation, the Durbin-Watson statistics was utilized and to inquire about the dissimilarity of variance, the likelihood ratio was used. In case the regression has a dissimilarity of variance, the GLS method should be used as a method obtained through giving weights to levels with the aim to remove the dissimilarity. Chow Test was used for applying the model of fixed effect versus compilation of all data and finally the Hausman Test was administered for identifying the method of fixed or random effect (in case we admit the panel data method). After administering all the above-mentioned tests, the estimation and solving of the model based on previous tests was carried out.

## **7 RESULT AND DISCUSSION**

### **TEST OF RESEARCH HYPOTHESES**

Regarding the probability of t statistics and the meaningful level (sig), the interest rate at a confidence level of 95% had a negative meaningful effect on the efficiency of the stocks so that with 1 unit increase of the interest rate, the efficiency of the stocks of private banks admitted in stock market decreased by 10.83 units. Also the width from basis variable at a confidence level of 95% and dummy variable at a confidence level of 99% had positive effects on this relation. Only the interest rate had a negative effect on the under-studied dependent variable. As a result, those hypotheses which stated that the volume of liquidity, the interest rate, and the amount of published partnership bonds had meaningful effects on the efficiency of the stocks of private banks admitted in stock exchange are all to be rejected. The coefficient of the adjusted determinant showed that almost 0.60% of the changes of our dependent variable were explained by meaningful variables. Durbin-Watson statistic was also an indicative of a lack of successive self-correlation in the

model. Regarding the amount of the probability of F statistics and the amount of its probability (which was smaller than  $\alpha=0/01$ ), one can deduce that this model had the credibility and was meaningful at a confidence level of 99%.

## 8 CONCLUSION AND SUGGESTION

The effect of monetary policies on the return of the stocks of private banks admitted in stock exchange were tested in this study through estimating a multiple-regression model with panel data method regarding the hypotheses of the study. This investigation was conducted by using variables of monetary policies (volume of liquidity, interest rate, and the amount of published partnership bonds) and the return of the stocks of private banks admitted in stock market. The results obtained from testing the first hypothesis showed that the volume of liquidity at a confidence level of 95% had a minor effect on the return of the stocks of private banks admitted in stock market. Also, of control variables, the variables of foreign exchange rate and company size had a minor effect on this relation. It can be therefore concluded that there was a weak positive meaningful relationship between the volume of liquidity and the return of the stocks of private banks admitted in stock market. The effect of the interest rate on the dependent variable was tested in our second hypothesis. The results indicated that the interest rate with the return of the stocks of private banks admitted in stock market at a confidence level of 95% had negative meaningful effects so that with a 1% change in the interest rate, the efficiency of the stocks of private banks admitted in stock market decreased by 45.12%. Among the control variables, the foreign exchange rate had a negative effect on this relation although this effect was relatively minor so that 1 unit increase of the interest rate caused the efficiency of the stocks of private banks admitted in stock market a decrease of 0.0002 unit. The results of testing the third hypothesis showed that the amount of published partnership bonds at a confidence level of 95% had minor negative meaningful effects on the efficiency of the stocks of private banks admitted in stock market. Also, from control variables, the variable of company size had a small effect on this relation. The results obtained from our fourth hypothesis showed that among the three variables of monetary policy, the interest rate had a negative meaningful relationship with the efficiency of the stocks of private banks in stock market so that with 1 unit increase of the interest rate, the efficiency of the stocks of private banks admitted in stock market decreased by 10.83 units, while the volume of liquidity and the amount of partnership bonds had no meaningful effect on regression equation of the fourth hypothesis. Dummy variety had a positive effect on the relationship in all our research hypotheses. Moreover, the regression equation was generally meaningful considering the probability of F statistics for all four equations.

In general, one of the most important factors that caused the rejection of our fourth hypothesis was the relatively short period of time spent for the research and the comparatively small number of private banks admitting the stock market at the time this research was being carried out.

Furthermore, Iran's economy is governmental and lots of the variables applicable to most other countries do not generate an effect on it.

Since the interest rate has a negative relationship with the efficiency of the stocks of banks admitted in stock market, the managers of these banks should take precautionary measures in case monetary policymakers utilize such devices for fulfilling their economic goals in order to neutralize such negative effects. Such measures may include: reducing the risk of stocks through management of expenses and debts, diversifying the granted facilities and increasing the interest rate of bank deposits (increasing the interest rate of banks will have a positive effect on capital market and will cause an increase in the price of bank stocks) and publishing bonus stocks. In addition, the increase in capital can prevent irregular decrease of prices as well as the efficiency of stocks. The best way for increasing the capital and the efficiency of stocks is the partnership method in which one side of the partnership is the assets and cash and this causes the increase of liquidity volume and there are savings or accumulated profits on the other side which prevents the withdrawal of capital from the company.

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