# The Effect of Economical Politics on Iran Stock Market

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**ABSTRACT:** Current research with the title of studying the effect of monetary policies on Iran stock market discusses and studies about Tehran stock exchange. By the same token, among the accepted companies in Tehran stock exchange during the years 2002 to 2011, 81 companies that until the end of the research period, all were the members of Tehran stock exchange have been chosen by screening method. Independent variables of the research include expenses index to domestic gross production, the index of government fiscal incomes to domestic gross production, the index of real supply of money, nominal interest rate index and inflation rate index and dependent variables are price index and pecuniary efficiency of stock. According to the accomplished analyses, the government expenses taxes, the rate of nominal interest and money supply have negative effect on stock efficiency in short-term and inflation rate has meaningful positive effect. The accomplished analyses for the test of long-term relationship existence (from bounds test method) endorse the long-term relationship existence. According to the **t** statistic in long-term, government expenses, taxes and money supply have meaningful effect on stock nominal efficiency, and inflation and interest rate don't have meaningful effect on it. One percent increase in the government expenses ratio in long-term leads to 3.13 percent increase in stock nominal efficiency. One percent increase in taxes and real supply of money causes that averagely in long-term the stock nominal efficiency to be decreased respectively 3.21 and 3.98 percent.

**Keywords:** Economical Politics, Stock Market, Stock Exchange.

## INTRODUCTION

Theoretically, the behavior of monetary and financial policies (money supply changes, interest rate, government expenses or taxes) play meaningful role in determining the assets price. For example, the taxes increase with the assumption of lack of the government expenses change decreases the efficiency or assets price because prevents the investors from future investment in stock market (Laoupoudis, 2009). According to the economic theories, there are different reasons based on reciprocal effect between the monetary and financial policies and assets price, especially the stock price. Considering that the stock price is determined by looking to the future, therefore it is expected that these policies directly through affecting on real interest rate and indirectly through affecting on uncertainty and consequently affecting on determining factors of the stock interest and stock reward influence on the price index and the stock efficiency. Also monetary policies can be effective on the stock price and investment expense through tools like money supply changes and interest rate.

The manner of monetary policies regulation and using of monetary tools certainly will have great effect on aforementioned economic performance and successful passing through transition stage. Monetary policies influence on the country economy through different canals that the most important canals consist of interest rate, currency rate and credit canals. One of the problems that exist in the credit policies part is that credit canal causes to decrease the amount of money (spastic monetary policy) and also the amount of bank deposits and therefore the power of banks lending will be decreased. With reduction of bank loans, investment will be decreased and therefore national production will be decreased too (Gougerdchian, 2011).

Also because financial status of borrower influences on the additional amount of external financing, the total amount of their credit and the changes of borrower balance sheet quality influence on the amount of institution investment. Therefore reduction in the asset value of an institution causes to decrease the investment and also increasing the price of institution stock causes to increase the investment rate that this process is effective on the whole market and total stock index. With regard to this point that Markazi bank can influence on the amount and supply of the money and consequently economic activity by adopting economic policy with buying or selling the stock exchange of free market, therefore it is necessary that a research to be accomplished in this domain and in relation with huge variables of economic policy and Tehran stock exchange performance (Analysis of the stock supply and demand, 1992).

According to what was proposed, current research follows to study the economic policies on the performance of Iran stock exchange market that these economic policies include monetary and financial policies and explain the indexes of the target stock market and our purpose of the stock market performance.

## *Research record*

Azizi (2007) in a research studied and tested the relationship between the inflation and the stock efficiency in Tehran stock exchange. The results of the research showed that inflation explains pecuniary efficiency index and total efficiency, but it doesn't explain the stock price index. On the other hand pecuniary efficiency, total efficiency and stock price index don't explain inflation. This finding was confirmed by the obtained results of Grengri causality test about price efficiency, total efficiency and the stock price index.

Googerdchian and Mirhashemi Naeeni (2011) in an article with the title of "the role of monetary and credit policies in commercial cycles management of the country" follow to find a respond for this question that whether monetary and credit policies have been effective in creating or adjusting the commercial cycles of the country or not? The results of the research indicate that the effect of sustained momentum on all variables of the model such as monetary and credit policies on the commercial cycle index of the country has been started since second period and its effect will be adjusted till the end of the period permanently means gradually without any fluctuation.

Abbasian, Nazeri and Farzanegan (2012) in a research studied "the effect of monetary policy in creating the price bubble of stock in Tehran stock exchange". Empirical studies of this issue by using of tool variables method GMM and applying the statistical data in the time interval since April 2000 to March 2009 show that real interest rate has negative effect and production has positive but weak effect on real efficiency of the stock. Also the efficiencies of the past periods have positive feedback on the current prices of stock that this indicates the agiotage behaviors existence and the prices deviation from their natural values.

Shahbazi, Rezaee and Abbasi (2013) in their research with the title of "monetary and financial policies and the stock market efficiency" studied the empirical evidences in Iran market. According to the results of the estimated model, current amounts of the money supply have negative effect on the current efficiency of stock but the interruptions of this variable have no effect on the current efficiency of stock. The results confirm that unlike the financial policies, the stock market activists see the monetary policies as one of the effective factors on the stock efficiency and consider the changes of these policies in their accounts.

Afonso & Sona (2010) studied the relation between the changes of financial policies and capital markets and perceived that the expense changes have positive and continuous effect on domestic gross production of America and Britain countries but in German and Italy countries this effect is positive but temporary and also has positive and permanent effect on housing prices and negative effect on the stock price in stock exchange and mixed effect on the price levels.

Alajiddeh et al (2013) studied the relation between the currency rate and stock price in Australia, Canada, Japan, Switzerland and England during the time period of 1992-2005 by using of repletion test and Grenger causality test. Their results show casual relation existence from currency rate to the stock price for Canada, Switzerland and England and casual relation existence from the stock price to the currency rate for Switzerland.

Chinzra (2013) studied the uncertainty relation of economic huge variables and the stock price by using of VAR-GARCH models for South Africa. His findings show the bilateral relation existence between these variables. Also uncertainty of economic huge variables has meaningful effect on the fluctuations of the stock market.

Mourli (2010) in a research studied the relation between the stock price and currency rate in short-term and long-term for England, Japan and Switzerland during the time period of 1985-2005 by using of bounds test.

The results show the long-term relationship existence between the currency rate and the stock price for mentioned countries. Also the results of estimating the error correction models suggest the positive relation between the currency rate and the stock price.

Gaun et al (2006) studied the effect of economic huge variables on the index of stock exchange market of Newsland during the period of 1990-2003 by using of Youhansen collective test. Their results show that there is long-term equilibrium time relation between the model variables and the index of stock exchange price. Also the obtained results of variance analysis show that after passing two years, variables of money supply, short-term interest rate, long-term interest rate and real gross production totally explain 71 percent of lack of equilibrium obtained from shock.

***The research hypotheses***

1. The index of the government expenses to domestic gross production is effective on the price and pecuniary efficiency of the stock.

2. The index of the government fiscal incomes to domestic gross production is effective on the price and pecuniary efficiency of the stock.

3. The index of real supply of money is effective on the price and pecuniary efficiency of the stock.

4. The index of nominal interest rate is effective on the price and pecuniary efficiency of the stock.

5. The index of inflation rate is effective on the price and pecuniary efficiency of the stock.

## METHODOLOGY

This multivariate research is multi relation and practical. In practical researches, theories, laws apply the rules and techniques which are compiled in basic researches to solve the executive and real problems. Considering that the research studies the effect of monetary policies on Iran stock market therefore the research in terms of method is descriptive-survey. The method of data collecting is historic method because the past data of the companies and Markazi bank will be used.

The statistical society includes all accepted companies in Tehran stock exchange. The sectional cutting sampling method has been used. The obtained data of sectional cutting are prepared in an interval of time and randomly. Selective sample is the data related to the price series and stock efficiency and also the data related to the variables of the government monetary policies during the years of 2001 to 2011. For collecting the data and information, library method is used. In library part, theoretical foundations of the research are collected from Persian and Latin specialized books and journals and the research data are collected through the sample companies data with referring to the financial statements, explanatory notes, weekly reports and stock exchange periodical which exists in the site of Tehran stock exchange. Also for collecting the variables related to monetary policies, Markazi bank site is used.

The information related to study the theoretical foundations and subject literature has been collected through library studies and internet searching and the information related to time series of total index of Tehran stock exchange has been collected through formal site of Stock Exchange Company and related CDs. Also the data related to the economic huge indexes

(Monetary and financial policies of the government) can be extracted from the site of Markazi bank of Iran Islamic Republic. Also in order to assess the model and analyze the data of this research **E-views5** and SPSS programs have been used.

In this research the relation between the monetary and financial policies and the stock efficiency will be studied by using of seasonal data. Data analysis is accomplished by using of ARDL. The used model in this research has been based on the accomplished researches in this field and it is taken from Laoupoudis (2009) study. Also the econometric frame has been considered following Pesaran et al (1996, 2001). Generally descriptive and inferential analysis and analyzing the work results constitute this part.

**RESULTS**

In this research for data analysis, at first each one of the data groups has been described with determining the average, mean, the most and least amount, skewness and elongation. Then the effect of economic policies on Iran stock market has been studied.

*A) Descriptive statistics*

Table (1) shows descriptive statistics which are applied in the model.

Table 1. Descriptive statistics of the variables.

| Variable | Companies numbers | Average | Mean | Maximum | Minimum | Standard deviation |
|---|---|---|---|---|---|---|
| NSR | 81 | 15 | 7 | 200 | -57 | 34 |
| GGDP | The whole country | 0 | 0 | 1 | 0 | 0 |
| TGDP | The whole country | 0 | 0 | 1 | 0 | 0 |
| M1 | The whole country | 27 | 23 | 189 | -146 | 26 |
| R | The whole country | 21 | 17 | 98 | -78 | 18 |
| INE | The whole country | 72 | 60 | 185 | 26 | 44 |

*B) Correlation coefficient*

Table (2) shows correlation coefficient between the economic policies with price index and pecuniary efficiency of the stock during the studied period.

Table 2. Correlation coefficient between the price index and pecuniary efficiency of the stock with economic policies.

| Variable | The price index and pecuniary efficiency of the stock | The ratio of government expenses index to domestic gross production | The ratio of government fiscal incomes index to domestic gross production | The index of real supply of money | The index of nominal interest rate | Inflation rate index |
|---|---|---|---|---|---|---|
| The price index and pecuniary efficiency of the stock | 1.00 | 0.08 | -0.012 | 0.78 | -0.17 | 0.25 |
| The ratio of government expenses index to domestic gross production | | 1.00 | 0.73 | 0.08 | -0.21 | 0.18 |
| The ratio of government fiscal incomes index to domestic gross production | | | 1.00 | -0.03 | 0.31 | 0.27 |
| The index of real supply of money | | | | 1.00 | -0.10 | 0.45 |
| The index of nominal interest rate | | | | | 1.00 | 0.29 |
| Inflation rate index | | | | | | 1.00 |

Source: The research accounts with Eviews software.

Table 2 describes the simple correlation of the model variables. Correlation matrix between the variables indicates that the price index and the stock pecuniary efficiency with the variables of real supply of money with correlation coefficient of 0.78, the government expenses ratio to domestic gross production with correlation coefficient of 0.08 and inflation rate with correlation coefficient of 0.25 have positive correlation; and also this index with the ratio of

the government fiscal incomes to domestic gross production with correlation coefficient of -0.01 and nominal interest rate with correlation coefficient of -0.17 have negative correlation. Of course it should be considered that these correlations have been simple standards and don't reflex the dynamism between the variables completely and it is necessary that the relation between these variables to be considered by using of more creditable methods.

## C) The method of the model estimation and doing the statistical tests

After doing the stability tests and with putting maximum interruption of 4 due to seasonality of data, dynamic model of ARDL (1,2,1,0,0,0) has been estimated through Schwartz standard and its results have been presented in table 3. Classic assumptions were studied in estimation and their correctness was confirmed.

Table 3. The results of estimating dynamic model of ARDL (1,2,1,0,0,0).

| Variable | Coefficient | The error of estimation standard | t-statistics |
|---|---|---|---|
| Logarithm of the price index and pecuniary efficiency of the stock (-1) | 0.759*** | 0.067 | 8.95 |
| Logarithm of government expenses index to domestic gross production | 0.013 | 0.142 | 0.74 |
| Logarithm of government expenses index to domestic gross production(-1) | 0.236*** | 0.096 | 3.52 |
| Logarithm of government expenses index to domestic gross production (-2) | 0.165*** | 0.084 | 4.32 |
| Logarithm of fiscal incomes index of government to domestic gross production | -0.146 | 0.085 | -1.74 |
| Logarithm of fiscal incomes index of government to domestic gross production | -0.345*** | 0.0752 | 3.52 |
| Logarithm of real supply index of money | -0.726* | 0.485 | -1.95 |
| Logarithm of nominal interest rate index | -0.085 | 0.057 | -0.25 |
| Logarithm of inflation rate index | 1.478* | 0.895 | 2.10 |
| c | 3.895 | 2.185 | 1.52 |
| T | 0.023 | 0.006 | 1.67 |

***, **, * are the meaningfulness indication of related coefficient in order at level of %1, %5, and %10.

## D) Hypotheses test of the research (short-term)

As it is observed in table 4, first interruption of stock efficiency has positive effect on itself and it is meaningful. First and second interruptions of government expenses have meaningful effect on the stock efficiency and with regard to the mentioned issues; the results of simultaneous meaningfulness test of interruptions coefficients of government expenses indicate that the coefficients of these interruptions are statistically meaningful with high certainty degree:

$$H_0: \gamma_1 = \gamma_2 = 0; \ F(2.26) = 7.41; \ Prob = 0.0035$$

The results also indicate that current amounts and taxes with interruptions have meaningful negative effect on the stock nominal efficiency. These findings are according to the theoretical expectations, because taxes increasing prevent the investors from future investment in the stock market and will decrease the expected efficiency or the assets price. Therefore, with regard to the effect of the government expenses interruptions and taxes on the current efficiency of stock it can be said that efficiency hypothesis of Iran stock market to financial policies isn't accepted. This means that the stock market activists don't pay attention to the effect of financial policies on the stock efficiency, while this information can have meaningful role in determining the stock efficiency. Also the other result in this part is positive effect of inflation on the stock nominal efficiency.

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***The hypotheses test of the research (long-term)***

Now for testing the long-term relation existence, bounds test method is used. The results of this test have been mentioned in table 4. Considering that the calculated statistic amount is more than the critical amount of upper bound at level of 25 percent, the long-term relation existence is confirmed.

Table 4. The results of bounds test.

| $F_{|||}$ | F-statistic=5.98 | Lower bound=2.45 | Upper bound=3.61 |
|---|---|---|---|
| $F_v$ | f-statistic=4.15 | Lower bound=2.87 | Upper bound=4 |

Critical amounts have been determined at level of 95 percent by Pesaran et al (2001). $F_{|||}$ Indicates F-statistics related to the model with free width from origin and without process and $F_v$ indicates F-statistics related to the model with width from origin and free process.

With confirming the long-term relation existence, we estimate the long-term model related to relation 1 that the results have been shown in table 5.

With regard to t-statistic in long-term, government expenses, taxes and money supply have meaningful effect on the stock nominal efficiency, and inflation and interest rates don't have meaningful effect on it. One percent increase in the ratio of the government expenses in long-term leads to 3.13 percent increase in the stock nominal efficiency. One percent increase in taxes and real supply of money causes that averagely in long-term the stock nominal efficiency to be decreased in order 3.21 and 3.98 percent. The results of estimating the error correction model have been mentioned in table 5.

Table 5. The results of estimating the long-term relation of model ARDL (1,2,1,0,0,0).

| Variable | coefficient | The error of estimation standard | t-statistics |
|---|---|---|---|
| Logarithm of government expenses index to domestic gross production | 2.78*** | 1.25 | 2.85 |
| Logarithm of government fiscal incomes index to domestic gross production | -2.45*** | 0.85 | -3.23 |
| Logarithm of real supply index of money | -3.74** | 1.65 | -1.98 |
| The index of nominal interest rate | -0.035 | 0.35 | -0.23 |
| Inflation rate index | 10.23 | 7.42 | -1.37 |
| C | 23.45** | 10.58 | 2.18 |
| T | 0.078** | 0.045 | 2.36 |

***, ** are the meaningfulness indication of related coefficient in order at level of %1 and %5.

Table 6. The results of estimating the error correction model of ARDL (1, 2, 1, 0, 0, 0).

| Variable | Coefficient | The error of estimation standard | t-statistic |
|---|---|---|---|
| The changes of logarithm of government expenses index to domestic gross production | 0.075 | 0.874 | 0.978 |
| The changes of logarithm of government expenses index to domestic gross production (1) | -0.231*** | 0.074 | -3.213 |
| The changes of logarithm of government fiscal incomes index to domestic gross production | -0.214* | 0.087 | -1.974 |
| The changes of logarithm of real supply index of money | -0.456* | 0.412 | -1.971 |
| The changes of logarithm of nominal interest rate index | -0.006 | 0.514 | -0.234 |
| The changes of logarithm of inflation rate index | 1.74* | 0.914 | 1.967 |
| C-changes | 4.63 | 3.147 | 1.879 |

| T-changes | 0.018 | 0.009 | 1.658 |
| The coefficient of error correction sentence | -0.153*** | 0.063 | -2.562 |

***, **, * are the meaningfulness indication of related coefficient in order at level of %1, %5 and %10.

According to the results of table 6, government expenses, taxes, nominal interest rate and money supply in short-term have negative effect on the stock efficiency and have meaningful positive effect on inflation rate. The coefficient of the government expenses variable in short-term indicates this point that with increasing of this variable, the stock efficiency will be decreased one percent with an interruption equal to 0.176 percent.

What is more important than the other things in error correction model is the coefficient of error correction sentence ECM (-1) that indicates the adjustment speed of lack of equilibrium process. As it is expected the sign of this coefficient is negative and indicates that about 16 percent of the deviations of the stock nominal efficiency index from its long-term equilibrium amounts will be disappeared after passing a period. Therefore if deviation is created in long-term relation, about 6 periods will take up till this error to be corrected that upper equilibrium speed will not be accounted.

## CONCLUSION

According to the accomplished analyses, government expenses, taxes, nominal interest rate and money supply in short-term have negative effect on the stock efficiency and inflation rate has meaningful positive effect. In the following the obtained results for each hypothesis are presented separately:

In explaining the results of hypothesis 1, first efficiency interruption of the stock has had positive effect on itself and it is meaningful. The coefficient of government expenses variable in short-term indicates this point that with increasing of this variable equal to one percent, the stock efficiency will be decreased with an interruption equal to 0.176. This negative effect can be due to this fact that usually great part of the government expenses is allocated to the infrastructure part that these kinds of the government expenses in long-term can help to increase the economic production and growth and with development of foreign advantages it can become the investment encourager of private part and can bring reversed effects in short-term. On the other hand, the first important effectiveness of the government expenses on the stock efficiency in short-term is a confirmation on non-efficiency of the stock market related to financial policies.

Also the results of hypothesis 2 indicate that current amounts and taxes with interruption have meaningful negative effect on the stock nominal efficiency. These findings are according to the theoretical expectations, because increasing of the taxes prevents investors from future investment in the stock market and will decrease the expected efficiency or the assets price. With regard to the taxes effectiveness on the stock nominal efficiency with an interruption, the stock market doesn't have efficiency related to this variable. Therefore with regard to the effect of the government expenses interruptions and taxes on the current efficiency of the stock it can be said that the efficiency hypothesis of Iran stock market related to financial policies isn't accepted. This means that the stock market activists don't pay attention to the effect of financial policies on the stock efficiency, while this information can have meaningful role in determining the stock efficiency.

With regard to the results of third hypothesis, current amounts of money supply have meaningful negative effect (at criminal level of 10 percent) on current efficiency of the stock and the amounts with interruption of this variable don't have any effect on the current efficiency of the stock. In other words, the stock market activists pay attention to the changes of money supply and its effect on the stock efficiency and apply it in their accounts.

According to the forth hypothesis, in spite of this fact that the coefficient of the interest rate has been negative and has also conformity with theory, but it is not statistically meaningful. These results indicate that the interruptions related to the monetary policy tools don't have any effect on current efficiency of the stock and unlike the financial policies; the stock market activists see the monetary policies as one of the effective factors on the stock efficiency and consider the changes of these policies in their accounts. Therefore, in this relation it can be said that the hypothesis of the stock market efficiency related to monetary policies is accepted.

The other result in this part is the positive effect of inflation on the stock nominal efficiency. This conclusion isn't along with the studies like Fama (1981) but it is along with Fisher theory and other studies like Laoupoudis (2009) and Piraee and Shahsavar (2009). Also the reason of positive effect of inflation rate on the stock nominal efficiency is due to this fact that the prices increasing in short-term causes to increase the stock nominal profit, therefore with increasing of demand for the stock, the stock price and consequently the stock nominal efficiency will be increased.

According to the accomplished analyses for the long-term relation existence test, with regard to this fact that the amount of calculated static is more than critical amount of upper bound at level of 95 percent, the long-term relation existence is confirmed.

With regard to t-statistic in long-term, government expenses, taxes and money supply have meaningful effect on the stock nominal efficiency and inflation rate and interest rate don't have meaningful effect on it. These findings indicate that government expenses in Iran in long-term act as the investment complementary of private part and with development of foreign advantages it becomes the investment encourager of private part and consequently causes to increase the stock efficiency. On the other hand, increasing of taxes with assumption of lack of change of government expenses will decrease the expected efficiency or assets price, because prevents investors from future investment in the stock market. Negative effect of increasing of money supply on the stock nominal efficiency is interpreted in this way that in long-term, with increasing of money supply, liquidity flows toward real assets market like housing that leads to high income and this causes that investors in the stock market also transfer their capital to the other parts in order to obtain higher profit and the stock price and efficiency will be also decreased with reduction of demand for the stock.

As it was also mentioned before, long-term relation existence between the variables provides the base of using the error correction model. Error correction model links short-term fluctuations of variables to long-term equilibrium amounts. These models in fact are a kind of partial adjustment models in which effective factors in short-term and the speed of approaching to long-term equilibrium amount is measured by interning Mana residue.

**Conflict of interest**

The authors declare no conflict of interest

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