



The Impact of Monetary and Fiscal Policies on Iran's Stock Market: An SVAR Approach

Taghi Nouri Namini¹, Zohreh Tabatabaei Nasab²

¹M.A. student in Economics, Department of Economics, Yazd Branch, Islamic Azad University, Yazd, Iran

²Assistant Professor of Economics, Department of Economics, Yazd Branch, Islamic Azad University, Yazd, Iran

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ABSTRACT

In this study, the effects of monetary and fiscal policy and the interaction between them on Iran's stock market performance have been investigated. To this end, the Gross Domestic Product (GDP) target, oil revenues, the general price level, government expenditure (as a symbol of fiscal policy), money supply (as a symbol of the monetary policy), and stock market index have been used as indices of changes in the stock market. Seasonal data was studied from 1991 to 2010. The methodology was based on structural vector auto-regressions (SVAR) using Eviews software. To investigate the effects of shocks, impulse response functions and variance decomposition were used. The results indicates that monetary and fiscal policies have a positive but little impact on the changes in the stock price index, and both policies, directly or indirectly, affect the stock market. Monetary and fiscal policies and the interactions between them have direct effects on stock market development. The findings also showed that the direct effects of fiscal policy has no impact on the performance of the stock market.

KEY WORDS: monetary policy, fiscal policy, stock market, structural vector auto-regressions (SVAR)

1. INTRODUCTION

One of the features of economic activities is the capability to lead the saving resources to economic investment. In underdeveloped countries, a large percentage of savings is disappeared in many ways. In these countries, people convert their savings into gold, silver, and durable assets such as land, etc., so that they would have them as alternatives to long-term cash. But this way of preserving the money causes frequent damages and reduces the efficiency of economic activity in the community. In fact, the presence of un-invested savings on the normal track is a factor that creates much turbulence in the national economy. Therefore, it is necessary to take actions for collecting these resources and directing them to productive economic activities. Such a goal can only be achieved through the money and capital market:

Undoubtedly, stock returns of companies depends on the performance of the entire economy. In other words, it could be declared that the stock exchange is an economic symbol that represents the total economic activity of a country. So in the meantime, the various factors affecting the stock market must be identified so that good investments take place in suitable opportunities. Monetary and fiscal policies of the government are among the factors that cause extreme changes in the stock returns and affect the dividend policy of the company. Therefore, this study examines the effects of monetary and fiscal policies on the stock market.

This paper is organized in 5 sections. In the second section, review of literature is discussed. The third section elaborates on the methodology, and section four analyzes the results. Section five states the summary of interpretations and conclusions of the study.

2. LITERATURE REVIEW

2.1. Monetary policy and its impact on the stock market

Monetary policy controls the changes in the volume of money, changes in money growth and interest rates, or conditions on granting financial facilities. Initiative to changes in volume of money is mainly under the control of the Central Bank and this bank make changes in the volume of the money through applying monetary policies such as changes in banks' reserve requirements ratios, changes in rediscount rates, and open market operations (Akhavan, 1995).

In this regard, the central bank can effect on the market by monetary policies, directly through regulatory powers to influence stock returns or indirectly through the impact on money market conditions as the producer of high-powered money (currencies and deposits at the central bank). Accordingly, there are two distinct kinds of monetary policy instruments, which are known as direct and indirect instruments. As it is known, the tight monetary policy causes investors to consider the investment in the stock market a more risky action and thus demand higher yields on shares. (Jahankhany and Parsayian, 1996)

Corresponding author: Taghi Nouri Namini, M.A. student in Economics, Department of Economics, Yazd Branch, Islamic Azad University, Yazd, Iran. tnourinamini@yahoo.com

2.2. Fiscal policy and its impact on the stock market

Fiscal policy tries to achieve specific economic goals through tools such as changes in public finance and tax. The mentioned policy is applied by the government to impress total demand and supply in the economy. Thus it could be simply defined as a change in the government income or expenditure. Fiscal policy is one of intersections between politics and economics due to the fact that policy has a very important role in determining the objectives of fiscal policy. In the end, it can be said that the fiscal policy uses the government revenue (taxes) and expenses (cost) to influence the economy. Therefore, taxation and government expenditure are two main instruments of fiscal policy (Maftouh, 2004).

Fiscal policy can also have great impact on stock returns since there are reasons for the effectiveness of fiscal policy on economic and financial activities. Among these reasons is the impact of financial shocks on smaller companies and stock return in these company. In fact, the reasons for the susceptibility of these companies (small companies) are changes in fiscal policy and their more dependency on financial resources when compared to larger companies. In other words, the impact of financial shocks on stock returns of smaller firms is more than that of large firms. The reason is that in case of financial shocks, borrowing will be more difficult and expensive. The susceptibility also could lead to a lack or decrease of the dividend and consequently result in more reduction in the yield. Furthermore, companies which provide financing through saving bonds are less susceptible. These companies also suffer from less pressures in the dividend policy. On the other hand, changes in deposit rates can have a significant impact on the rate of stock return. Dividend do not change so much for companies which provide financing through producing saving bonds. But the pressure from the above mentioned factors causes a stock value decrease. While the dividend change is an important factor in the transmission of monetary policy to the stock price, interest rates on bank deposits has a considerable impact on stock returns. For example, tight fiscal policies will lead to increased interest rates, which in turn, this increases the cost of holding stocks and decreases companies' dividend; because companies have to borrow fund from banks and financial institutions to provide liquidity. These two factors both put pressure on the stock and decrease the stock price. (Taghavi and Mohammadzadeh,2002)

3. Background of the study

Silvia Ardagna (2009), in the Financial markets' behavior around episodes of large changes in the fiscal stance, discussed the interest rates and stock prices. In this article, she used a panel of OECD¹ countries from 1960 to 2002. The results show that when economic conditions are favorable, interest rates decrease especially for those who have long-term government bonds. While the interest rate will be increased in the budget deficit period. Other results show that stock prices will increase by adopting a strong fiscal policy and they will decline as the result of adopting a weak fiscal policy.

The above article emphasizes that the obtained results depend on each country's financial conditions and basic economic vigor. Such countries face budget deficit for many years and make financial reform and changes to overcome it. However, it is mainly due to the lack of government expenditure which results in substantial and permanent reduction in the government budget and in turn make reductions in interest rates and increase in market prices.

1.Organization for Economic Co- Operation and Development

Bredin, Don& et.al. (2009) investigated the stock market response to monetary policy impacts according to predetermined changes in the UK and Germany. They stated that politics in European regions, especially the UK and Germany stock market is the result of previous events in this region. Therefore, predictions regarding the analysis and changes of policies in these countries are highly dependent on the marketing in these counties. Overall, the results showed that the monetary policy had substantial negative effects on stock returns in both countries.

Bredin, Don& et.al. (2009) investigated the monetary policy and its impact on the housing market and the stock price. They investigated the impact and the interaction between fiscal policies shock and capital markets in four countries (USA, UK, Germany, and Italy). In their study, they used simultaneous equations and Vector Auto Regression (VAR)¹ model and first investigated the impact of capital policy on the stock market. According to the VAR model calculations, they concluded that the fiscal policy shock had less impact on the capital market in the USA and Germany. Whereas, it had a considerable impact in the increase in the house and stock price in the UK. In Italy, the government revenue shock caused increased volatilities in the capital and stock market.

Alfonso, et al (2011) examined the impact of fiscal policy shock on capital markets in four countries (USA, UK, Germany, and Italy) using the VAR model. The results showed that government spending shocks had a permanent positive effect on GDP in the United States and UK. Whereas, this effect was temporary in Germany and Italy. A permanent positive effect on housing prices, an effect on stock price and positive and negative effects on the price level were observed. Based on VAR model calculations, they concluded that financial shocks play a less important role in the capital markets of USA and Germany. The most impact was observed in housing and stock price in England. Finally, financial shocks increased government revenue shocks in Italy.

Alfonso et al (2012) studied the fiscal policy and its effects on macroeconomic policy again in four countries (United States, UK, Germany and Italy) using the B- SVAR² model. This article explores the effects of fiscal policy shocks on the housing market and the stock price in more details than the study in 2009. These details include considering the feedback of the

government debt, considering the impact of fiscal policy on other results and outputs, analysis and effects of this policy on capital markets and using quarterly time series data, and finally analysis of results obtained in the mentioned countries. The results are as follows: a) the minimum effect on GDP had the greatest impact on housing prices and productions. Whereas it caused decline in stock prices and the resulting shock of government revenue had less effect on stock prices. It cause a decrease in the house price at some point and an increase in another point. Finally, the results show that government debts play an important and substantial role in the discussed pattern so that the impact of this role (government debt) is inevitable. Najarzadeh and Khundabi (2008) investigated the impact of price and currency shocks on the stock price index using monthly data for the period of 2003 to 2006. They used Vector Auto-regression Model, impulse response functions and variance decomposition in their study. According to the research results, variables of the stock price index, real exchange rate, and inflation rate had a significant long-run equilibrium relationship. And shocks on inflation and exchange rates had negative impact on stock price index in the long term had a positive impact in the short term. The impact of the inflation rate shock on the real stock return has been more intense than the exchange rate shock.

1.Vector Auto Regression

2.Bayesian structural Vector Auto Regression

Sajjadi and others (2010) examined the relationship between macroeconomic variables and stock price general index in the stock exchange. The goal of the study was to determine the long-term relationship between the growth rate of the stock general index and a set of macroeconomic variables such as inflation rate, liquidity growth rate, real interest rates of banks, and oil revenues. In this study, seasonal data were discussed analyzed for the period of 1995 to 2007 using Vector Autoregressive Distributed Lag. Co-integration test results showed that there is a long term relationship between the growth rate of the general price index and the independent variables. So that the coefficients of liquidity growth rate and inflation rate have a significant negative correlation with the growth rate of the general price index at ninety percent confidence level. The significant correlation between coefficients of oil revenues, foreign exchange rates and banking real interest rates is rejected at ninety percent confidence level.

Sajjadi and others (2010) try to determine the long-term relationship between the growth rate of stock cash return index and a set of macroeconomic variables such as inflation, growth rate of liquidity, exchange rates and oil revenues. In this study, the data has been analyzed seasonally for the period of 1998 to 2007 using Autoregressive Distributed Lag (ARDL) method. The Results of Augmented Dickey-Fuller Unit Root Test (ADF) showed that the liquidity rate in first order and other variables in the first order difference are stable. The co-integration test results also indicated there is a long-term relationship between aforementioned economic variables and growth rate of cash returns index. Also the long-term correlation between the growth rates of cash return index, oil revenues and exchange rate is negative and this correlation for the inflation rates is positive. Besides, the significance of liquidity growth rate coefficient was rejected at the ninety percent confidence level.

Kianvand et.al. (2010) investigated the impact of monetary policy shock on stock market price index in Iran. To this end, legal deposit, banks' debts to the Central Bank, and private sector's debt to banks have been used as criteria for evaluating monetary policy. Also, the stock market general index was used as an index of stock market changes. The asset price Channel and portfolio theory forms the theoretical perspective on the subject. Thus, the housing price index and exchange rates have been added to the model due to their important role in people's portfolios. The seasonal data for the period of 1991 to 2010 and statistical methods, especially co-integration concept and vector error correction model (VECM) have been applied for statistical inference. To investigate the effects of shocks, impulse response functions and variance decomposition were used. The results showed that monetary policy has a little positive effect on changes in the stock price index. Among monetary variables, banks debt to the Central Bank has a stronger impact on the stock price index than the two other variables.

Davoudizadeh (2011) investigated the impact of monetary policies on the stock market in his master's thesis. He used the Vector Auto-regression model on a monthly basis from April 1991 to September 2008. First, monetary policy shock was extracted by considering liquidity as the monetary policy variable. It was found that there was a negative relationship between monetary policy shock and stock price index. Using the ARDL¹ model, it was shown that there is not a co-integration relationship between monetary policy shocks and long-term stock price index. Therefore, the basic assumption stating that monetary policy has no significant effect on the long-term component of stock price (process) was confirmed.

1.Autoregressive Distributed Lag

Also, the asymmetric effects of monetary policy shocks on stock price index have been discussed by introducing a dummy variable for the stock price index, with values of zero and one, respectively, for the low price and high price. The results show that the impact of monetary shocks on stock price index in both low prices and high prices are the same. However, the amount of impact is higher in lower prices.

4. Model Specification

4.1. SVAR model

In this study, Structural Vector Auto-regression model (SVAR) is used to investigate the effects of monetary and fiscal policies on Iran's stock market. Primary VAR models used Cholesky decomposition to calculate impulse response functions. Cholesky decomposition implies a causal sequence. If a researcher wants to investigate the effects of more than one shock (e.g. monetary shock), it might be unacceptable. (Elbourne, 2008).

Blanchar & Quah (1989) developed SVAR model with regard to the theoretical limitations of simultaneous impulses. Then Clarid & Gali (1994) identified impulse response functions by applying theoretical limitations on the long-term effects of impulses. A major advantage of SVAR models to primary VAR models is that, unlike unbound VAR models in which structural impulses are identified implicitly and personally, Structural Vector Auto-regression models explicitly possess an economic rationale based on economic theories for imposing constraints and limitations. These restrictions can be short term or long term. Structural shocks are obtained after identifying the limitations .

These shocks can be applied for creating impulse response functions and variance decomposition in order to evaluate the dynamic effects of different variables.

VAR studies regarding the monetary transmission mechanism which used Cholesky decomposition have insisted on the component identification, i.e. only one shock can be studied in each model (Christiano& et al. 1999).

Consider the following K-dimensional time series vector, y_t . It is assumed that y_t can be approximated by an auto-regression vector of finite p -th order. The aim is to recognize the following parameters in the structural auto-regression model. (Kilian, 2011).

$$B_0 y_t = B_1 y_{t-1} + B_2 y_{t-2} + \dots + B_p y_{t-p} + \varepsilon_t \tag{1}$$

Where ε_t is a serially uncorrelated disturbance vector of error terms with mean zero which are referred to as structural shocks. Model (1) can be summarized as follows:

$$B(L)y_t = \varepsilon_t \tag{2}$$

Where $B(L) = B_0 - B_1L - B_2L^2 - \dots - B_pL^p$ is a lagged polynomial operator. Variance – covariance Matrix of the structural disturbances is normalized so that:

$$E(\varepsilon_t \varepsilon_t') = \Sigma_\varepsilon = I_K \tag{3}$$

This means that, firstly, the number of structural shocks is equal to the number of variables in the structural model. Second, based on the definition, structural shocks are mutually uncorrelated and this indicates that Σ_ε is diagonal. Thirdly, the variances of all structural shocks are normalized to 1 for simplicity. However, B_0 diagonal elements are not limited. Structural VAR model is not directly observable. To estimate the structural model, it must first be extracted in reduced form i.e. specifying y_t according to the lags for the extraction of the reduced form by multiplying both sides of the structural form by B_0^{-1} :

$$B_0^{-1} B_0 y_t = B_0^{-1} B_1 y_{t-1} + B_0^{-1} B_2 y_{t-2} + \dots + B_0^{-1} B_p y_{t-p} + B_0^{-1} \varepsilon_t \tag{4}$$

Thus, the same model based on observable elements is expressed as follows:

$$y_t = A_1 y_{t-1} + A_2 y_{t-2} + \dots + A_p y_{t-p} + u_t \tag{5}$$

Where $A_i = B_0^{-1} B_i$ and $i = 1, 2, \dots, p$. The equation (5) also states that:

$$u_t = B_0^{-1} \varepsilon_t \quad \varepsilon_t = B_0 u_t \tag{6}$$

4.2. Identification of variables and model specification

To evaluate the effects of monetary and fiscal policy on Iran's stock market, stock market index has been used as the stock market variable. Also, given that many studies on Iran's economy have demonstrated the high susceptibility of significant macroeconomic variables to oil revenues. And given that the increase in the country's oil revenues was associated with an increase in the money supply in many years. Therefore, oil revenue has also been used as one of the variables affecting the stock market. The general government expenditure is used as a symbol of the government's fiscal policy and the money supply is used as a symbol of the monetary policy. Finally, considering the importance of GDP and its role on the stock market, it can be concluded that the increase in the volume of money in circulation, a portion of liquidity will be flowed into the stock market. Therefore, the gross domestic product is used to assess the stock market. According to the above description and theoretical foundations of the model, variables used in this paper are as follows:

OIL: Oil revenue. GDP: the gross domestic product at constant prices in 1997. CPI: the general price level at constant prices in 2004. GOV: Government spending as a symbol of fiscal policy. MS: money supply as a symbol of the monetary policy.

IND: stock market index. The data, quarterly, were calculated in regard to the growth rate and is and the period under study is (1991-2010). All data have been extracted from the website of the Central Bank of the Islamic Republic of Iran and Statistical Center of Iran.

The Results of Augmented Dickey-Fuller Unit Root Test (ADF) showed that all the variables have unit roots at 1% significant level. *P-th* order SVAR model:

$$A_0 Y_t = c_0 + \sum_{i=1}^p A_i Y_{t-i} + \epsilon_t \tag{7}$$

Where Y_t is a column vector of variables, A_0 is the squared matrix of simultaneous coefficients, A_i is the squared matrix of auto-regression coefficients, and ϵ_t is the column vector of structural disturbance. SVAR reduced form, known as VAR model, is estimated by multiplying the equation (8) by A_0^{-1} :

$$Y_t = a_0 + \sum_{i=1}^p B_i Y_{t-i} + e_t \tag{8}$$

In this equation, Y_t includes variables (OIL, GDP, CPI, GOV, MS, IND) = . So that $\epsilon_t = A_0 e_t$, $B_i = A_0^{-1} A_i$ and $a_0 = A_0^{-1} c_0$.

$$\begin{pmatrix} \epsilon_t^{oil} \\ \epsilon_t^{gdp} \\ \epsilon_t^{cpi} \\ \epsilon_t^{gov} \\ \epsilon_t^{ms} \\ \epsilon_t^{ind} \end{pmatrix} = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ a_{21} & 1 & 0 & 0 & 0 & 0 \\ a_{31} & a_{32} & 1 & 0 & 0 & 0 \\ a_{41} & a_{42} & a_{43} & 1 & 0 & 0 \\ a_{51} & a_{52} & a_{53} & a_{54} & 1 & 0 \\ a_{61} & a_{62} & a_{63} & a_{64} & a_{65} & 1 \end{pmatrix} * \begin{pmatrix} e_t^{oil} \\ e_t^{gdp} \\ e_t^{cpi} \\ e_t^{gov} \\ e_t^{ms} \\ e_t^{ind} \end{pmatrix} \tag{9}$$

Vector $\epsilon_t = (e_{toil}, e_{tgdp}, e_{tcpi}, e_{tgov}, e_{tms}, e_{tind})$ includes disturbance terms in which *et oil* is the oil revenue shock, *et gdp* is the GDP shock, *et cpi* is the general price level shock, *et gov* is the government expenditure shock to, *et ms* is the money-supply shock, and *et ind* is the the stock market index shock. Six variables were assigned in order to evaluate the effect of monetary policy and fiscal policy shocks.

4.3. Issue of identification and application of restrictions

The intended restrictions in the first row of the above matrix is related to the assumption of a small open economy and it implies that shocks to domestic monetary and fiscal policies do not have an instant impact on external variables (Iran’s real oil revenues). Thus, the structural disturbance of this variable, i.e. oil revenues, is only effected by itself.

$$e_t^{oil} = 1 \tag{10}$$

The restriction applied in the second row, suggest that GDP is affected by oil revenues in Iran. Therefore, changes and volatilities of oil revenues could affect the GDP. As a result, investigating the impact of oil revenues on GDP is significant and important. In other words, the above matrix declares that structural disturbance of GDP is only affected by itself and oil revenues. So that:

$$e_t^{gdp} = a_{21} + 1 \tag{11}$$

In the third row, it is assumed that the general price level can simultaneously respond to changes fiscal and monetary policies and GDP. This assumption is based on a study by Maroufkhani, 1998. According to this study, there has been a one-way relationship between monetary and fiscal policies in Iran and it also states that monetary and fiscal policies are directed to inflation. The structural disturbance of the general price level is affected not only by itself, but also by oil revenues and GDP. So that:

$$e_t^{cpi} = a_{31} + a_{32} + 1 \tag{12}$$

The restriction applied in the fourth row is related to the government expenditure compared to other variables in the model. As can be seen in the above matrix, structural disturbance of the government expenditure is affected not only by itself, but also by oil revenues, GDP and the general price level. So that:

$$e_t^{gov} = a_{41} + a_{42} + a_{43} + 1 \tag{13}$$

The restrictions applied in the fifth row is also derived from the empirical studies conducted in Iran (Taghipour and Nofaresti, 1999). Given that the Iranian government financing is somewhat dependent on oil revenues, the sudden change in oil revenues changes the monetary base regardless of the general price level. Under these conditions, monetary policies conform to fiscal policies. Thus, the structural disturbance of money supply is affected not only by itself, but also by oil revenues, GDP, the general price level, as well as government expenditure. So that:

$$e_t^{ms} = \alpha_{51} + \alpha_{52} + \alpha_{53} + \alpha_{54} + 1 \tag{14}$$

Finally, in the last row, it is assumed that money market index is affected not only by itself, but also by oil revenues, GDP, the general price level, government expenditure, and the money supply. So that:

$$e_t^{ms} = \alpha_{61} + \alpha_{62} + \alpha_{63} + \alpha_{64} + \alpha_{65} + 1 \tag{15}$$

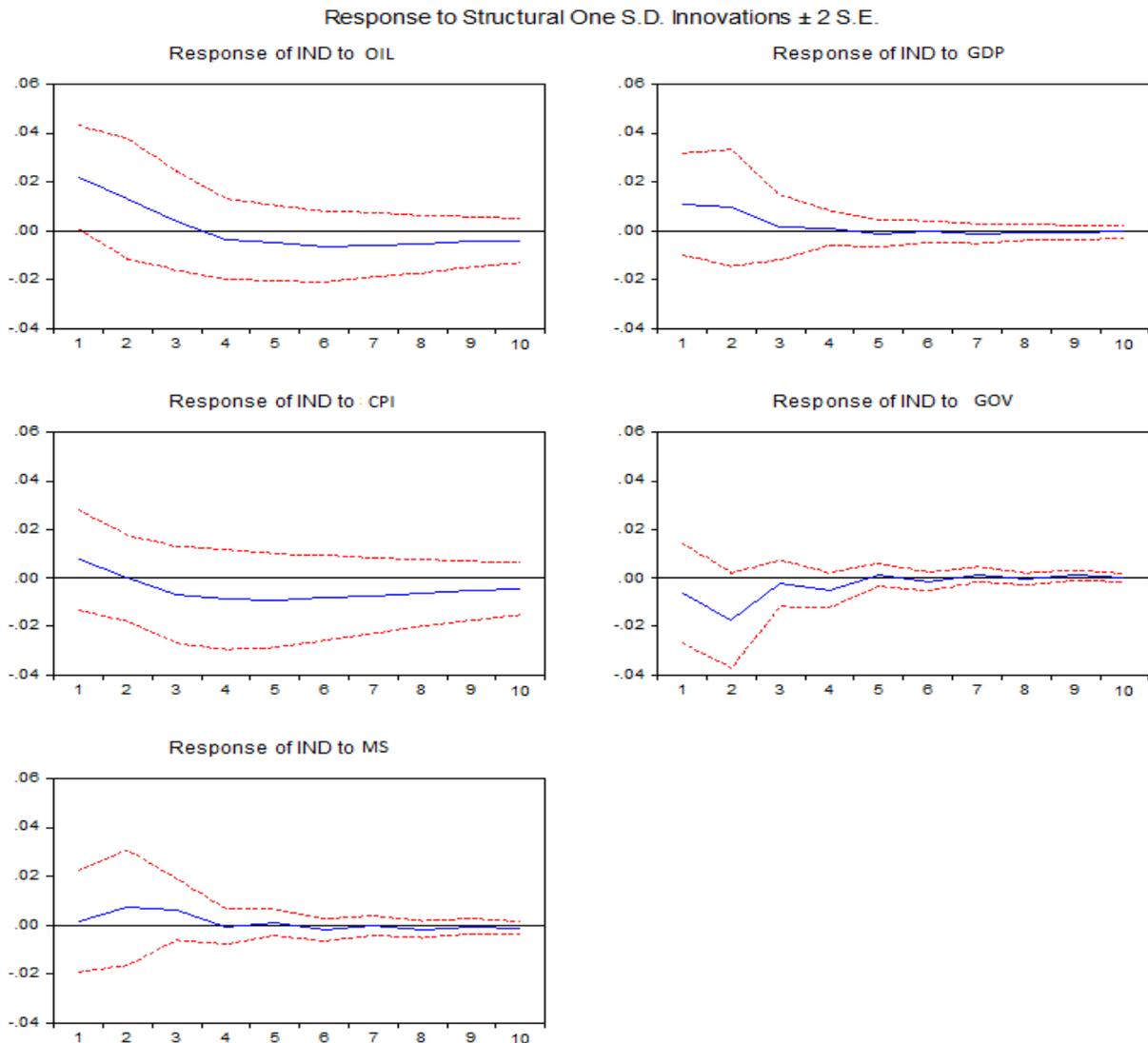
5. SVAR Model and results of analysis

The effects of variables' shocks, especially monetary policy and fiscal policy shocks on the stock exchange market were examined. Then, the effect of other variables' shocks, especially monetary and fiscal variables is investigated using impulse response functions and variance decomposition.

6. Investigating the impact of research variables' shock on IND

The purpose of this study was to evaluate the effect of structural shocks due to oil revenues, GDP, general price level, government spending and the money supply on the stock market index during the years 1991 to 2010. Eviews software was used to assess these variables. The software outputs obtained from the analysis of these variables is shown in the figure (1).

Fig. 1. The Impact of OIL, GDP, CPI, GOV and MS shocks on IND



6.1. The response of the stock Exchange general index to GDP:

In the above figure, the stock exchange has had a positive response to the increase in GDP so that the stock exchange general index has increased. As it is observed in the figure, the rising trend in the prices and stock market positive response to the GDP are continued till the third period. In other words, it could be said this effectiveness is due to the critical role of GDP on the stock market, i.e. GDP is the most comprehensive variable which shows the real performance of the government and is considered as an economy growth or stagnation index. Meanwhile, based on an accounting equation, GDP is directly dependent on the amount of consumption, private-sector investment, government expenditure, and net exports. On the other hand, the capital market is referred to as a coherent institution for direct investments of the private sector in different economic sectors. Therefore, changes in the capital markets cause investments in the private sector and ultimately will affect the GDP. Surely, affluent and flourishing of the capital market which is manifested in the systematic framework of Iran's exchange market, reflect the willingness and desire of investors to invest. Also it declares various conditions of the business cycle in the economy. The change in this index can represent market conditions. As a result, it is possible to observe its impacts in the change in the value of the business sales amount, the change in the business stock return, and consequently change in the exchange market index. Thus, GDP growth is indicative of an economic boom and it leads to increasing the efficiency and profitability of companies and ultimately lead to increased demand for their stocks and to an increase in the stock market index. Also, it can be said that the stronger response of the stock market to the rise in GDP was observed in the first period. As the figure (1) shows, the domestic production is concordant with changes in oil revenues and money supply. Because these two factors are the main factors affecting the level of domestic production.

6.2. The impact of the stock market general index response to money supply:

In the figure above, the money supply shock had a positive impact on the stock market, so that the stock market price index has increased. As it can be seen in the figure, the process of price rise and stock market positive response to the shock on the money volume is continued. Regarding the positive relationship between the money volume and the stock market, it can be said that the importance of money for the stock price index can be declared in two dimensions. First, it is an effective factor as a macroeconomic variable. And secondly, it is significant as an asset in the investor's portfolio in money market. Changes in the money volume is also considered as one of the effective factors on the economic important factors variables and it can play a significant role in achieving the economic goals of a country including the growth and development of the capital market. So, theoretically, there should be a positive relationship between the volume of money and the stock market general index. This is because: firstly an increase in liquidity could increase demand for assets including stocks; secondly, announcing the expository monetary policy in Iran's economics has positive psychological effects on the formation of expectations and propensity to invest and this provides a context for the positive correlation between stock market index and money volume. Finally, it could be stated that the reason for severe market volatilities in the first 4 periods under study is the emergence of pre-existing monetary policies during these years. In the first two periods, government monetary policies on the money supply has led to an increase in money supply, liquidity, inflation, and stock market general index. Effects of attempts to fix the volume of the money in the past few years has been specified as a declining trend in the stock market general index in the next two periods.

6.3. The Impact of the Stock Market General Index Response to Government Expenditure:

In the above figure, the stock market response to the increase in government expenditure was negative so that the stock exchange price index has declined. As it can be seen in the figure, the process of price decline and stock market positive response to the government expenditure is continued till the fifth period. Therefore, regarding the negative relationship between government expenditure and stock market index, it could be stated that: First, after the revolution, the government resorted to the central bank and commercial banks credits in order to cover budget deficit and as a result, there was a liquidity growth in the society. Since these funds are not used in the productive sectors of society, it will lead to higher inflation. The increase in inflation rates will raise interest rates increases, and the rise in interest rates will increase investors' expected rate of return. Expected rate of return is used as the discount rate for determining the value of financial assets. Thus the increase in the expected rate of return reduces the present value of future earnings, and ultimately lead to the reduction in the value of stock and stock market. Second, the negative effects of government expenditure shocks on the Iranian stock market represents the deficiency of the private sector. The reason for such a deficiency could be due the fact that covering the government budget deficit through borrowing from the central bank or even from commercial banks would create inflation in addition to limiting the activities of the private sector. Therefore, in turn this leads to inefficiencies and further severe inefficiencies in the private sector. Also according to the figure, as it can be noted that two big jumps, one in the middle of the first period and one in the beginning of the fourth period, has occurred as a result of the impact of oil revenues decrease on the budget deficit. In years 1999 and 2000, budget deficit has been declined due to increased foreign investment in the country and that's why an increasing trend is observed in the figure (1) until the middle of the fifth period. In the 2000s, i.e. the sixth period onwards, as seen in the figure, a rising trend in the budget deficit and a reduction in the government expenditure are observed. In 2008, budget deficit reaches to the greatest extent, and thus government expenditure decreases significantly. The budget deficit is the index for determining the government expenditure. As it is observed in the figure (1), the stock market general index is associated with the trend of changes in government expenditure.

6.4. The impact of the stock market general index response to the general price level:

In the above figure, the impact of increase in the general price level on the stock market was positive in the short term. This short-term positive effect, which increased the stock price index, is continued until the second period. The reason for this positive impact of the general price level on the stock market can be stated as follows: the increase in the general price level through increasing the assets and the production sections of companies and economic institutions will result in the rise in the stock market index. Also, it should be noted that the impact of general price level shocks is determined based on changes in inflation. In the first five periods, inflation changes had a rising trend and this led to an increase in the general price level. That's why the investing power has decreased in the society and this in turn reduces the investment in the stock market. As a result, the exchange market general index decreases. In 2001, inflation reached its lowest point and this point is considered as the minimum point on the graph. In subsequent years, inflation had a declining trend and the exchange market general index increased.

6.5. The Impact of the Exchange Market General Index Response to Oil Revenue:

In the above chart, the impact of increase in the oil revenue on the stock market was positive in the short term. This short-term positive effect, which increased the stock price index, is continued until the third period. The reason for this positive impact of oil revenue on the stock market can be stated as follows: In addition to the direct effect on GDP, oil revenue changes are also effective on the other components of GDP as a component of this variable. Second, oil revenues in Iran's economics are one of the most important and effective variables affecting the macroeconomic variables. Oil revenues has direct effect on the GDP as the export income. Therefore, the increase in oil revenues will increase the GDP. With respect to the positive correlation between GDP and stock market index, the greatest impact is related to the oil revenue in Iran. Finally, this effect can be explained in such a way that the oil revenue has had a declining trend since 1991. From 2002 to 2008, i.e. from the 6th period to the 9th period under study, it has had a relatively stable trend. Thus, the figure (1), shows the effects of this variable on the exchange market general index as a stagnation followed by growing minimization. But between 2008 and 2009, due to the global financial crisis and its recessional consequences, oil revenue in the global markets faced severe reduction. This also affected the oil economy in Iran. As shown in Figure (1), in this period, the rising shock of the figure turned into a consistent trend and at the end of the 10th period, i.e. in 2010, it gains stability due to the rise in oil revenues and stability of oil market. Since the economy of Iran is totally dependent on oil, the direct effect of these volatilities on the stock market general index (which is a symbol of domestic financial markets) in the mentioned period is totally obvious and consistent.

7. Conclusion

Tehran Stock Exchange, as one of the fundamental existing capital markets, improves the movement towards economic growth and development through flowing and mobilizing stagnant capitals in the country in order to increase production. But flourishing in these markets is affected by various economic and social factors. Monetary and fiscal policies of countries effect on macroeconomic variables and parameters and can strengthen or weaken the stock market. The main stock market index is the stock price general index which reflects the overall strength of the stock market at the time. Like a thermometer, the stock index indicates the conditions of the capital markets and the economy of a country. In general, the decline in the index means the economic downturn and a rise in the index means economic boom. This research investigates the effects of fiscal and monetary policies on markets and financial institutions by studying the exchange market. Economic variables including oil revenue (OIL), the general price level (CPI), the money supply (MS), government expenditure (GOV), and gross domestic product (GDP) were considered as indices of fiscal and monetary policies, and exchange market general index (IND) was considered as financial exchange market index. The research was conducted based on seasonal data for the period of 1991-2010. SVAR model in Eviews software was used for data analysis. The results show that the shock on the rise in money supply had a positive effect Iran's exchange market, i.e., it increased the stock market price index. Thus, the shock on monetary policy has a positive impact on Iran's exchange market and creates a rise in it. Thereby, increasing the money supply will increase the stock exchange index. Also it must be noted that the shock on GDP growth has had a positive impact on Iran' stock market and leads to an increase in the stock market price index. As a result, GDP growth will increase the stock exchange index. Finally, the shock on the increase in government expenditure has a negative impact on the stock market, i.e., it influences on the stock market price index. So, the shock on the financial policy has a negative impact on the stock market and makes a decline in it. Thus, the increase in government expenditure reduces the Stock Exchange index.

REFERENCES

- Afonso, A., Sousa, R.M.,(2009). Fiscal policy, housing and stock prices. ECB Working Paper, No. 990.
- Afonso, A., Sousa, R.M., (2011). What are the effects of fiscal policy on asset markets? *Economic Modelling* 28, 1871–1890.
- Afonso, A. , Sousa, R.M.,(2012). The macroeconomic effects of fiscal policy. *Applied Economics*44, 4439–4454.

- Akhavi, A. (1995), "basic and applied" macroeconomics, Tehran, Institute of Business Studies and Research, printing.
- Taghavi, M. and Noforesti. M. (2002) .Capital market response to macroeconomic variables, Economic Research Letter, No. 4.
- Clarida, R. & J. Gali (1994), "Sources of Real Exchange Rate Fluctuations: How Important Are Nominal Shocks?", Carnegie-Rochester Conference Series on Public Policy, Vol. 41,PP. 1-56
- Blanchard, Olivier and Danny Quah,(1989). "The Dynamic Effects of Aggregate Demand and Supply Disturbances." The American Economic Review, Vol.79 (4) September 1989.
- Bredin, D., Hyde, S., Nitzsche, D., O'Reilly, G., (2009). European monetary policy surprises: the aggregate and sectoral stock market response. *International Journal of Finance and Economics* 14, 156–171.
- Christiano, L., Eichenbaum, M. & C. Evans (1999), "Onetary Policy Shocks: What Have We Learned and to What End?", In: J.B Taylor and M. Woodford (eds.), *Handbook of Macroeconomics*, Vol. 1, Elsevier: North Holland, PP. 65-148.
- Davoudizadeh, F., (2011). Impact of monetary policy on Iran's stock market, monthly, from April 1991 to September 2008, Master Thesis, Department of Economics and Social Sciences, University of Shahid Chamran.
- Ebadzadeh, K., (1999). An investigation and analysis of the relationship between the return on investment in common stock and a price-to-earnings ratio P / E in Tehran Stock Exchange. MS Thesis, Department of executive affairs, Shahid Beheshti University.
- Elbourne, A. (2008), The UK Housing Market and the Transmission of Monetary Policy : an SVAR Approach", *Journal of Housing Economics*, Vol. 17, Issue 1, PP. 65-87.
- Jahankhahi, A. and Parsayian, A. (1996). *Stock Exchange, Tehran: The Department of Management at the University of Tehran*, Second Edition, pp. 20-24.
- Kianvand, M; Nazarian, R, and Hassanzadeh, A. (2010). The effect of monetary policy shocks on volatilities of stock price index in Iran, the Iranian economy, No. 25, pp. 5-12.
- Kilian, L. (2011), "Structural Vector Autoregressions", University of Michigan.
- Maftouh, M. (2004). An investigation of the impact of fiscal policies of changes in government spending on private sector consumption components (co-integration analysis) Master's thesis, School of Economic and Political sciences of Shahid Beheshti University.
- Maroufkhani, A. (1998). An investigation of the relationship between the government budget deficit and inflation in the Iran's economy, master's thesis, Shahid Beheshti University.
- Najjarzadeh, R. and Aghaei Khoundabi, M., (2008). An investigation of the impact of volatilities currency shocks on the stock price index of Tehran Stock Exchange using vector regression approach, *Journal of Economic Research*, Vol. IX, Vol.
- Sajjadi, H., Farazmand, H., and Soufi, A. (2010). An investigation of the relationship between macroeconomic variables and stock cash return index in Tehran Stock Exchange.
- Sajjadi, H., Farazmand, H., and Soufi, A. (2010). An investigation of the relationship between macroeconomic variables and stock cash return index in Tehran Stock Exchange, *Accounting Research*, Vol. II, and No. VI.
- Silvia Ardagna, (2009). Financial markets' behavior around episodes of large changes in the fiscal stance. Department of Economics, Littauer Center, Harvard University, Cambridge, MA 02138, USA.
- Taghipour, A. Noforesti M. (1999), Evaluation of the objectives of monetary policy in Iran, *Journal of Economic Policy and Research*.