Investigating the relationship between macroeconomic variables and stock prices in the stock market

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Abstract

This study aimed to determine the relationship between the growth rate of the stock price index and the set of macroeconomic variables such as inflation, exchange rate growth, liquidity and economic growth has been carried out. In this study, quarterly data for the period 1371-1388 using a Vector Auto Regression model, have been analyzed. The results suggest that long-term equilibrium relationship between macroeconomic variables and stock price index was significant and the shocks of inflation and long-term rates have a negative impact on the stock price index. Of course The impact of exchange rate shocks on the stock price shocks are more severe than inflation.

Keywords: Macroeconomic variables, stock price index, The VAR model, monetary theory of inflation.
Introduction

Searching for a variable or variables that can explain the relation of economic financial part with the real economic part is significant in studying the factors affect the market and it’s economic. As a financial part, markets of money and assets have the duty of supplying the resources for the real part of the economics. The efficiency of the financial part causes the optimal distribution of rare resources into the economic activities. The optimal resource distribution also leads to optimal savings, investment and national economic growth near the potential economic capacities. Economists like Goldsmith (1969), Miknon (1973) and Shaw (1973) believed that the financial markets play a key role in the economic growth. They also believe that the difference in quality and quantity of the financial organization’s services can explain the country’s different growth rate.

Iran’s stock market started its activity in a wider way since 1990 which was in line with the government’s macroeconomic policies. It started the activity after the war for attracting people’s cooperation in investment and leading the resting stock into the productive economic activities. It also supplied the financial needs of production corporations and the community needed goods. Since 1990 till now the stock market indicator experienced many fluctuations due to the post war consequences and the effect of changes because of the macroeconomic variables including the inflation rate. The first reason for conducting a research about the economic variables on the stock indicators is that it can be useful in answering the main question which is about the stock pricing. Answering to this question can realize the main part of investor’s needs. Undoubtedly, meeting this need leads to the market growth through a correct direction of economic evolution in a way that the supply and demands of funds would be more efficient in the market than before. The phenomenon of financial investment development (versus investing on the real assets) is the characteristics of the developed economics. The stock market enhancement and the developed financial institutes leads to facilitate the real investments. In fact, both financial and real investment complete each other.

In the recent five decades, the importance of financial stock pricing causes the evolution of various theories and models. The most important models belong to Markowitz (1952), Sharp (1963), Lintner (1965), Mosin (1966), Ross (1967) and Black- Scholes (1973). Designing the developed models and using the information technology leads to several estimation of risk and output of financial assets. The other reason behind doing this research is helping in a correct way of pricing the financial assets and the efficiency of the recent researches in relation to studying the effect of economic information on stock price.

The researches recently conducted in the United States underlie the novel evolutions in understanding the way of determining the financial assets pricing. Fama and French (1993) showed that limiting the systematic risk to a factor (based on the stock pricing) cannot help the understanding of investors and stockholders. Therefore, paying attention to other efficient factors including the economic variables is important. The present study tries to find an approach that uses the set of macroeconomic information in this area.
By considering the chief role of government in managing the economic, decision makings and a strong influence of government policies on stock market, it can be conclude that studying the effect of macroeconomic factors such as, inflation rate, bank’s interest, exchange rate, liquidity growth rate and etc. on stock pricing can provide a new understanding in a way that the investors and stockholders can expect the effects of macroeconomic decisions on the index changes and stock prices.

**Theoretical framework**

We believe that the stock prices are determined by some macroeconomic variables such as the interest rate, exchange and inflation. Several researches have been conducted to reveal the effect of economic forces on stock output in different countries. For example, the Arbitrage pricing theory was used by Ross (1976) and Chen et al (1986) for explaining the effect of some macroeconomic variables on the stock output in the US stock markets. Their results showed that the industrial productions, changes in risk and periodical structure have a positive relationship with the stock expected outputs. However, the relationship between the predicted and unpredicted inflation with the expected stock output is significantly negative.

Stephan Ross (1976) presented the Arbitrage pricing as a substitution of model of capital asset pricing model. The capital asset pricing model starts its process by one point and that’s how investors can create “an efficient investment basket” but the Arbitrage pricing theory looks at risk and the measurement in a quite different way. It does not seek the efficient investment baskets but it’s on the basis that the stock pricing are balanced when the stockholders seek the arbitrage profit.

The pros of Arbitrage pricing theory state that this model has two advantages over the capital asset pricing model. Firstly, the Arbitrage pricing theory suggests some preferences of investors in relation to risk and output. Some suggest that it has a less limitation. Secondly, they believe that this model can be empirically authentic. The main subject in the theory of Arbitrage pricing is identifying the efficient factors and distancing the predicted changes from the unpredicted changes in measuring the sensitivities.

The Arbitrage pricing theory considers the real stock market output as a subsidiary of the economic variables. The suggested model provides using more than a systematic risk factor unlike the capital asset pricing model. In the stock investment basket, a special risk is not an important ratio. The factors of individual stock error are not dependent and their correlation coefficient is equal to 0. In this situation, the variables risk is merely important and it shows that the systematic risk is not removable. However, the unsystematic risk is removable even with veracity in investment. Roll and Ross (1980-1980) and Chen et al (1986) believe that the reality is behind five economic factors and different stock have different sensitivities toward these five systematic factors. These factors have a main role in the origin of stock basket risk. According to them, these factors are:

1. Changes in the expected inflation rate
2. Unexpected changes in inflation

3. The unexpected changes in industrial productions

4. Unexpected changed in output to differential order between bonds, junk bonds and preference bond

5. Unexpected changes in output to differential order between long-term and short-term bond

The first three factors affect the firm’s cash flow and stock profit and its growth. The other two factors affect the discount rate and stock valuation. Based on the suggested model, the investors regulate the stock basket according to their motivation in relation to the risk of each five factors because different investors have different tastes regarding the risk.

The tests on the Arbitrage pricing pattern showed that these theories anticipate in competition with the capital asset pricing model (Chen, 1983). Now, by understanding the Arbitrage pricing theory, we can evaluate the relation of stock price and such factors (according to the economic factors and assuming that the stock market acts reasonable) in a way that it can predict the future.

Pon and Taylor (1991) conducted a study in line with Chen et al (1986) in England market. The results of their study showed that the macroeconomic variables do not affect the output stock in England. This conclusion is on the contrary of the Chen’s finding in US stock market. Pon and Taylor believe that their conclusions are different because other macroeconomic factors affect the stock output of England or the methodology used by Chen et al is inefficient.

Inflation as another important economic variable that affects the stock price have been taken into consideration. The relationship between inflation and stock output is a controversial issue among the researchers. The balance in market does not appear based on nominal values and the investors consider inflation as the most important macroeconomic variable that affect the decision making for investment.

If the inflation can be properly predicted, the investors simply add a percentage as an inflation to their predicted output and market becomes balanced. Therefore, while the inflation is predictable, there won’t be a source of instability and the stock risk can be explained with systematic and unsystematic risk without noticing that these risks are evaluated based on the real or nominal values.

In inflation situation the nominal benefits of companies increase after a while. In fact, the profitability is not increased but the nominal benefit is under the influence of inflation. When the nominal benefit increases, the price of nominal stock also increases. Another effect of inflation is that it decreases the inherent value of each share. In years when the inflation rate is high, the quality of the firm’s real profit (the economic profit) decreases. Moreover, the inflation situation leads to the decrease of purchasing power. The increase in the life costs would be in a way that the investors cannot invest and the incomes would be spent on the current costs. On the other hands, the decrease in investment leads to decrease in demands for investing on stock market and
decrease in stock index. Ross and Roll also found in their article a negative relationship between the stock index of New York’s weighted mean output and the expected and unexpected inflation.

According to Fischer’s (1930) hypothesis, the nominal rate of expected share should reflect the all inflation expectation so that it can find the real rate of the share. The real rate is determined by some factors such as capital productivity and the temporal preferences of consumers and it’s independent of the expected inflation.

One of the main theories about inflation is the monetary theory. According to this theory, inflation is merely caused by the inappropriate increase of money mass. The pros of the Monetarism such as Lidler and Parkin (1975) believe that “the provision for the continuous inflation is the continuous increase in money supply with a rate that is more than the product of the real income growth rate and income elasticity of money demand.” Shortly, the monetary theory of inflation can be summarized as follows:

a. A long time inflation is a monetary phenomenon. It means the high and continuous growth rate of the money supply causes inflation and the less growth of money supply decreases the inflation rate.

b. The relation between the prices and money supply is appropriate in a long run. It means that 10% of the money supply increase would increase the general price level around 10%.

c. The causal relationship is from money to cost. It means the changes of money supply is the cause of price changes not the effect.

d. The nominal balance of money is “exogenous” and “controllable” and it determined by the money accountants. In other words, the money supply is not exogenously the dependent to the macroeconomic activities and variables.

The monetary theories are divided into two categories namely: monetary theory number 1 and monetary theory number 2. Based on the first monetary theory, inflation is a monetary phenomenon anywhere. It’s created through a faster growth of money supply compared to the real products. Increase in money supply in a short run leads to increase in real production and occupation. However, their effects on the real variables would be increase in a long run and it merely increases the long run inflation rate. Based on the second theory, only the unexpected changes of money supply have the real effectiveness on the economy. Therefore it cannot be used as a regular economic policy. According to this, the predicted changes of money supply merely and properly affects the costs.

The claim that the economic variables such as inflation, liquidity and etc. affect the stock price changes is accepted as a theory. However, previously, efforts have been done for theoretically analyzing the economic forces and empirically assessing their effects. The dynamic relationship between macroeconomic variables and stock output have widely been investigated. The basis of the suggested researches is on this theory that the stock prices reflect the current value of future’s cash flow of that share (the current value model). Therefore, both future’s cash flow and expected output rate are needed. Consequently, the economic variables affect the future’s cash flow and the expected output rare. Thus, it can affect the stock price (Alten& Graber, 1991).
The review of the related literature

The development of co-integration analysis let us test the relationship between the economic variables and stock market in other ways. Chen et al (1986) provided a basis for this idea that there’s a long run balance between the stock prices and macroeconomic variables. Grenjer (1986) suggested that the analysis of this relation be done through cointegration analysis, the set of temporal variables are cointegrate when they are in the same level and their linear formation is static. This linear formation indicates a long run relationship between these variables (Johnsen & Josilios, 1990). The development of cointegration analysis provided another ways for testing the relationship between the macroeconomic variables and stock output.

Christopher et al (2006) studied the interaction between New Zealand’s stock index and a sevenfold set of macroeconomic variables such as inflation rate, exchange rate, gross national product, money supply, long time profit rate, short time profit rate and the retail price of local oil. The result of the Johnsen cointegration test showed that there’s a long time relationship between the stock price index of New Zealand and the economic variables of the test. The result of Granger’s causality test showed that the New Zealand’s stock price index is not a Granger’s causality for changes in economic variables. It’s because of the small stock market of New Zealand comparing the stock markets in developed countries.

Jacob and Medsen (2002) studied the causal relationship between Bambai’s stock price index and macroeconomic variables such as exchange rate, exchange reserves and balance of trade. The analyzed the exchange rate variables, balance of trade and exchange reserves as factor affect the stock price index of India in a monthly basis since April 1990 to March 2001. The results showed that there’s not any causal relationship between the macroeconomic variables and stock exchange.

Mayasami and Koh (2000) studied the long-time relationship between Singapore’s stock market index and sets of macroeconomic variables by using monthly data in form of temporal data and Johnsen’s multivariable cointegration analysis in vector error correction model. They found out that the changes in real economic activities, the industrial production and business trade are not in cointegration with Singapore’s stock market. However, there’s a cointegrated relationship between the changes in Singapore’s stock market and changes in price levels, money supply, short-time and long-time interest rates and exchange rate. In this cointegration relationship, changes in exchange rate variables and interest rate are more effective than the changes in money supply and price levels. The results of their research showed that Singapore’s stock market is sensitive to changes of exchange rate and long-time and short-time interest rates. Moreover, they analyzed Singapore’s stock market indexes with US and Japan’s stock market indexes by using a three-fold variable. They found out that the changes in US and Japan stock market significantly affect the Singapore’s stock market specially Singapore’s stock market has a long time and positive relationship with stock markets of these two countries.

Kwon and Shin (1999) used Granger’s causality test and Granger-Angle’s cointegration test along with vector error correction model and found out that the Korea’s stock is cointegrated
with economic variables such as production index, exchange rate, balance of trade and money supply. However, by using the Granger’s causality test for macroeconomic variables and stock market index of Korea, the researchers found that the stock market index of Korea is not prior to the macroeconomic variables.

Cheung and Ng (1998) used Johnsen’s cointegration test for season data from Canada, Germany, Italy, Japan and USA. They concluded that the national stock index and some special economic variables such as the real oil, consumption, the money supply and gross national product are in line in these five countries.

Morindel and Abdollah (1997) concluded in a study that the exchange rate in countries such as Korea, India and Pakistan leads to changes in stock price but they found out that the stock market price in Philippines leads to the direction of exchange rate. This finding is in line with the findings of Smith (1993) in Germany, Japan and US.

Moradoglu and Matin (1996) analyzed the long-time relationship of stock price in Istanbul with the interest rate, exchange rate (in dollar), inflation rate and money mass from 1986 to 1993 (in form of monthly data in Turkey economy). The Granger-Angle method and Johnsen’s method indicate that the stock price index is in a long time relationship with monetary variables in a way that the relationship between stock price index and money is positive but the its relationship with exchange rate, interest rate and inflation rate is negative.

Azizi (2007) analyzed the relationship between inflation and the stock output in Tehran stock exchange. She used the monthly inflation statistics, monetary output, total output and exchange price indicator from 1998 to 2003. She also used VAR and Granger’s causality test to test the suggested variables. The results of the test showed that the inflation explains the monetary output and the total output but it does not explain the stock price index. On the other hand, the monetary output, the total output and stock price index do not explain the inflation. This finding regarding the Granger’s causal test of the price output, the total output and stock price index is confirmed.

Karimzadeh (2006) studied a long-time relationship between the stock exchange price of Tehran and monetary variables. To do that, he used the monthly data from 1990 to 2002 for indicator of stock exchange price, liquidity, exchange rate and the real interest rate. In order to evaluate the equation the VAR method was used with distributing interruption. The result of the evaluation showed that there’s a cointegration between the stock exchange index and monetary variables. The long-run relationship revealed a positive and significant influence of liquidity and it showed a negative and significant influence of the exchange rate and real interest rate on stock exchange index.

Ghalibaf (2002) studied the relationship between stock exchange output of Tehran and exchange rate from 1996 to 2001. The output variables (due to changes in stock price of countries) and the stock market index were selected in six months. The results of his study showed that the percentage of stock exchange rate negatively affects the stick output. However, the stock exchange changes positively affects the stock output of companies after a short break.
Barazandeh (1997) studied the effect of macroeconomic variables on stock price index by using the information received from Tehran’s stock exchange index and variables such as exchange rate, transportation price rate and the housing price indexes from 1990 to 1997. He used explanation method for analyzing data. The results of his research showed that the suggested variables play an insignificant role in changes of the stock price index. This result indicates that the existence of the disorders and fluctuations is not related to the transportation market and the exchange cannot be entered to the stock market.

Lili and Zvlivf.Hv (1998) conducted a study with the title of “the reactions of stock market to economic news in different economic situations”. They analyzed the effect of macroeconomic news on US stock market in different economic situation. They studied the effect of unpredictable changes on economic variables such as money supply, gross rate and the real economic activities in stock market. Their results indicate that the unpredictable increase in money supply leads to an immediate increase in the interest rate. The increase in interest rate leads to the decrease in the current values of the future’s cash flows and finally it leads to decrease in stock price.

Leigh (1997) investigated the Singapore’s stock exchange and found out that Singapore’s stock index is positively related to money supply. Fung and Lee (1990) found the same result in Taiwan stock market. Jered and Satem (1999), Achesani and Stero (2002) investigated the local markets such as Norway and Indonesian markets. They found out that the stock output has a negative relationship with changes in interest rate and it has a positive relationship with changes of oil price and the real economic activities. Achesani and Estro’s study showed that the relationship between stock price and inflation rate is negative. However, the relationship between stock price and inflation rate is equivocal. Moreover, the researchers could not identify a strong and efficient relationship between stock price, export and long-time interest rate. However, they could find a positive relationship between stock price and gross national product money supply and exchange rate.Yong Soli (1992) conducted a test of the causal relationship between the real active output and inflation by using the US data and found out that unlike the Fischer hypothesis, the nominal stock output and inflation have a negative correlation. However, the relationship between the nominal interest rate and inflation is positive. Rahman and Kozir (1988) found an opposite relationship between the real stock output and inflation in Canada. On the other hands, Leonard Hernards (1990) found a significant relationship between the real stock output and inflation. Lee (1996) in his study found out that there’s a negative and significant relationship between the real stock output and inflation. Song, Chendr and Chatrat (1997) found a negative relationship between the real output stock and parts of unexpected inflation.

Methodology

Due to the nature of the temporal data and the study type, in order to analyze the effect of macroeconomic variables on stock price indicator, the VAR method was used. This method has the following features that make it more justifiable to use:
• There’s no need to worry about determining the exogenous and endogenous variables because all variables are endogenous in the present model.
• The estimation of the model is simple and OLS can be used separately for each equation.
• The predictions received from this method are better than the results of the complicated model such as simultaneous equation (Gujerati, 1999).

Augmented Dickey-Fuller Unit Root Test

In time series data, the augmented unit root should be used for determining the time series of the stationary variables before analyzing and estimating the pattern equation. Based on the results in table 2, the Dickey Fuller criteria show that all variables are in the stationary logarithm except the gross national production and consumer’s price index.

<table>
<thead>
<tr>
<th>Variables</th>
<th>P value in the level</th>
<th>The critical value in the 5% sig level</th>
<th>The p value in the first level differentiation</th>
<th>The critical value in the 5% sig level</th>
</tr>
</thead>
<tbody>
<tr>
<td>The liquidity (Lm)</td>
<td>-2.98</td>
<td>1.95-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock price index (Lps)</td>
<td>2.94-</td>
<td>3.64-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The exchange rate (Le)</td>
<td>2.96-</td>
<td>4.10-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The consumer’s price index (Lp)</td>
<td>1.95-</td>
<td>2.94-</td>
<td>-3.48</td>
<td>-2.43</td>
</tr>
<tr>
<td>Gross national production (Lgdp)</td>
<td>2.02</td>
<td>2.95-</td>
<td>3.03-</td>
<td>2.94-</td>
</tr>
</tbody>
</table>

Source: the finding of the research

Determining the suspension in VAR

After identifying the stationary of the variables, the first issue is determining the lag in VAR. Here, the Schwarz information criterion was used to determine lag. The results of table 2 show that the suggested model is determined based on the sequential modified LR test statistic. However, based on the final error criteria, predicting the lag 4 is selected as an optimal lag. The Akaike information criterion, Schwartz Bayesian and Hannan-Quinn information criterion
consider the lag one as an optimal suspension in the model. Finally, because the lag of the system is supplied optimally, the lag 1 is selected as an optimal lag based on Schwartz Bayesian criterion.

Table 2: determining the optimal lag in VAR pattern

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1048.181</td>
<td>NA</td>
<td>22+e1.39</td>
<td>68.011</td>
<td>68.289</td>
<td>68.102</td>
</tr>
<tr>
<td>1</td>
<td>904.4234</td>
<td>222.59</td>
<td>19+e1.39</td>
<td>71.059</td>
<td>73.002</td>
<td>71.692</td>
</tr>
<tr>
<td>2</td>
<td>874.3810</td>
<td>34.887</td>
<td>19+e2.71</td>
<td>61.443</td>
<td>65.052</td>
<td>62.620</td>
</tr>
<tr>
<td>3</td>
<td>803.6814</td>
<td>54.735</td>
<td>18+e6.95</td>
<td>59.205</td>
<td>64.478</td>
<td>60.924</td>
</tr>
<tr>
<td>4</td>
<td>677.9893</td>
<td>48.654</td>
<td>17+e2.64</td>
<td>53.418</td>
<td>60.357</td>
<td>55.680</td>
</tr>
</tbody>
</table>

indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Impulse Response Functions Method (Impulse, response)

Since the results of VAR cannot be interpret, the impulse response functions method was used. The information suggests that what happens if a sudden impulse occurs in money mass, economic growth, exchange rate and inflation.

The figure 1 shows that a sudden impulse (with a standard deviation) in the money mass variable does not have any influence on the business chain indicator and in the second phase, it increases the stock price index with 0.0028 unit. This effect further leads to decrease in stock price index. The figure 1 shows the impulse in stock price index by the economic growth index. If the economic growth increases by 1 standard deviation, it does not affect the economic chain index in the first phase but it increases the fluctuations in the second phase (0.0103 units). The effect of this impulse would be interpret as such in the next phases. The third figure shows that a sudden impulse in the exchange is ineffective in the first phase but it decreases the stock price index 0.038 unit. Respectively, the effect of impulse on stock price index can be interpreted. The fourth figure shows a sudden impulse in inflation. Based on the results of the table, the impulse in the first phase is ineffective and it negatively increases in the second phase.
According to the figures, it can be said that the impulse on any variable is started from the second phase and its effect is gradually balanced. It’s also considerable that the impulse of all variable (except the liquidity) on the stock price index stands till the end of the phase. It means their balance is not fluctuated till the end of the phase.
Analyzing variance of the stock price index

To analyze the variance after evaluating the VAR, the reaction variance of the ratio forecast error is estimated for each impulse then it’s squared. Then these reactions are summed regarding each impulse. In the last phase, the squared reacted variance of the summed forecast error is divided to the total in order to gain the share of each impulse from the total of the forecast error variance.

Based on the results of the first phase, 77% of the changes in price index is due to itself and the variables such as exchange rate, inflation, economic growth and liquidity, are respectively the most important factors in inflation of the price index. In the second phase, the share of inflation increased from 0.1% to 3.4%. The share of economic growth increased from 0.7% to 9.1% and liquidity share increased from 0.3% to 0.5%. However, the share decreased from 21% to 16%. In the long time, the share of variables such as liquidity, the economic growth, the exchange rate and inflation have been respectively 3.7%, 23.5%, 13.7% and 3.6%.

Table 3. The results of the variance analysis

<table>
<thead>
<tr>
<th>P</th>
<th>S.E.</th>
<th>Lm</th>
<th>ly</th>
<th>le</th>
<th>lp</th>
<th>lps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.294709</td>
<td>0.03579</td>
<td>0.70917</td>
<td>21.3317</td>
<td>0.1874</td>
<td>77.7357</td>
</tr>
<tr>
<td>2</td>
<td>0.332833</td>
<td>0.05642</td>
<td>9.12072</td>
<td>16.7655</td>
<td>3.4294</td>
<td>70.6278</td>
</tr>
<tr>
<td>3</td>
<td>0.377499</td>
<td>3.65432</td>
<td>23.6648</td>
<td>13.6384</td>
<td>3.0233</td>
<td>56.0191</td>
</tr>
<tr>
<td>4</td>
<td>0.385378</td>
<td>3.60053</td>
<td>23.5729</td>
<td>13.1337</td>
<td>3.5194</td>
<td>56.1733</td>
</tr>
<tr>
<td>5</td>
<td>0.386414</td>
<td>3.69075</td>
<td>23.4939</td>
<td>13.0951</td>
<td>3.6381</td>
<td>56.0820</td>
</tr>
<tr>
<td>6</td>
<td>0.386661</td>
<td>3.75836</td>
<td>23.4688</td>
<td>13.1036</td>
<td>3.6349</td>
<td>56.0341</td>
</tr>
<tr>
<td>7</td>
<td>0.386822</td>
<td>3.75560</td>
<td>23.5176</td>
<td>13.0933</td>
<td>3.6318</td>
<td>56.0015</td>
</tr>
<tr>
<td>8</td>
<td>0.386980</td>
<td>3.755735</td>
<td>23.5716</td>
<td>13.0834</td>
<td>3.6313</td>
<td>55.9583</td>
</tr>
<tr>
<td>9</td>
<td>0.387037</td>
<td>3.75501</td>
<td>23.5816</td>
<td>13.0797</td>
<td>3.6339</td>
<td>55.9496</td>
</tr>
<tr>
<td>10</td>
<td>0.387047</td>
<td>3.75502</td>
<td>23.5821</td>
<td>13.0790</td>
<td>3.6359</td>
<td>55.9485</td>
</tr>
</tbody>
</table>

Source: findings of the research
Conclusion

Since people keep their financial assets in different formations such as cash, stock, bank account, bond, gold and exchange, changes in money mass, exchange rate, inflation rate and economic growth affect the people’s request for keeping their assets especially request for stock. This issue affect the stock indicators. It’s believed that the stock prices are determined by some macroeconomic variables such as inflation rate, exchange rate, economic growth and liquidity.

In order to evaluate the econometric model and the long-time relationship, the VAR method was used. As it was predicted, the results indicates that there’s a negative relationship between exchange rate and stock price index. Therefore, this hypothesis is confirmed. The inflation rate also indicates a negative relationship. The economic growth positively affect the stock price index. This relationship was fluctuated for liquidity.

Therefore, it’s suggested that economic decision makers and policymakers consider the effect of such decisions on stock market indicators and other financial markets.
Persian References


