Abstract

Currency rate is one of the most important factors affecting the stock returns. Thus, in the subject literature, the relationship between stock returns and exchange rates are discussed with a considerable focus. This study investigated the effects of currency shocks on stock returns in Iran. To this end, data related to 52 companies listed in Tehran Stock Exchange during 2007-2012 were used in the study. Also, the generalized autoregressive conditional heteroskedasticity model (GARCH) was used to extract currency shocks. In addition, the panel data approach was addressed to obtain the relationship between currency shocks and stock returns. The results indicate that exchange rate shocks and gross domestic product (GDP) have significant positive effects on Iran's stock market returns. However, the consumer price index has a significant negative effect on stock market returns. Therefore, the structure of exchange rate fluctuations in Iran has occurred in a way to increase the stock returns of the Companies active in Iran Stock Exchange.

Keywords: GARCH model, Stock returns, Panel data, Currency shocks

1. Introduction

Investors hoping to gain more wealth will attempt to invest. Of important factors taken into account by investors in their decision making is the rate of return on stocks. Return in the during the investment acts as a driving force to create motivation, which serves as a reward for the investors. In fact, every investor should first gain the confidence and trust the original capital would be returned initially, and then the expected return will be gained so he could decide to invest. The stock return is a function of several factors, one of which may be the exchange rate fluctuations. Theoretically, uncertainty about currency rate fluctuations, in addition to foreign trade sector would influence the domestic sector of the economy, especially the stock market. In an open economy, the flow of services and capital between countries occurs according to the currency rates. Thus, the currency rates can affect the major variables of exports and imports sectors as well as the entry and exit of capital. In fact, we can say that the exchange rate fluctuations create a type of risk in the foreign interactions and exchanges that can interfere with the exports, imports and capital flows. Therefore, if changes in the currency rates is adjusted in an appropriated trend, it could provide a more suitable and favorable environment for production, trade and investment. Exchange rate fluctuations can change the prices of goods, production services and production factors, and thereby, will affect the expected current and future cash flows, and subsequently the stock return of the economical firms (Shakki and Tofighi, 2013).

Based on the available theoretical concepts, Chiu and Prasad (1995) and Levi (1991) have defined the relationship between the currency rates and the value of a firm through its assets, operations as well as the firm's commitments. It is obvious that the value changes in its assets, activities and obligations may be affected by exchange and currency rate shocks. In export companies, strengthened national currency (reduced foreign currency rates) would reduce their revenue in national currency. Such a decrease in revenue occurs due to decreased earnings per exported product unit in the national currency and reduced competitive strength as well as the reduced rate of product export. In contrast, the weakening of the national currency (increased foreign currency rates) leads to increased revenue of export companies due to increased competitiveness, increased exports rates and increased earnings per product unit in the national currency. Thus, an increase in the exchange
rate causes the benefiting of export companies and would increase the return on their stocks. Then, there should be a positive relationship between currency rates and the stock returns of the export companies. In contrast, in import companies, increase in the exchange or foreign currency rates will make the imports more expensive, leading to an increase in product cost and therefore their reduced profitability. However, in terms of oligopoly, the Company would be able to transfer the increased cost largely to the final buyer (consumer) and gain a substantial immunity against the exchange rate fluctuations. Regarding companies with foreign competitors, increase in the exchange rate reduces the competitiveness of foreign companies within the country, and thus, will lead to benefiting of these companies, making their shares invaluable. Regarding Companies with foreign currency assets accompanying with investing abroad, increased exchange rate would make their foreign currency assets and investments more valuable, and therefore, the value of their company will enhance. In contrast, increase in the exchange rate will increase the debt of companies with foreign currency debts, and thus, the value of the company would reduce.

Many empirical studies have been conducted on the relationship between stock returns and macroeconomic variables such as inflation, oil prices, national income, economic growth and other economic factors; however, no particular study has been done regarding the relationship of the impact of currency shocks on stock returns as followed in this study. As the exchange rate shocks have been significant in recent years, it is essential to study the impact of this factor as one of the most important factors influencing the efficiency and return of Companies in Iran. Thus, according to discussions, the present study aimed to examine the effect of currency rate shocks on Iran stock exchange returns.

2. Literature Review

This section reviewed the literature related to the research topic in both foreign and domestic areas, and an overview of the major findings of these studies were mentioned.

2.1. World literature

In the areas of foreign research, several studies have been done on financial markets, particularly the stock market that some were cited in the following.

Reddy Chittedi, K. (2012) conducted a research entitled as "Do the oil prices matter in the Indian stock markets"? Applying an empirical analysis", with examining the long-term relationship between oil prices and stock prices in India during the period from April 2000 - June 2011 and using Auto-Regressive Distributed Lag (ADL) model of the consumer price index and given the long relationship, he came to the conclusion that the stock prices fluctuations in India have a significant impact on oil prices fluctuations. However, the changes in oil prices had no effect on stock prices.

Zohaib Khan et al. (2012) in a research by title "The impact of interest rate, exchange rate and inflation rate on the stock returns of KSE 100 Indices analyzed and evaluated the impact of interest rates, exchange rates and inflation rate on stock returns of KSE 100 indices. All three variables considered are macro ones so important in every country's economy that any changes in these variables can affect various approaches and the economic monitoring power in order to make changes in policies. Monthly data from July 31, 2001 to June 30, 2010 were considered. Multiple regression models applied to the data indicated that there is a poor correlation between the dependent variable and the independent variables. The impact of inflation rate and interest rates on stock returns of the 100 index KSE was very high, while the exchange rates had not a significant impact on stock returns of the 100 index KSE.

Chinzara (2011) in an article called as "Uncertainty of macroeconomic variables and conditional volatility of the stock market in South Africa" used the Vector Autoregressive and generalized autoregressive conditional heteroskedasticity (GARCH) models. The researcher findings indicated a bilateral relationship between these variables, suggesting the significant impact of uncertainty of macroeconomic variables on stock market fluctuations.

Zhao (2010) in a study entitled as "The dynamic relationship between exchange rates and stock prices in China" used the multivariate GARCH models in the period of 1991 - 2009. The results showed no stable long-term equilibrium relationship between real exchange rate and stock price and suggested that the past changes in stock market would have an effect on the future exchange market fluctuations. Also, the results indicated that there are mutual volatility spillover effects between the two markets.
Subari and Salihu (2010) in a study called "The currency rates and stock market fluctuations in Nigeria" used GARCH models and error correction model in the period of 1981 - 2007. The results showed that significant and negative effect of exchange rate fluctuations on the stock price, while interest rates and inflation had no long term relationship with the stock market.

Alagidede et al. (2010) in their article titled "The causal relationship between exchange rate and stock price" examined the relationship between stock prices and exchange rates in Australia, Canada, Japan, Switzerland and the UK in the period of 1992 – 2005 using integration test and Granger causality test. The research findings showed a causal relationship between exchange rate and stock prices for Canada, Switzerland and UK. The causal relationship between stock prices and exchange rates was also found for Swiss.

In his study, Morley (2009) examined the "exchange rate and stock prices in the short and long term" in the period of 1985 - 2005 in Japan, Britain and Switzerland using the Bounds Test. The results showed that there is a long term relationship between the exchange rate and stock price in these countries. The results of error correction prediction models also show a positive relationship between exchange rates and stock prices.

Filis (2009) in a research entitled as "The relationship between the stock market, the consumer price index and industrial production in Greece and the impact of rising oil prices" investigated the relationship between the cyclical components of the consumer price index, industrial production and the stock market in Greece and the impact of oil prices on these variables. The study period was between January 1996 and June 2008. The results of this study using the vector error correction model show that the consumer price index in Greece has a significant negative impact on the Greece stock market. In addition, the oil prices have a significant negative effect on the consumer price index and the stock market in Greece. It is worth noting that, on average, the shocks due to consumer price index require about 3 years to be adjusted. The shocks related to oil and stock markets need about 2-3 years, while the shocks due to industrial production will be absorbed in the course of 1-2 years.

Beer and Hebein (2008) in a research titled as "Assessment of the stock market and exchange rate dynamics in industrialized transitioning markets" studied the relationship between stock prices and exchange rates using exponential generalized autoregressive conditional heteroskedasticity models (EGARCH). In this study, the developed countries included the U.S., Canada, Japan and the UK and the developing countries included Hong Kong, Singapore, South Korea, India and Philippines. The research results showed that in developed countries, there is no stability fluctuations in the stock market and exchange rate, while in developing countries, the volatility is constant.

2.2. Domestic Literature

In recent years, the factors affecting the stock market have been the focus of domestic researchers, and several studies examined the relationship between economic variables and different indicators of the stock market that the following studies can be mentioned among them.

Ebrahimi (2012) in a research entitled as the "The effect of oil price shocks and exchange rate fluctuations and the resulting uncertainty on economic growth" examined the selected Oil countries. Oil price volatility and the volatility of the exchange rate are as the main factors contributing to the volatility in Gross Domestic Product (GDP) of the countries, especially the oil-exporting countries. This paper examines the impact of oil price shocks and real exchange rate volatility on GDP growth of exporting countries. In addition, the uncertainty effects caused by the oil price shocks and exchange rate fluctuations on GDP growth were also studied. The GARCH model was used to extract the Uncertainty Series. Vector autoregressive method based on co-integration technique was the used estimation method. The model was separately estimated for the four exporting countries of Algeria, Iran, Saudi Arabia and Venezuela in the period of 1980 - 2007. According to estimates, there is a long term relationship between oil prices, exchange rate and the production in these countries. In these countries, the long-run relationship between oil prices and production growth was positive, and the long term relationship between the exchange rate and production growth was negative.

Ghalibaf Asl et al. (2009), in a research titled as "Comparison the return of growth stocks and value stocks in Tehran Stock Exchange" stated that one of the main concerns of investors is to find a method to select the most suitable stock or portfolio among the bulk of stocks in the market. The studies show that there is a relationship between their stocks returns. With increased (B/P) ratio of the companies and the book value to market value ratio, the stock type changes from the growth to the value one. This study sought to compare the average of returns B/P of value stocks with growth stock in Tehran Stock Exchange from 2005 to the first half of 2009. For this purpose, a sample consisting of 50 companies listed in Tehran Stock Exchange was selected and classified.
at the beginning of each year based on the B/P ratio in ten groups from top to down. Then, the average return of each of the classes was compared during the studied periods. The research results showed that contrary to the findings of Fama and French study, the average return of overall growth stocks is higher than value stocks in Tehran Stock Exchange.

Namazi and Rostami (2007) in a research entitled as "The relationship between financial ratios and stock return rate of companies listed in Tehran Stock Exchange" reviewed and analyzed the relationship between stock returns rate and financial ratios of listed companies in the Tehran Stock Exchange. Hence, in each group, the financial ratios with low internal consistency and the stock return rate of the firms were considered as the independent variable and the dependent variable, respectively. The main idea of the provided hypotheses is that there is a significant relationship between the discussed financial ratios and the stock returns rate. In this study, the data required for the period of 2000 – 2004 was investigated. For testing the hypotheses, sectional and panel data techniques were used. The results obtained from the review all companies and the survey of industries separately indicated a significant relationship between all financial ratios and the stock returns rate.

3. Theoretical basics

Based on the subject literature, the theoretical basics can be explained as follows. If the unusual mean return of a sample is equal to zero, it will be statistically expressed as follows:

\[ H_0: \mu_e = 0 \quad (1) \]  
\[ H_1: \mu_e \neq 0 \]

Data resulting from the sampling is tested using the simple linear regression model, and in particular word, by analysis of the remains of the model with the following method:

\[ R_{i,t} = \alpha + R_{m,t} + e_{i,t} \]  
\[ R_{m,t} = \frac{I_{t} - I_{t-1}}{I_{t-1}} \]  
\[ R_{i,t} = \frac{P_{i,t} - P_{i,t-1} + D_{i,t}}{P_{i,t-1}} \]  
\[ e_{i,t} = R_{i,t} - \bar{R}_{i,t} \]

Where:

- \( R_{i,t} \): is the estimated monthly of the I company’s shares in the month t;
- \( R_{m,t} \): is the rate of return on the stock market, which is calculated on a monthly basis;
- \( R_{i,t} \): is the rate of return for a share in a month;
- \( I_{t} \): is the stock market price index number in the month t;
- \( P_{i,t} \): is the stock price of I firm at the end of the month t;
- \( D_{i,t} \): is the distribution of equity ownership interests in month t, including cash dividend, value of bonus shares, preference and reduced book value.
- \( e_{i,t} \): is the remaining of regression model for the return of firm I in the month t.

The \( R_{i} \) (total return) includes the collection of advantages granted during a period to the share. This period can be daily, weekly, monthly, annual or any other time period commensurate with the type of study. The total of these benefits to calculate the monthly returns of stock include the followings:

A. Difference in price

The difference between the last stock price at the end of month and the first price at the beginning of the month is considered and written. If this difference is positive, it would be an increasing factor of the total return rate; if it is negative, it would be a reducing factor of the total return rate.
B. Cash dividend per share

This dividend includes the cash dividend of suggesting approved stock by the shareholders at the General Assembly divided by the number of shares in the date of approval.

C. Benefits from priority right

If the raising capital is provided through cash supply of the shareholders with nominal prices, the resulting priority right would have a value that as one of the benefits belonging to the shareholders is considered at the time of capital increasing in calculating the rate of total return on contribution.

D. Benefits resulting from payment of share dividends (bonus shares)

Raising capital from legal reserves and realized receivables of the shareholders will create a share dividend or bonus shares with a value that should be considered in the total return calculation.

The company return, which is due to the four mentioned items, is calculated as follows:

$$R_{lt} = r_p + r_{DPS} + r_R + r_{SD}$$

(6)

Where:

- $r_p$: is the return from the monthly changes in the stock price;
- $r_{DPS}$: is the return from cash dividends;
- $r_R$: is the return derived from priority right;
- $r_{SD}$: is the return gained from share profit;

$$r_p = \frac{P_t - P_0}{P_0}$$

(7)

Where:

- $P_0$: share price at the beginning of the month;
- $P_t$: share price at the end of the month;

$$r_{DPS} = \frac{DPS}{P_t}$$

(8)

Where:

- D.P.S: Cash dividends per share;
- $P_t$: Price of the ordinary general meeting of the month;

$$r_R = \frac{(1+\%R)P_2 - (N.P\times\%R) - P_1}{P_1}$$

(9)

Where:

- $P_2$: is the share price after ordinary General Assembly with increased capital;
- $P_1$: is the share price before the ordinary General Assembly with increased capital;
- %R: Percentage of priority right adopted in the Assembly;
- N.P: Nominal share price

$$r_{SD} = \frac{(1+\%SD)P_2 - P_1}{P_1}$$

(10)

Where:

- SD: is the share profit and % SD means the increase percentage of capital through the retained earnings or the savings;
\( P_2 \): First price after the extraordinary assembly;
\( P_1 \): Last price before the extraordinary assembly;

After calculating the monthly returns of each enterprise and annual market return, the company remains were obtained using the regression model.

4. Model estimation

Accordingly, the most important variables affecting the return of shares from the view of macro-economy include the variable of Retail Price Index as an indicator of inflation and a factor that can affect the real value of shares followed by changes in the stock return.

Another important influencing indicator is GDP as the representative of a country’s economic structure, indicating how the macroeconomic variables may move, which can represent the economy status and its impact on the stock return variable. Given that the currency shocks are also one of the factors considered in the study and can also influence the return based on the subject literature, altogether lead to present the following model with the help of theoretical basics.

\[ R = F(CPI, GDP, SHLEX) \]  

Where 
CPI: Consumer Price Index
GDP: Gross Domestic Production
SHLEX: Exchange Rates Shocks

Data

In this research, data and information required were extracted from the Securities Exchange website and Time Series Database of Central Bank in the period of 2007 – 2012.

Stock split is defined as a stock division, where at least 5 shares were distributed for each former deferred. Then, this definition of the split includes a share profit of 25% or more. In order to obtain reliable estimates of the parameters used in the analyses, the information (data) of stock prices and dividends need to be available. Since the information and data only include the registered ordinary shares on the Stock Exchange, we also need to encompass the recorded transactions. Statistics and data relating to this study were drawn from the Time Series Database of Central Bank of the Islamic Republic of Iran, which cover the period of 2007 - 2012 (Fama Fisher, 1969).

Model Estimation

Estimation of Generalized Autoregressive Conditional Heteroskedasticity (GARCH) Model

In this section, we modeled the conditional variance of currency rates time series. Based on conducted test, the exchange rate time series was static. Then, the ARMA (1, 0) process was detected as the best model for modeling its behavior. Thus, the Auto-Regressive Integrated Moving Average (ARIMA) model of exchange rate time series was as ARIMA (1,0,0). After model estimation, the required test to detect the ARCH effects (heteroskedasticity) had to be done. The test results were presented in Table 1.

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Computational statistic</th>
<th>Statistical significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>( F )</td>
<td>4/018</td>
<td>0/015</td>
</tr>
<tr>
<td>Obs*R-squared</td>
<td>9/945</td>
<td>0/019</td>
</tr>
</tbody>
</table>

It should be mentioned that the H0 hypothesis in this test involves the sameness of variance residuals. Based on both computational statistics of the test, the H0 hypothesis suggesting the homogeneity of variance residuals
was rejected, and conversely, the hypothesis suggesting a heteroskedasticity between the residuals was accepted. Hence, given that the presence of heteroskedasticity in the model was accepted, the GARCH model can be used for modeling and extracting the exchange rate fluctuations and shocks. In the next step in this research, the GARCH (1,1) model was identified and estimated as the optimal model, which results in were presented Table 2.

Table 2: The results of estimating GARCH (1,1) model

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>SD</th>
<th>Z-statistic</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(1)</td>
<td>7250</td>
<td>33085</td>
<td>0.002</td>
</tr>
<tr>
<td>C(2)</td>
<td>0.62</td>
<td>0.37</td>
<td>1.64</td>
</tr>
<tr>
<td>C(3)</td>
<td>0.24</td>
<td>0.17</td>
<td>1.38</td>
</tr>
</tbody>
</table>

\[ R^2=0.99 \quad F=3275 \]

GARCH= C(1)+C(2)*RESID(-1)^2+C(3)*GARCH(-1)  \hspace{1cm} (12)

As illustrated, the GARCH model is composed of two components of autoregressive residuals and conditional variance, which are shown in equation (2-4). Based on estimated results, the necessary and sufficient conditions in estimation of GARCH model are provided, including the two factors related to autoregressive residuals component and the positive conditional variance component. Moreover, the sum of the above coefficients is less than 1, indicating the proper estimation of the model. Also, to ensure the absence of heteroskedasticity variance in the estimated GARCH model, the ARCH-LM test was carried out again that the results are presented in Table 3. In the test, the hypothesis H0 suggesting the absence of ARCH effect is accepted.

Table 3: ARCH-LM test results

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Computational statistic</th>
<th>Statistical significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>0.387</td>
<td>0.052</td>
</tr>
<tr>
<td>Obs*R-squared</td>
<td>0.403</td>
<td>0.053</td>
</tr>
</tbody>
</table>

The absence of heteroskedasticity as well as provided necessary and sufficient conditions on the coefficients of GARCH model indicates a good and proper fit and the trusted results of the model. Thus, the estimation results can be used to extract the exchange rate volatility index. After modeling the exchange rate with GARCH model, the index would be used to estimate the effect of exchange rate volatility on the equity return.

5. Examining the variables stationarity

Before estimating the final model, the stationarity of all the used variables needs to be tested, since the non-stationarity of the variables will lead to false regression. If there is a unit root, the co-integration tests are used in order to prevent the biased estimation. The variables used can be trusted of there is a long-run relationship between them. There are a variety of tests to determine the stationarity of studied variables, including Levine-Lin and Chu (LLC) test, IPS test and Shin test, ADF test and PP test. There are also different tests, including Cao test, Pedroni test and Fisher test to examine the presence of co-integration. In this study, the Levine - Lin and Chu (LLC) test was used to investigate the stationarity of variables. The CAO test was also used to examine the co-integration and long term relationship between the variables. The results of variables stationarity of the model are reported in Table (4). In this table, the numbers in parentheses represent the likelihood of the variables.

Table (4): Results of variables stationarity

<table>
<thead>
<tr>
<th>Test</th>
<th>LR</th>
<th>Lcpi</th>
<th>Lgdp</th>
<th>Lex</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(0/00)</td>
<td>(0/00)</td>
<td>(0/98)</td>
<td>(0/00)</td>
</tr>
</tbody>
</table>
Based on the results presented in Table (6), the variables of stock returns, the consumer price index and exchange rate are at stationarity levels, and the H0 hypothesis suggesting the presence of unit root is rejected, while the GDP variable has a unit root. However, to avoid false regression, the co-integration relationship between the variables needs to be examined. For this purpose, the Cao test was used that the value of relevant t-statistics was equal to -2.33 and its probability equal to 0.009, which indicated the rejection of the null hypothesis suggesting the co-integration relationship between the variables. As a result, the Cao test confirmed the presence of co-integration relationship between the variables of the model, and therefore, there is a long-run equilibrium relationship between stock returns of the firms and introduced independent variables.

6. Estimation of panel data model

In this section, first, the model explained to examine the effect of explanatory variables on the stock return for 52 companies was generally estimated, and the results were presented. Then, the companies were divided into six groups of "Car", Petrochemical, Pharmaceutical, Cement, Mining and oil classes, and with calculating the average return on equity of the firms of each group, the effect of each of the variables of GDP, the consumer price index and the exchange rate on average stock returns in these groups were discussed.

To estimate the model using panel data, the required tests need to be performed to select an appropriate method for estimation. Based on the data presented in the previous chapter, one of the most important tests in this regard is the Chow test. The Chow test is done to test the model using with data fusion against a fixed effect model. This test is based on estimating two bound and unbound regressions and the F-statistic. Based on the results related to the estimation of this test, the statistic F value was obtained as 0.99 and its probability as 0.49, suggesting the acceptance of the null hypothesis. This means in estimation of the model related to stock returns of the studied companies, the integrated data method is superior to the fixed effects method. Therefore, the panel data method was used to estimate the model, which results are given in Table 5.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-statistic</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCPI</td>
<td>-11/43</td>
<td>-3/58</td>
<td>0/0004</td>
</tr>
<tr>
<td>LEX</td>
<td>3/13</td>
<td>6/40</td>
<td>0/000</td>
</tr>
<tr>
<td>LGDP</td>
<td>45/23</td>
<td>3/19</td>
<td>0/0015</td>
</tr>
<tr>
<td>C</td>
<td>-503/20</td>
<td>-3/02</td>
<td>0/0027</td>
</tr>
</tbody>
</table>

Based on the results, the consumer price index coefficient is negative, and the corresponding t-statistics and significance level suggest the significant negative effect of this variable on the stock return. This means with increased consumer price index, the stock returns of the companies will decline.

The effect of currency shocks on stock returns of studied companies is positive and the t-statistics equal to 6.4 represents the significant effect of this variable. This means that with increased currency shocks, the stock returns of the companies would increase. Based on the estimation coefficient, a one percent increase of the currency shocks leads to an increase of more than three percent of the stock returns. The main reason in this case is the positivity of currency shocks during the period study, which provides the ground for increased return on equity in such companies. Moreover, the currency fluctuations are efficient in flowing of wandering capitals to the capital market accompanied by the boom of such markets, and ultimately increased return on equity.

The partial elasticity of GDP is positive and significant, indicating that with increase in GDP, the stock returns would increase. Comparison of extensions related to the studied variables suggests that the GDP has the highest effect on increased stock return. In other words, economic growth and production prosperity leads to increased of stock returns and the stock market boom in the country.

In continue, the studied companies were divided into six major groups, and then, model estimation of stock returns for these groups were performed based on panel data. In this step, the required tests for detection of an appropriate method to estimate were done, and finally, based on the tests results, the random effects method was preferred over the other two methods. The results for model estimation were reported based on six major groups and using the random effects method.

\[ R = -621.61 - 11.98LCPI + 54.53LGDP + 3.27LEX \]
Based on the results, the consumer price index has a negative and significant impact on the stock return, while the effect of GDP and exchange rate on return is positive and significant. These results indicate a decrease in stock returns of each of the six groups associated with increased consumer price index, while the increase in GDP and exchange rate shocks lead to increased returns of the groups. Comparing the results in estimation case for the 52 companies and estimates for the six groups suggested the same effect of the variables on stock return. However, the effect of each of the groups can be seen separately that the relevant results were reported in Table (6). Individual effects for two petrochemical and cement groups are negative, while individual effects for automobiles, pharmaceuticals, mining and oil groups are positive.

Table (6): The effect of each group separately

<table>
<thead>
<tr>
<th>Variable</th>
<th>KH</th>
<th>DA</th>
<th>MA</th>
<th>NA</th>
<th>SI</th>
<th>PE</th>
</tr>
</thead>
</table>

7. Conclusions

The paper model results obtained for two estimation states of 52 companies and the six groups were similar. Based on the estimated model, the GDP has a significant positive impact on stock returns. Thus, with increased GDP, the stock returns will increase. In estimation of the model for 52 companies, the elasticity of stock returns to changes in GDP is equal to 45.23, which means with a change of one percent of GDP, the stock return will change as 45.23%. This means with increased GDP, some changes will occur in stock returns in the same direction. The main reason for this relationship is that the economic growth and increased GDP indicate the expansion of production and business environment in the country economy, which leads to increased GNI per capita. Thus, the research hypothesis suggesting the effect of currency shocks on stock returns of Tehran Stock Exchange is accepted. It should be noted as shown by the model, the effect of foreign currency shocks on stock returns is positive. The main reason is the positivity of currency shocks. This means that during the course and period of the study, the national currency revaluation was downward, which led to improved status of export companies in Stock Exchange and increased their returns. Also, the process of exchange rate changes followed a pattern that has occurred in a way a part of the money in the currency market speculation was transferred to the stock market to deal with risk and uncertainty in the foreign exchange market, and hence had a positive effect on demand, and ultimately on prices and stock returns of such companies.

References

3. Ashrafzadeh, Syed Hamidreza., Mehrgan, Nader., (2009); Panel Data Econometry; Cooperative Research Institute of Tehran University, Tehran.


23. Yahyazadeh Far, Mahmoud., Abonoori, Ishmael., (2005); Study the effect of publishing priority right on stock dividend return in Tehran stock market; Journal of Humanities and Social Sciences, Fourth year, No. XV.

