

The Relationship between Inflation Uncertainty and Changes in Stock Returns in the Tehran Stock Exchange (TSE)

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ABSTRACT

The purpose of this study is the empirical relationship between the variables changes, inflation, stock returns and output gap in the Iranian economy. In this regard, output gap, was extracted using the Hodrick–Prescott filter. Next, Uncertainty and changes in inflation was achieved using GARCH and the impact on stock returns was evaluated. Results of Auto Regressive Distributed Lags (ARDL) have shown that the inflation changes have a positive impact on stock returns. The output gap effect on stock returns is positive.

KEY WORDS: Inflation Uncertainty, Stock Returns, Tehran Stock Exchange (TSE), Auto Regressive Distributed Lags.

1- INTRODUCTION

During the 1990s some countries take inflation targeting as a monetary policy under central bank in its economic policy priorities. They found that the benefits of price stability can serve as one of the major objectives of monetary policy (Mehrara and Mojab, 2009). It is essential to note that the impact of inflation and general price increases in the economy of various countries on macroeconomic performance and the complex and it is one of the important issues that economists always presenting various channels influence of inflation on macroeconomic variables have been followed strong reasons for these effects to be expressed, but mostly there is consensus that the impact of inflation on economic growth will be negative. Uncertainty, even inflation can also be under different circumstances and with different channels of influence on economic performance affect each country (Teshkini, 2006).

Friedman (1977) in his Nobel lecture argue that this positive correlation to inflation and nominal uncertainty on the impact of inflation uncertainty that will result from coming years inflations. In this case, the increase in inflation may be more uncertainty caused by the monetary authorities of the country. Demitratis (1988) has emphasized that increased inflation uncertainty raises inflation forecast is not the cost of this uncertainty can be caused by changes in the inflation rate (Karbasi and Piri, 2011). This means that increased inflation uncertainty may not unanticipated increase in inflation and thereby lead to increased costs resulting from the lack of nominal interest rates are predicted correctly.

Relation between Stock returns and Risk Inflation for first load is provided by Irving Fisher. Fisher's hypothesis show that efficiency and inflation (or excepted inflation rate) are linked the positively with each other. Also among economists this relationships may be different.

Considering that the stock returns and inflation as economic variables are important in the economic policy makers can target these variables (especially those that target inflation in the economy of various countries are very common), this study examines the relationship between inflation uncertainty and stock returns. Considering also that the inflation rate and stock returns as key macroeconomic variables are always important for each open country and given that Iran's economy in recent years with two-digit inflation rates, therefore, investigation the relationship between these two variables is a major matter.

Most economists believe that major losses due to inflation uncertainty by creating inflation. Inflation in Iran is one of the problems of recent decades and is one of the topics that should be noted, inflation uncertainty. Friedman's theory of general inflation in 1977 stating that higher rates of inflation is associated with more turbulence and this led to Uncertainty of future inflation rates will increase (Teshkini, 2010). The question being raised is that the effects of uncertainty in this area what is the future of inflation rates and inflation uncertainty, why should we be worried? Studies Shown that inflation uncertainty on the decisions of consumers and entrepreneurs are Leaves and in total will reduce economic welfare in the community. Certainly, the Individuals and business units can be useful for future planning. Decisions always focused on the future and the past is clear, the decision does not. If inflation, the future course of prices is the current period prices, i.e. prices Future periods to current period divided by the

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price, the result is the same as that expected inflation are achieved in the future. If in this case, there is uncertainty rule, Decisions about allocating resources to deal with the disorder (Mehrra and Mojab, 2009). Another controversial issue of inflation and is monetary policy. Low and stable inflation rates, one of the major banks Iran's economy is central in maintaining the value of money in monetary and banking law is written Value for money and maintaining low inflation rates of the channels can be achieved. If we want a central bank or monetary policy in a Make decisions about inflation and disinflation policies put into practice the criterion rule, Costs that have created this problem, one of the factors. Costs that Inflation uncertainty created in the economy, the costs are real and tangible change Pattern of asset accumulation is one of these cases (Teshkini, 2009). Inflation is caused when the uncertainty, nominal assets security will decrease. In these circumstances the rule is uncertain nominal assets, assets the transition of assets such as land and gold is a limited offer. The efficiency Assets at the time of high inflation is higher. In fact people and inflationary policies should encourage the point to take note that investment in terms of high inflation rates. If there is inflation uncertainty, presumably those have the resources to lend, surplus and compensation for the risk that uncertainty will the rental cost of capital increases and investment in the economy hurts. The uncertainty regarding future economic actors supposedly lost in space the long-term investments that can move us to consider. It can be seen that inflation uncertainty on cost of capital, investment and subsequent stock returns in the economy is having an impact (Karbasi and Piri, 2011). Therefore, this study examines the impact of this type are discussed.

2- LITERATURE REVIEW

The relationship between stock returns and inflation uncertainty first by Irving Fisher was investigated. This was based on the Fisher hypothesis that inflation and inflation uncertainty are positively correlated with stock returns. Mishkin (1992) The Fisher hypothesis did long-term relationship, but acknowledged that this is true in the short term. Richardson (1993) found that this positive relationship is almost always there. Yuhn (1996) Fischer of Germany acknowledged for long-term data. Berument and Brvmnt (2002) The relationship between inflation uncertainty and stock returns in three different countries before and after England's inflation targeting and the effectiveness of inflation targeting was confirmed in this country. Wilson (2006) The relationship between inflation, inflation uncertainty and output growth using the method EGARCH Evaluated and found that increased inflation uncertainty leads to higher inflation and lower economic growth in Japan is. Mallik and Bhar (2009) in a study entitled "The relationship between inflation uncertainty and changes in stock returns after inflation targeting there?" method variance Anisotropy Conditional Generalized Results (GARCH) A relationship for five countries, Canada, Finland, Spain, Sweden and Britain were evaluated and confirmed the positive relationship.

Teshkini (2006) in their study entitled "Does Uncertainty Inflationary with Level Inflation Change Are That "the Basis Model the Variance Anisotropy Conditional Generalized Results (GARCH), to examine the relationship Positive between Variance Conditional inflation and inflation begins. Results And Show Are To That Inflation Because Unknown Confidence Inflation (The Words Relation Positive And Significant Between Inflation And Uncertainty Inflation Existence A.) Finally, he suggests that banks Central Are Can with the Policy against Inflationary at Direction Reduction Unknown Confidence Inflation Step Remove. Karbasi and Piri (2011) in a study entitled "Relationship Between Level Price Products Agriculture And Uncertainty Inflationary At Iran "Factors affecting the level of prices of agricultural products with emphasis on macroeconomic variables such as inflation and inflation uncertainty using a time series of data were examined. In this technique GARCH Modeling was used to calculate the inflation uncertainty. Using econometric models of the relationship between variables in a multivariate model were analyzed. The results indicate that long-run relationship between variables and Hammy terms in the model and the effects of inflation uncertainty variable as a new variable with other variables was significant on the level of prices of agricultural products.

Mehrra and Mojab (2009) in a study entitled "Relationship the Inflation, Uncertainty Inflation, Production and Uncertainty Production at Economy Iran "with Use of Model of Variance Conditional and Test Causality Granger to of factors effective on Uncertainty Nominal (inflation) and Real (production) and Effect The two Uncertainty on Growth Economic at Am Pay. Results show of it is that increase Inflation and reduction Revenues oil are Can Because Increase Uncertainty Inflation are and origin the main Uncertainty Production at Economy Iran, Value Added Section Oil Commence.

3- METHODOLOGY AND DATA

Stock returns are the dependent variable in this study. With respect to Iran by the forces of supply and demand in the market rate in the financial markets are not defined, therefore the long-term interest rates for deposits will be used as an alternative to stock returns. This uncertainty in the inflation rate is as one of the independent variables

into the model. It is also better for the output gap (the difference between potential and actual production) as well as an additional variable into the analysis.

This study wants to achieve the goals presented in the previous section, so the following hypothesis seeks to test and verify it in view of the review:

1. Inflation uncertainty has a significant effect on stock returns in the Iranian economy.
2. Output gap has a significant effect on stock returns in the Iranian economy.

The information collected in this study is collected along with a library reference to documents that would be required during the period of review, from the time they can now use the. Data are collected from banks of information and the statistics published by the Department to review the economics of the Central Bank of the Islamic Republic of Iran Information will rise published by the World Bank WDI Data of the International Monetary Fund between. To estimate the impact of inflation on stock returns model (ARDL). Reliability of variables was evaluated and will be used Generalized Dickey - Fuller tests (ADF). Relationship of variables will be done of short-term, long-term and error correction model (ECM). To calculate the uncertainty of inflation models Variance Anisotropy Conditional Generalized (GARCH) is used. Also calculate the gap between potential output and actual production of the Hodrick - Prescott filter will be used.

4- RESULTS

The potential and actual output gap filter method Hedrick - Prescott is mined in the diagram (1), (2) and (3) is shown:

Chart 1: Actual Gross Domestic Product (GDP)

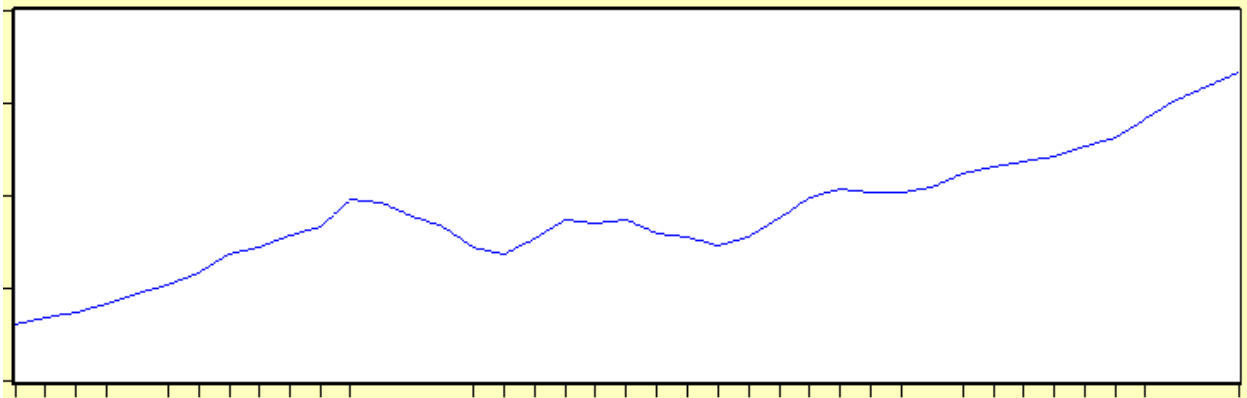
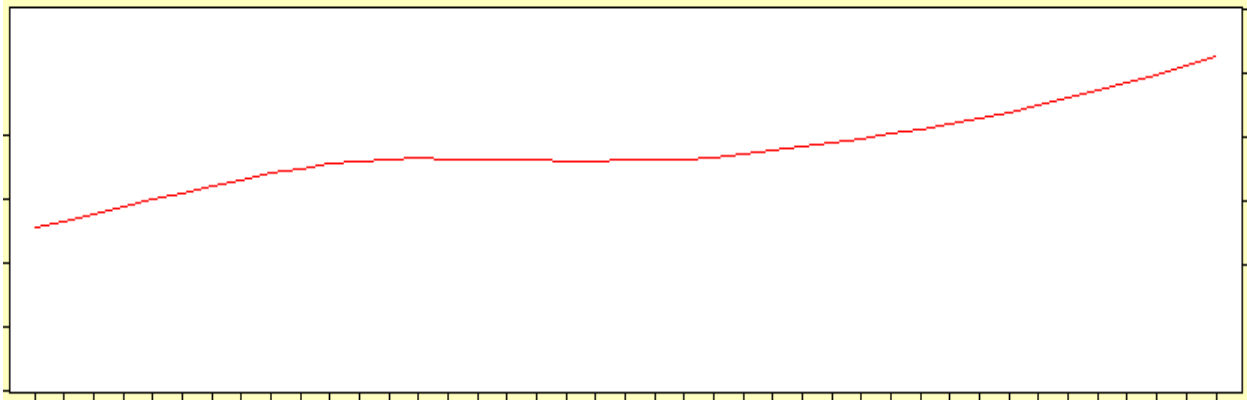
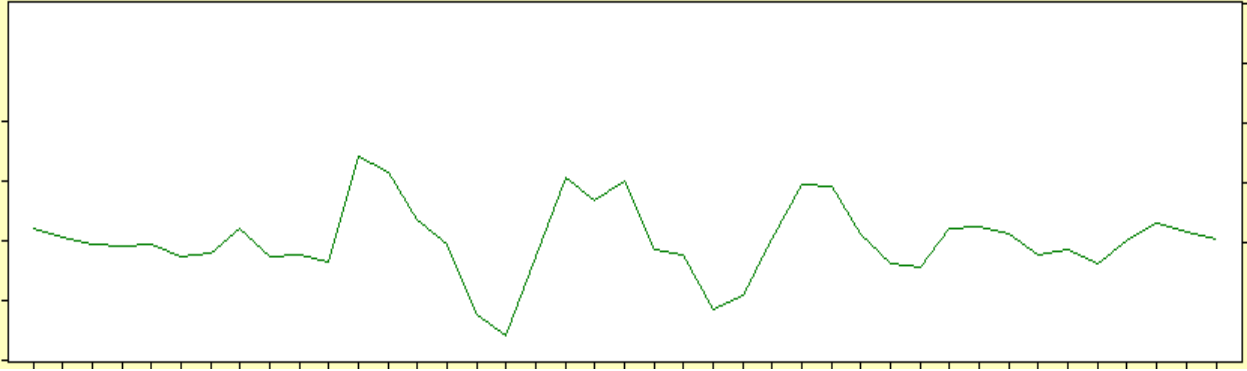


Chart 2: Potential Gross Domestic Product (GDP) (long-term trend)



Graph (3): gap between potential and actual GDP



The next section examines the relationship between the output gap, inflation and changes in Iran's stock return by using regression methods. Estimates of long-term results states in table (1):

Table (1): estimation the long-term model with the dependent variable, stock returns

Variable name	Variable name	Variable coefficient	Statistics t	Significant
S	Output gap	0.49	- 2.0899 [0.046]	Significant
INF	Changes in inflation	- 0.29	3.5462 [0.000]	Significant
Adjusted coefficient of determination		0.99		
Statistics Durbin - Watson		1.95		
Statistics F Fisher		135		

The research results

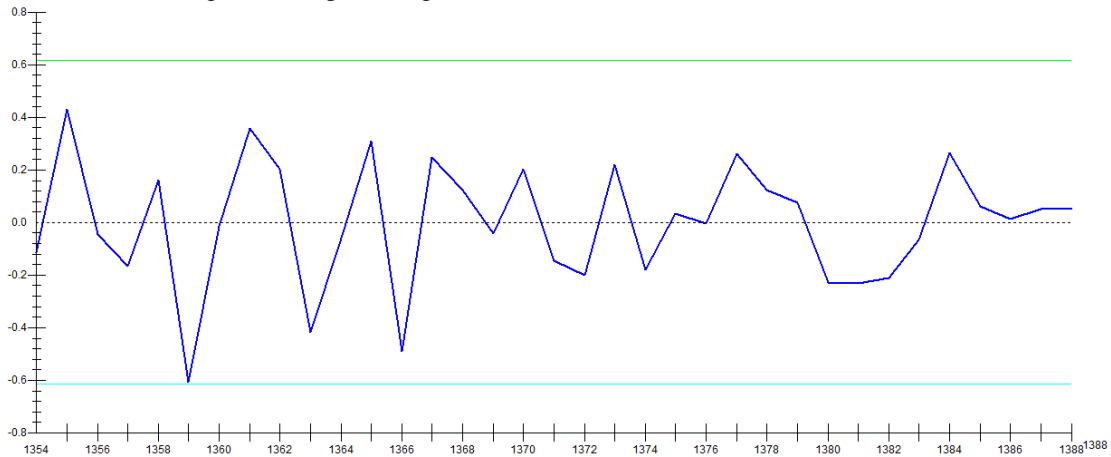
Table (2): Diagnostic tests

Diagnostic tests			
Heteroscedasticity	Functional Form	Serial correlation	Statistics F
3.21	1.46	2.16	
(0.107)	(0.317)	(0.251)	Critical level

We can see from the estimated model that the output gap has a negative significant impact on stock returns. The increasing gap between potential GDP and actual GDP, stock returns are reduced. The inflation changes that calculated from GARCH have a positive impact on stock returns.

The Durbin - Watson also come in models that are equal to 1.95 indicates absence of autocorrelation in the model. Fisher hypothesis state that the non-zero coefficients to be used at the same time, significant and shows that the fitted model, all coefficients to zero simultaneously be rejected.

Figure 4: Graph the regression model based on residual values ARDL



5- Conclusion

Inflation is caused when the uncertainty of nominal assets security will decrease. In these circumstances the uncertain nominal assets and assets the transition of assets such as land and gold will be limited offer. The efficiency assets at the time of high inflation are higher. In fact, when people, inflationary policies should encourage the point to take note that investment in terms of high inflation rates and rental costs Increases. If there is inflation uncertainty, presumably those have the resources to lend, surplus and compensation for the risk that uncertainty will the rental cost of capital increases and investment in the economy hurts. The uncertainty regarding future economic actors supposedly lost in space the long-term investments that can move us to consider. It can be seen that inflation uncertainty on cost of capital, investment and consequent impact on interest rates is the economy. Therefore in this study was to examine the impact of this type. Internal studies have also brought in as the impact of inflation on output and inflation uncertainty is evaluated in this study (effect of uncertainty on inflation) has been working for the Iranian economy. So from this perspective is an innovation. The other aspect of this research is the use of econometric methods.

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