The causal relationship between inflation and FIIIs in India

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Abstract: The present study is an attempt to find the relationship between foreign institutional investment and inflation (WPI). Secondary data have been considered for the purpose of the study from April 1995-96 to March 2017-18. Inflation is an economic phenomenon which affects the economy as a whole so it has effect on FIIIs. Using unit root test for stationarity in time series, FIIIs is found stationary at level I(0) whereas WPI is non-stationary at level but becomes stationary at first difference I(1). The results of granger causality test affirm that there exists a bidirectional relationship between FIIIs and Inflation which runs from Inflation to FIIIs and FIIIs to inflation.

Keywords: FIIIs; WPI; Causality; Stationary; Inflation ;

I. Introduction

Foreign capital plays a crucial role in the growth and development of a nation especially in growing economies like India where there is a huge gap between savings and investment. Foreign institutional investments contribute to a great extent towards filling this gap. These days, a significant portion of Indian corporate sector’s securities is held by Foreign Institutional Investors in various forms as mutual funds, pension funds and insurance companies. These institutional investors are better informed and better equipped to process information than the retail individual investors (Cao et. al., 2017). With the emerging market crisis of late 1990s, the role of foreign portfolio investment the dominant players therein particularly foreign institutional investors has come under surveillance by academicians as well as policy makers (Saravanakrishnan, 2012). The causal relationship between FII inflows and inflation is important from government as well as investor point of view. The foreign institutional investment means all those investment companies that are not located within the territory of the country in which they are investing. These are basically the outsiders in the financial markets of the particular company. Mutual funds, hedge funds, pension funds and insurance companies are the various types of institutions that are involved in foreign institutional investment. The emerging economies like India are becoming hot favourite destinations for the foreign institutional investors because of the huge potential of these markets to grow in the near future. This promise of rapid growth of investable funds is encouraging investors that much they are coming in great numbers to these destinations. At the same time these emerging economies understood the value of foreign investment and allowed the FDI and FII in their financial markets. Till 1990s, India restricted the flow of foreign capital. But the process of globalization and target for large volume of trade, forced the country to remove these restrictions. In 1992, India allowed foreign institutional investor to invest in the domestic financial market.

In the present paper, an effort has been made to bring out the causal relationship between foreign institutional investment and rate of inflation in India. Available empirical evidence suggests that FIIIs inflows by and large are determined by the macroeconomic aggregates of the host country. Thus, FIIIs is pulled toward an economy with sound macroeconomic aggregates as follows:

Foreign Institutional Investors (FIIs) includes an investor or investment fund that is from or registered in a country outside of the one in which it is currently investing. The term is used most commonly in India to refer to outside companies investing in the financial markets of India. Institutional investors include insurance companies, hedge funds, mutual funds and pension funds. FII is allowed to enter into our country only through stock exchanges either in the form of equity or debt (Joshi and Saxena, 2012).

Inflation is a rise in general level of prices of goods and services in an economy over a period of time. It is defined as a sustained increase in general level of prices for goods and services. The wholesale price index (WPI) is the main measure of inflation (Kanwar, 2014). With increase in inflation purchasing of rupee decline and cost of
living rises. That is why inflation has become one of the macroeconomic phenomenons that still capture the attention of both developing and developed countries. Inflation rate can be enumerated as percentage rate of change in Wholesale Price Index over a given period. Inflation is one of the major factors to be considered while investing abroad and it also occupy a special significance in the economic factors of country risk analysis which is done at the time making investment in another country, considering the importance of inflation in any economy we have chosen it as a variable against FII to carry out a causal relationship.

II. Review of Literature

Foreign institutional investment is not isolated. Moreover it has inter linkages with overall economic system. Inflation is one of the major economic indicators depicting the health of the economy and in turn it has impact on the economy and financial system. Hence it becomes imperative to find the link between FII and inflation.

Naka et al. (1998) investigated the long term equilibrium relationship between Indian stock market, domestic inflation and domestic output and asserted that domestic inflation is the main hindrance to Indian stock market performance while output growth is the principal driving force.

Kohli (2003) analysed the effect of capital flows on macroeconomic variables during the period 1986-2001 and revealed that foreign capital inflows have a pivotal impact on domestic money supply, volatility, liquidity and stock market growth.

Rai and Bhanumurthy (2004) tried to find out the determinants of FIIs in India. The inflation rate and ex ante risk and stock market returns have come out as the predominant factors on which FIIs inflows depend. Kulwantraj and Bindu (2004) carried out a study to find out the major drivers behind FIIs investment flows. The analysis found that exchange risk stock market returns and inflation rate both in domestic and foreign economy are the main determinants of FIIs inflows.

Singh (2005) bring out the importance of financial sector in inviting the foreign institutional investment inflows. It analysed the inter relationship between FIIs, Inflation and exchange rate.

Maurya (2015) analysed the relationship between exchange rate and foreign institutional investment in Indian context taking the daily data of the two variables from April 2009 to March 2014 by applying unit root test of stationary and further with granger causality technique the author reported bidirectional relationship between exchange rate and foreign institutional investment where varying exchange rate bring fluctuations in FII’s investment and on the other side FII’s gross sales and gross purchases manipulate exchange rate in India.

Vimaladevi (2016) attempted to bring out the relationship between FIIs and macroeconomic indicators in Indian economy during 2000-2012. Correlation and Granger Causality test analysis revealed that FII flows cause foreign reserves on other side interest rates and IIP cause FII investment. No cause and effect relationship was there during the period of study between FIIs and other variables such as exchange rate and WPI.

The above discussion of literature highlights the importance of FIIs. It is conspicuous from literature review that FIIs have close connection with various macroeconomic variables i.e inflation one of them. Keeping in view the emerging evils of inflation in Indian economy, the present study investigates the causal relationship between foreign institutional investment (FII) and major macroeconomic aggregate namely Inflation rate (IR).

III. Database and Methodology

The present study is based on secondary data. The data have been collected from the website of RBI on selected variables such as FIIs and Inflation rate (WPI). In the study, a time span of 24 years has been chosen from April, 1995 to March, 2017 using monthly data to illustrate a larger view of the relationship including 276 observations. The current study decipher the linkage between FIIs and Inflation as a macroeconomic aggregate in the Indian context applying techniques like Granger causality test, ADF test for Unit root with the aid of Eviews Software.

IV. Results and Discussion

Unit Root Test for Stationarity

It is a known fact that many financial time series are non-stationary and have a unit root. Augmented Dickey-Fuller (ADF) test is the usually applied for unit root testing of time series. If we take \( y_t \) as the time series to be tested for unit-root, then the test statistic for ADF unit root testing will be shown by \( \tau \) statistics, which is OLS estimate of coefficient of \( y_{t-1} \) in the following equation, divided by its standard error (Singh, 2014).

\[
\Delta y_t = \rho y_{t-1} + \mu + \lambda_t + \alpha_i \sum_{i=1}^{n} y_{t-i} + u_t
\]

In the present study, Unit Root Test i.e. Augmented Dickey Fuller (ADF) test is applied on FII and WPI (one of the macroeconomic indicator) to check for its stationarity. The results of the Augmented Dickey Fuller (ADF) test are shown in Table 1. The results indicate that FII is stationary at I(0) and WPI is non-stationary at level but becomes stationary at their first difference.
ether data is stationary or not as 1

length as 1

ty test is important as the number of lagged terms included,

unidirectional causality which runs from FIIs to WPI. Our results confirmed the bidirectional causality both sides. FIIs does not granger cause WPI; this hypothesis got rejected as the p
depicts the values of AIC, SIC, HQ, FPE and LR for selecting the optimum lag length. Hence, the lag

causes foreign institutional investments meaning thereby that inflation

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at level and inflation rate (WPI) is stationary at first differencing. It is worth mentioning over here

Table 3 reveals that the granger causality test rejects the first null hypothesis (p-value = 0.0009 is less than 1%) that WPI (inflation rate) does not granger causes foreign institutional investments meaning thereby that inflation rate in Indian economy influence the investment of foreign institutional investors. As reported by Kaur and Dhillon (2015) that causality runs from WPI to FIIs meaning thereby domestic inflation influence the FIIs and Kaur and Dhillon 2010 found negative and significant impact of WPI on foreign institution investment. On the other side FIIs does not granger cause WPI; this hypothesis got rejected as the p-value is 0.0008 < 0.05. Singh 2016 claimed unidirectional causality which runs from FIIs to WPI. Our results confirmed the bidirectional causality both sides.

Table 3

Granger Causality Test

Null Hypothesis | Lag Length | F-statistics | Prob. | Decision |
--- | --- | --- | --- | ---|
WPI does not granger cause FIIs | 1 | 11.2137 | 0.0009 | Reject H01 |
FIIs does not granger cause WPI | 1 | 11.5026 | 0.0008 | Reject H02 |
V. Conclusion

This paper is an attempt to throw light on the relationship between inflation rate and FIIs in India. The results of the granger causality test revealed that there exists a bidirectional relationship between WPI proxy of inflation rate and FIIs. Varying inflation rate in country are found to influence the decision of foreign investors to choose India as the most favoured destination for the investment as higher rate of inflation every time will shrink out their returns from investment. Henceforth when inflation rises foreign institutional investments goes down. Also, FIIs investment affects the inflation rate in the economy through supplying funds to the economy.

References