The Relationship between Foreign Portfolio Investment and the Indian Economy: An empirical Analysis

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Abstract

The present study investigates the relationship between foreign portfolio investment and its relationship with India, which have crossed almost 293 billion by the end of 2008. Given the huge volume of these flows, it has emerged as a major source of private capital inflow as FPI essentially interacts with the real economy via the stock market. Keeping these ideas in mind the present study tries to investigate the relationship between Foreign Portfolio Investment and the Indian Economy**.** The study is based on secondary data, which covers monthly data from the period April 1998 to March 2018.   In a study using monthly data, it was revealed that FPI capital inflows are highly correlated to stock market returns, foreign exchange reserves, and real effective exchange rates. Whereas three variables, i.e., Exchange rate, Openness, and IIP as a GDP proxy, were insignificant in attracting global portfolio investors.

Keywords: FPI, REER, Growth Rate, openness

Introduction

There is almost a universal agreement on the importance of portfolio capital in the economic development of an emerging or developing economy. Sushil (2002) states that the overall cost of the economy of increased short-term capital flows has been substantially higher than any current or potential benefits. "*Pal (2006) witnessed that the inflow of a high volume of portfolio capital has strongly influenced the secondary market segment of the Indian stock market. Capital flows affect a wide range of macroeconomic*

variables, e.g., exchange rates, interest rates, foreign reserves, domestic monetary conditions, and savings and investment (Seth and Verma, 2007)". On the other hand, the positive performance of macroeconomic variables attracts more global investors. So, this study examines the relationship between FPI and important macroeconomic aggregates i.e., Exchange Rate, Foreign Exchange Reserves, Import, Export, Openness, Index of IIP as a proxy of GDP, REER, WPI, BSE Sensex by using the Granger Causality Test. The paper has been organized into three sections. Section I describes the literature review; section II deals with the data and research methodology. Section III reveals the findings and analysis.

Section I: Literature review

Various studies have examined the relationship between foreign portfolio investment in the Indian context. Rao et al., 1999 analyzed the importance of foreign portfolio investment in India and suggested that developing nations should improve their stock markets in order to encourage foreign private capital flows in the form of portfolio investments. Returns in the Indian equities market are a key, if not the most important, factor influencing FII flows into the nation (Mukharjee et al, 2002).

Renu Kohli (2001) investigates the influence of changes in the movement and composition of capital flows into India, as well as the impact of these flows on important macroeconomic variables such as the currency rate, foreign exchange reserves, and money supply (sterilization). Results showed that an inflow of foreign capital results in a real appreciation and has a significant impact on the domestic money supply. The interaction of multiple ownership locations and externalization benefits determines a portfolio's ultimate performance (Griffin and Pustay, 2004). Chopra, 2003 discovered that variables such as GDP, Openness, Real Effective Exchange Rate, and Debt-Service Ratio influence portfolio investment in India to evaluate these claims concerning FPI.

Any investment, either domestic or foreign depends heavily on the risk factors. Hence, while studying the behavior of FPI it is important to consider the risk variable. Rai and Bhanumurthy (2004) found a positive association of FIIs with the return of BSE, Inflation in the U.S, and a negative association with Inflation in India. A favorable

climate for portfolio inflows is created by higher growth rates, improved institutions, and lower foreign interest rates (Ahmed et al., 2005). Before liberalizing financial flows, it is critical to understand the fundamental motivations behind them (Roy, Nirmal V.P, 2007). The influx of FIIs has altered the secondary market portion of the Indian stock market, according to Pal, P. (2006). However, the ostensible connection impact with the real economy has failed to materialize. The effects of private capital inflows on some macroeconomic variables in India were discussed by N. Sethi (2008). The Cointegration test demonstrates that private capital inflows and economic growth have a long-run equilibrium relationship.

The majority of the studies revealed that stock market performance plays a key role in attracting global investors. However, few studies examine in detail whether macro-environment prevail in a country affects portfolio flows and examine if FPI affects the real economy directly or indirectly. The present study makes a modest attempt to explore the relationship between FPI and the Indian economy.

Section II: Data and Research Methodology

The present study is based on secondary data, which covers monthly data from the period April 1998 to March 2018. The information has been gathered from the website of the Reserve Bank of India and the Handbook of statistics on the Indian Economy (RBI). The variables of the study are, FPI, Exchange Rate, Foreign Exchange Reserves, Import, Export, Openness, Index of IIP as a proxy of GDP, REER, and Wholesale price index.

Findings and Analysis

A. Exchange Rate

The Granger causality test shows that the hypothesis that exchange rate does not granger cause FPI is rejected, implying that exchange rate influences FPI. Reverse causality i.e., FPI does not granger cause Exchange rate is however accepted. Unexpected exchange rate movements have an impact on portfolio investment since they represent both dangers and opportunities depending on the consumer investor's situation (Bartram and Dufey,

2001). Exchange Rate Granger causing FPI implies that the foreign portfolio flows are driven by expectations from the changes in the exchange rate. The exchange rate has a variety of effects on portfolio investments. According to Roy (2007), capital gains resulting from currency rate differentials cause foreign portfolio flows to India.

B. Foreign Exchange Reserve

The hypothesis that the Foreign Exchange Reserve does not granger cause FPI has been rejected in Table 1.1. On the other hand, the Hypothesis i.e., FPI does not granger cause Forex is however accepted. What it implies is that Foreign Exchange Reserves have a significant positive influence on the Foreign Portfolio Investment in India. Among the emerging market economies, India is the sixth-largest reserve holding country (Subramanian, 2003).

Table 1.1: Results of Granger Causality Test

Null Hypothesis	F-Statistics	Probability	Causality	Relationship
ER does not granger cause FPI	*4.14236*	*0.0184*	*ER –FPI*	
FPI does not granger cause ER	*0.33275*	*0.7177*		*Univariate*
FE does not granger cause FPI	*11.1131*	*4.E-0.5*	*FE-FPI*	
FPI does not granger cause FE	*1.60995*	*0.2044*		*Univariate*
Import does not granger cause FPI	*11.1651*	*4.E-0.5*	*Import –FPI*	
FPI does not granger cause Import	*6.36385*	*0.0024*	*FPI-Import*	*Bivariate*
Export does not granger cause of FPI	*7.95021*	*0.0006*	*Export –FPI*	
FPI does not granger cause Export	*3.58867*	*0.0308*	*FPI-Export*	*Bivariate*

REER does not granger cause FPI	*7.08210*	*0.0013*	*REER-FPI*	*Univariate*
FPI does not granger cause REER	*0.12011*	*0.8869*		
BSE does not granger cause FPI	*15.3782*	*1.E-06*	*BSE-FPI*	*Bivariate*
FPI does not granger cause BSE	*5.16970*	*0.0071*	*FPI-BSE*	
IIP does not granger cause FPI	*9.11668*	*0.0002*	*IIP-FPI*	*Univariate*
FPI does not granger cause IIP	*1.58936*	*0.2086*		
WPI does not granger cause FPI	*0.06215*	*0.9394*		*No causality*
FPI does not granger cause WPI	*0.20964*	*0.8112*		
Openness does not granger cause FPI	*13.3207*	*7.E-06*	*Openness – FPI*	*Bivariate*
FPI does not granger cause openness	*10.8598*	*5.E-05*	*FPI-Openness*	

C. Imports

Capital movements have different effects on exports and imports depending on the exchange rate regime. (Khanna, 2002).   In Table 1.1 it has been found that there is a bivariate connection between FPI and import, indicating that causation runs from FPI to import and vice versa. Increased capital flows raise a country's international buying power, which helps to boost imports by increasing the average willingness to import in a foreign exchange-constrained economy (Guha, 2008).

D. Export

Capital flows into a country have an influence on exports. The Granger causality test, as shown in Table 1.1, also reveals that FPI and Export have a bivariate connection. Exports, according to Ports and Rey (2000), are an essential factor in attracting additional portfolio investment. Exports are often the country's primary source of foreign exchange, making them critical to the country's liquidity.

E. REER

"*The REER index is the weighted average of the bilateral nominal exchange rates of home currency in terms of foreign currencies adjusted by domestic foreign relative local currency prices. The exchange rate of a currency is expressed as the number of units of special drawing rights (SDRs) that equal one unit of the currency (SDRs per currency)*" (Chakraborty, 2003). The result of the Granger causality test table (1.1) shows that the hypothesis that REER does not cause FPI, has been rejected. However, FPI does not granger cause REER to be accepted. The results are in agreement with Chopra (2003) who found that REER has a significant impact on Foreign Portfolio Investment in India. So, there is a significant relationship between Foreign Portfolio Investment and REER.

F. BSE SENSEX

As presented in table 1.1, a bivariate relationship has been found between BSE Sensex and FPI. Foreign Portfolio Flows to India are affected due to the change in stock market prices and capital gains motive (Roy, 2007). Kumar (2001) states that FII inflows do not react to short-term changes or due to the technical position of the market and they are more affected by the fundamental factors. The study found that there is causality from FII to Sensex. Foreign Portfolio investment has a significant influence on BSE SENSEX via the capital market. Causality running from BSE Sensex to FPI implies that a sound financial market attracts more global investors. The return on the stock market BSE Sensex is more compared to the S&P 500 index and other indexes in UK and Japan (Chakrabarti et al., 2007). So international investors are more interested in areas where the equity return is high.

G. IIP as a proxy of GDP

Nations that have a Sound macroeconomic environment, and have high sustained growth rates should attract more capital inflows (Rowland and Amaya, 2004). Chopra (2003) revealed that the IIP as a proxy of GDP had a significant positive impact on the inflow of FPI in India. The result of table 1.1 shows that FPI does not granger cause IIP is

being accepted but IIP does not granger cause FPI is however rejected showing that IIP causes/ affects FPI. Aurelie (2007) evidenced that the growth rate in terms of the GDP of one nation has a positive influence on investment. The increase in the growth rate, the more the number of investments in a particular country.

H. Whole Sale Price Index (WPI)

"*WPI as a measure of inflation is that when domestic inflation rate increases the purchasing power of the funds invested decreases. Hence investor is discouraged to invest in the country. Similarly, when the inflation rate in the foreign country increases the purchasing power of the investment in that country decreases hence investor has a disincentive to invest in that country*" (Rai and Bhanumurthy, 2004). The result of the Granger causality test shown in table 1.1 supports that there is no causality running between WPI and FPI. The hypothesis that WPI does not granger cause FPI and FPI does not granger cause WPI is found to be true in the case of wholesale price index and FPI. Using the pairwise Granger causality test, the same findings have also been reported by Chakraborty (2001).

I. Openness

Granger Causality test as reported in table 1.1 show that there is a bivariate relationship between FPI and openness. Chopra (2003) evidenced that openness is the most prompting factor in attracting Overseas Portfolio Investment in India. The openness variable reflects the relation of host counties with the rest of the world. Open countries attract more capital inflows than heavily protected economies (Rowland and Amaya, 2004).

SECTION III: Findings and Analysis

In the light of the above discussion, it can be concluded that export, import, openness, and BSE Sensex have bivariate causality with FPI. It shows that there is a significant relationship exists between macroeconomic variables i.e., export, import, openness, and BSE Sensex and Foreign Portfolio Investment. Another finding from the causality test reveals that Foreign Exchange Reserve, IIP, REER, and Exchange Rate

cause FPI. It implies that these variables have a significant and positive impact on FPI but FPI does not cause them signifying the existence of univariate causality running from Foreign Exchange Reserve, IIP, REER, and Exchange Rate to FPI. The results of the Granger Test also show that there is no causality exists between the Wholesale Price Index and Overseas Portfolio Investment.

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