

Effect of Foreign Capital Inflow on Indian Exchange Rate in India: An Empirical Analysis

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Abstract:

Foreign investments have made noticeable effect in the Indian Economy. This paper aims to study the identify the effect of foreign capital flow on exchange rate in India for the period 2006 to 2013 using monthly data. The data includes the Inflow of FDI into India, Net FII, Exchange rate between Indian Rupee to US Dollar and Indian Rupee to Pound Sterling. Foreign investors are attracted to success stories; they are drawn to countries already growing, politically stable, and with a sizable purchasing power. It is attracting towards high interest rate and large market size as well as certain level of scope for new business and innovative ideas. Foreign investment inflows to India continued to increase over the last two decade as a result of investment favorable policies adopted by the Indian government. There is sufficient evidence to show that there are significant effects of foreign capital flow on foreign exchange rate. It is evident in the results that the regression analyses do not provide much support for the view of a robust link between exchange rate and capital flow in India.

Key Words: Foreign Capital Flow, Exchange Rate, Correlation, Indian Economy

Introduction

Foreign capital has played a significant role for development of every national economy. As the economy becomes more open and integrated with the rest of the world, capital flows will contribute significantly to the transformation of the developing economy. For the developed countries it is necessary to support sustainable development. For the developing countries, it is used to increase accumulation and rate of investments to create conditions for more intensive economic growth.

Capital inflow can help developing countries with economic development by furnishing them with necessary capital and technology. Capital flows contribute in filling the resource gap in countries where domestic savings are inadequate to finance investment. Capital inflows allow the recipient country to invest and consume more than it produces when the marginal productivity of capital within its borders is higher than in the capital-rich regions of the world.

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Indian has been attracting foreign direct investment for a long period. The sectors like telecommunication, construction activities and computer software and hardware have been the major sectors for FDI inflows in India.

Effect of Foreign Capital Flow on Indian economy

Foreign capital flow of fund is fund flow between the countries in the form of inflow or outflow by which one can able to gain some benefit from their investment whereas another can exploit the opportunity to enhance the productivity and find out better position through performance. The effectiveness and efficiency depends upon the investors perception, if investment with the purpose of long term then it is contributes positively towards economy on the other hand if it is for short term for the purpose of making profit then it may be less significant. Depending on the industry sector and type of business, a foreign direct investment may be an attractive and viable option. Any decision on investing is thus a combination of an assessment of internal resources, competitiveness, and market analysis and market expectations. The foreign capital flow may also affect due to the government trade barriers and policies as well as exchange rate between the country for the foreign investments and

leads to less or more effective towards contribution in economy as well as GDP of the economy. The studies try to find out the implications which affect the economic scenario and also measure the level of predominance by the factors for economic contribution to India.

Review of Literature

The role of foreign fund in economic assistance for economic development is a debatable issue. Some studies have empirically proved that it has a positive impact on economic growth; on the other hand some studies have showed inverse effect as well. FDI flows from emerging markets, an increasingly important source of FDI for under developed country and low-income countries because these countries are expected to be more resilient. In current situation an overall FDI flows to low-income and under develop countries could be significantly lower than in the pre-crisis period. Many countries has liberalized their trade and investment regimes and increased participation in bilateral, regional and multinational policy initiatives for attracting foreign fund to develop the country by the way of creating job opportunity and technological transfer. Recent trends suggest that a confluence of global factors and favorable domestic conditions played a significant role in

driving FDI inflows to developing countries.

Role of Foreign Direct Investment in the Development of Indian Economy. This section reviews the empirical studies on the relation between FDI and economic activities in the host economy, which could facilitate in identifying the issues relating to the impact of FDI at the sartorial level. In the earlier stage, few studies had shown that FDI has a negative impact on the growth of the developing countries (Singer, 1950; Griffin, 1970; Weisskof, 1972).

Capital Inflow and their Impact on the Real Effective Exchange Rate . Mr .Dornbusch , has written this ,on his research in the year 1998,the objective of this article is to know the capital inflow and their impact on the real effective exchange rate. The variable to find the effect of inflow and outflow of exchange rate. This test confirm that almost all variables are non-stationary and could be considered as integrated of order one. The result show that both public and private inflow cause the real effective exchange rate to appreciate.

Capital Flows and their Macroeconomic Effects in india Renu kohli, on march 2001 ,the objective to know the capital inflow and their macroeconomic effects in india. The variable is to find the inflow effects in

india and on macroeconomic. The paper finds that an inflow of foreign capital during this period has resulted in real exchange rate appreciation and has had a significant impact on domestic money supply.

Dr. N. K. Sathya Pal Sharma has studied that role of foreign institutional investors in Indian investment arcade growth by making objective To know the organized stakeholders involvement to Indian Capital Arcade growth & To study the scope and trading mechanism of External Organized stakeholders in India for the time period of 1992-93 to Nov 30 2012.The study conclude that Domestic sources of outside finance are restricted in many countries, particularly those with emerging arcades. Through capital arcade liberalization, external capital has become increasingly significant source of finance.

Mahanta Devajit suggested that FDI seen as an important economic catalyst of Indian economic growth by stimulating domestic investment, increasing human capital formation and by facilitating the technology transfer. In his study impact of FDI on Indian economy. The purpose behind the study was to investigate the impact of FDI on economic growth in India.

Data and Methodology

The main objective of the study is to study and identify effect of foreign capital flow and exchange rate. The primary sources of data for this study are the online database of the RBI (Reserve Bank of India), Department of Industrial Policy and Promotion and UNCTAD statistics covering the 8 year period from January 2006 to December 2013. The data includes the Inflow of FDI into India, Net FII, Exchange rate between Indian Rupee to US Dollar and Indian Rupee to Pound Sterling. All variables are expressed 2nd difference.

The data used in present study is aggregated monthly data covering 96 observations time series. This study builds on existing research studies and methodologies, to test the determinants of inward investment to India. As such this study uses the method of correlation, Unit root Test and regression analysis for data analysis.

Empirical Analysis

The table represents the correlation between exchange rate and foreign capital flow.

Table: Correlation between exchange rate and foreign capital flow

	USD	GBP	FII	FDI
USD	1			
GBP	0.5694	1		
FII	0.0229	-0.1437	1	
FDI	0.1525	0.0406	-0.0529	1

Normally, investors perceive that there is inverse relation between stock market and gold price. The above table shows the correlation between exchange rate and foreign capital flow, which represents that there is strong positive relationship prevailing between all variable, which is significant at 5% significant level.

Unit Root Test

The result of ADF test are represented in Table-.

Null Hypothesis (H_0) = The time series is unit root at 2nd difference.

Exogenous: Constant

Leg

Length: 4

Table: ADF test at 1st Difference of all variables

Variables	ADF Value	Probability	Critical Value	Decision	Durbin–Watson Statistics
FDI (at 2 nd difference)	-9.2470	0.000	At 1%: -3.5047* At 5%: -2.8939 At 10%:-2.5838	Reject Null hypothesis	2.2558
FII (at 2 nd difference)	-7.4169	0.0000	At 1%: -3.5047* At 5%: -2.8939 At 10%:-2.5838	Reject Null hypothesis	2.0411
USD (at 2 nd difference)	-7.4074	0.0000	At 1%: -3.5047* At 5%: -2.8939 At 10%:-2.5838	Reject Null hypothesis	1.9874
GBP (at 2 nd difference)	-5.9402	0.0000	At 1%: -3.5047* At 5%: -2.8939 At 10%:-2.5838	Reject Null hypothesis	2.0661

*MacKinnon critical values for rejection of hypothesis of a unit root.

The table- shows that both the variables under study become stationary at 2nd difference. After taking 2nd difference, the ADF-test value is greater than critical value at 1% level of significance. Thus, the variable under study become stationary after 2nd difference and that means null hypothesis of unit root can be rejected. This result supported by Durbin – Watson statistics which is almost 2 in all variables, which means there is no auto correlation found.

Regression line

USD to FII and FDI

The regression analysis performed between USD and inflow of FDI and FII. The dependent variable is taken as USD and independent variable is inward FDI and FII. The basic model is algebraically expressed as:

$$DUSD = \alpha + \beta_1 DFDI + \beta_2 DFII$$

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DGBP	0.288058	0.041179	6.995297	0.0000
DFII	-4.57E-06	4.72E-06	-0.967448	0.3359
DFDI	9.69E-06	8.85E-06	1.095092	0.2764
C	-0.010231	0.106527	-0.096040	0.9237

R-squared	0.427842	F-statistic	22.43305
Durbin-Watson stat	2.477707	Prob(F-statistic)	0.000000

The multiple has yielded an R square value of 0.4278 which implies that 42 percent of the variation in USD is caused by the regressors involved in the model. The corresponding 'F' statistic is 22.4331 and the corresponding P value is 0.0000. Hence it is significant and implies that the model is a good fit for the data.

The result of a regression of USD and inflow of FDI and FII. The DW statistics is 2.48, for $H_0: p=0$ and $H_1: p \neq 0$, d_{crit} value is greater than d at 5 per cent significance level. Therefore null hypothesis is rejected and suggest the absence of autocorrelation in the series.

From the t-statistic table for regression analysis is not significant. The

corresponding regression coefficient α is equal to -0.010. From Regression equation, it can be concluded that, if 1 per cent change in FDI and FII would change only 0.42 per cent change in USD in either direction.

GBP to FII and FDI

The regression analysis performed between GBP and inflow of FDI and FII. The dependent variable is taken as GBP and independent variable is inward FDI and FII. The basic model is algebraically expressed as:

$$DGBP = \alpha + \beta_1 DFDI + \beta_2 DFII$$

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DUSD	1.222708	0.174790	6.995297	0.0000
DFDI	2.28E-06	1.83E-05	0.124417	0.9013
DFII	-2.02E-05	9.55E-06	-2.112332	0.0374
C	0.025246	0.219467	0.115034	0.9087

R-squared	0.441234	F-statistic	23.68970
Durbin-Watson stat	2.751009	Prob(F-statistic)	0.000000

The multiple has yielded an R square value of 0.4412 which implies that 44 percent of the variation in GBP is caused by the regressors involved in the model. The corresponding 'F' statistic is 23.69 and the corresponding P value is 0.0000. Hence it is significant and implies that the model is a good fit for the data.

The result of a regression of GBP and inflow of FDI and FII. The DW statistics is 2.75, for $H_0: p=0$ and $H_1: p \neq 0$, d_{crit} value is greater than d at 5 per cent significance level. Therefore null hypothesis is rejected and suggest the absence of auto correlation in the series.

From the t-statistic table for regression analysis is not significant. The corresponding regression coefficient α is equal to 0.0252. From Regression equation, it can be concluded that, if 1 per cent change in FDI and FII would change only 0.44 per cent change in GBP in either direction.

Conclusion

Foreign investment can supplement domestic investible resources in a developing economy, enabling higher rates of growth. As a source of foreign

exchange, it can relax potential balance of payments constraints on growth. Profit remittances on account of foreign equity are related to the performance of investment projects, unlike the inflexible repayment obligations of foreign debt: this risk-sharing feature makes foreign equity preferable to foreign debt. Foreign firms contribute to the technological base of the host economy, directly and through technological spillovers to other firms in the industry. Besides, in the right circumstances, the presence of foreign firms reduces market concentration and promotes a more competitive market structure.

The study identify and analysis the effect of exchange rate and foreign capital flow in Indian economy. The 8 year monthly data covering 96 observations collected from January 2006 to December 2013. The data includes the Inflow of FDI into India, Net FII, Exchange rate between Indian Rupee to US Dollar and Indian Rupee to Pound Sterling. All variables are expressed 2nd difference.

The relationship between FDI inflow in India and FII with USD and GBP in India.

There is a positive correlation between FDI inflow USD and GBP. Similarly positive correlation between USD and FII but negative correlation between GBP and FII.

The regression analysis performed between USD and inflow of FDI, FII and NRO. The dependent variable is taken as USD and independent variable is inward FDI, FII and NRO.

The regression analysis performed between GBP and inflow of FDI, FII and NRO. The dependent variable is taken as GBP and independent variable is inward FDI, FII and NRO. The basic model is algebraically expressed as:

$$\text{USD to FII, FDI: } DUSD = -0.0102 + 9.69E-06(DFDI) + (-4.57E-06(DFII))$$

$$\text{GBP to FII, FDI: } DGBP = 0.0252 + (-2.02E-05(DFDI)) + 2.28E-06(DFII)$$

Regression analysis suggested that there is not much effect of foreign capital flow on exchange rate in Indian economy.

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