IMPACT OF INFLATION ON FOREIGN DIRECT INVESTMENT (FDI) AND FOREIGN PORTFOLIO INVESTMENT (FPI) WITH REFERENCE TO INDIA

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ABSTRACT:

The present study have aimed at knowing the Impact of the Inflation on Foreign direct Investment (FPI) and Foreign Portfolio Investment (FPI). The study have considered the secondary data for the 2000-01 to 2019-20. The study have applied the Vector Error Correction Model, Ordinary Least squares and Vector Auto Regression through the E-views software to know the relationship impact and Future movement of the FDI and FPI. The study have focused on these external funds that arouse the Indian economy through these analysis. The study found that there is a positive relationship and positive impact of the FPI on the Inflation while FPI has the negative impact and relationship on the Inflation. Here, the study also results the India have the more flows from the Foreign portfolio Investment to India that shows that a unit rise in the FDI will rise in the Inflation.

Keywords: DIPP, Economy, FDI, FPI. Inflation

INTRODUCTION

FDI plays a pivotal role in a country. It provides a boost to working of the economy. Requirement of FDI relies on saving and investment rate of a country and in order to fulfil the gap between investment and saving, FDI plays an important role and acts as a bridge to fulfil the gap between investment and savings(Dwivedi & kumar, 2017) Domestic saving limitations can be covered through foreign capital during the economic development process and through that it also provides superior and beer technology that promotes better efficiency to the existing production capacity and thereby generate new production opportunity. It creates a window of transparency between the nations and hence accelerating bilateral

trade among the countries (Hargreaves & Dermott, 1999). In the past two decades, the entire globe has witnessed the growing potential of foreign direct investment. In simple terms FDI means to the net inflows of funds into the home country which in turn leads to economic development (Noorbakhsh et al., 2001). It is a type of investment where the foreign funds are bought into an enterprise which operates in a different nation of origin from the investor. It is an important tool for any economy which acts as a lube for the economy.

FDI can be of two kinds namely inward foreign direct investment and outward foreign direct investment (Zekarias, Seiko Minota, 2016). As Borensztein, Gregorio, & Lee, 1998, says under the neoclassical growth model approach, FDI encourages economic development by the increase of volume of funds, In the endogenous growth model, FDI uplifts fiscal development by creating technological dispersal from the developed countries to the home country. As condensed in Salisu, et al. (1996), FDI is the combined collection of various technological knowledge, which can elevate the existing reserve of insight in the beneficiary economy through skill attainment, labour training. There are various methods of FDI which are through setup of new business in the foreign nation, through acquiring of the share of the foreign country and through merger or acquisition of other organization of the foreign nation. Since the last thirty years, foreign direct investment (FDI) has emerged as a popular and important factor in the developing nations (Acharyya, 2009). A type of investment which caters putting of foreign funds into a venture which operates from a different country of origin that from the investor (Cai,1999). It is an important vehicle for any developing nation as it acts as a lubricant for an economy

REVIEW OF LITERATURE

Parthapratim Pal (2010): The objective of this study is to examine the impact of Foreign Portfolio Investment on India's economy and industry. As FPI essentially interacts with the real economy via the stock market, the effect of stock market on the country's economic development will also be examined. From the results of this study it can be said that the mainstream argument that the entry of foreign portfolio investors will boost a country's stock market and consequently the economy, does not seem be working in India.

Sanjeet Singh, Gagan Deep Sharma, Mandeep Mahendru (2013): The study investigates the effect of the economic indicators on the Foreign Direct Investment in India. It is known that the growth in FDI is increasing at the global scenario. Especially in the developing countries the FDI is increased in last

two decades. The findings revealed that there is a visible effect of the economic indicators of India on the Foreign Direct Investment. The result of the correlation and regression analysis shows the significant impact of the economic indicators in the FDI.

Reetika Garg and Pami Dua (2014): This paper analyzes the macroeconomic determinants of portfolio flows to India and finds that lower exchange rate volatility and greater risk diversification opportunities are conducive to portfolio flows. However, higher equity returns of other emerging markets discourage these flows. Other conventional determinants of portfolio flows are domestic equity performance, exchange rate, interest rate differential and domestic output growth.

Kotishwar A and Penna Alekhya (2016): This paper analyses the determinants of portfolio flows to India for the period 2015 to 2016. The study reveals that as on March 31, 2016, there were 8,717 FPIs registered as compared to 8,214 on March 31, 2015 and an analysis of FPI net investments reveals that there were negative net investments in both equity and debt segments during 2015-16

Udhayakumar and Shankar R (2018): This article gives a detailed view about Foreign portfolio investment in India and its consequence on economic portrayers. Foreign Portfolio Investment (FPI) is investment by non-residents in Indian securities including shares, government bonds, corporate bonds, convertible securities, infrastructure securities etc. FPI along with FDI can contribute to fill the savings investment gap and provide the foreign exchange to support growth and development. India's change of policy in relation to FPI, led to large surge of foreign investment in capital market. It revolutionized not only the capital market of the country but also its whole economy

Elvis Picardo (2019): This article focuses on the FDI and FPI Capital is a vital ingredient for economic growth, but since most nations cannot meet their total capital requirements from internal resources alone, they turn to foreign investors. Foreign direct investment (FDI) and foreign portfolio investment (FPI) are two of the most common routes for investors to invest in an overseas economy. FDI and FPI are similar in some respects but very different in others. As retail investors increasingly invest overseas, they should be clearly aware of the differences between FDI and FPI, since nations with a high level of FPI can encounter heightened market volatility and currency turmoil during times of uncertainty.

The Economic Times (2020): This article is taken from the economic times. It shows the impact of corona virus on FPI. Overseas investors pulled out a net Rs 9,103 crore from the Indian markets in April so far as the Covid-19 crisis triggered a return to safe haven assets like gold and dollar-denominated

securities. As per latest depository's data, foreign portfolio investors withdrew a net sum of Rs 2,951 crore from equities and Rs 6,152 crore from the debt segment between, April the total net outflow stood at Rs 9,103 crore.

OBJECTIVES OF THE STUDY

1. To study the relationship of Inflation with the FDI and FPI flows into India
2. To study the impact of Indian on the FDI and FPI flows

HYPOTHESES OF THE STUDY

H0: There is no long run relationship of Inflation with the FDI and FPI flows.

H0: Indian Inflation has no impact on FDI and FPI flows

SCOPE OF THE STUDY

The present study will consider the external fund flows i.e., foreign direct investments and Foreign Profile Investors in to India. The study aim is to examine the Inflation impact is there on the external fund flows, which are stimulating indirectly to the Indian economy. The study will consider the secondary data from the period from 2000-01 to 2019-20.

RESEARCH METHODOLOGY

The present study has adopted the quantitative research approach for the examination of Inflation effect on external funds i.e. FDI and FPI flows. The study has collected the secondary data from the DIPP and RBI web portals.

Variables of the Study

1. Inflation (Independent Variable)
2. FDI (Dependent Variable)
3. FPI (Dependent Variable)

The study has considered the following statistical tools for the examination of framed objectives.

Vector Error Correction Method (VECM): The study will apply the Vector Error Correction Method to examine the long or short run relationship exists between the Indian Inflation and FDI & FPI.

Ordinary least Square method: The study will apply the OLS to know the impact of Indian inflation

on the fund flows of FDI and FPI.

TABULATION OF DATA ANALYSIS

Objective -1: To study the relationship of Inflation with the FDI and FPI flows into India

The study has framed the following hypothesis for the examination of inflation relationship with the FDI and FPI.

Null hypothesis: There is no long run relationship of Inflation with the FDI flows.

Alternative hypothesis: There is a long run relationship of Inflation with the FDI flows

Step -1 lag order selection

The lag order selection criteria table shows that the LR test statistical test and Final prediction error tend to be fit at lag 0. Likewise, it is observed that criterion such as the Akaike Information Criterion and the Hannan Quinn Information Criterion are fit lag 0, while Schwarz Information Criterion is observed to be fit lag 0. Almost all of the criteria appeared fit at lag 0 and concluded that lag 0 was optimal for the classification of VECM

Table 1: Vector Error Correction Model

Vector Error Correction Estimates		
Sample (adjusted): 2003 2020		
Included observations: 18 after adjustments		
Standard errors in ( ) & t-statistics in [ ]		
Cointegrating Eq:	CointEq1	
DFDI(-1)	1.000000	
DINFLATION(-1)	-2946.192	
	(1099.29)	
	[-2.68008]	
C	-3156.991	
Error Correction:	D(DFDI)	D(DINFL

		ATION)
CointEq1	-0.670219	0.000245
	(0.32642)	(7.4E-05)
	[-2.05322]	[3.30112]
D(DFDI(-1))	-0.108143	-0.000228
	(0.28760)	(6.5E-05)
	[-0.37602]	[-3.48675]
D(DINFLATION(-1))	-467.9368	-0.134299
	(1058.35)	(0.24070)
	[-0.44214]	[-0.55794]
C	-179.0577	0.008620
	(2140.86)	(0.48690)
	[-0.08364]	[0.01770]
R-squared	0.389525	0.589216
Adj. R-squared	0.258709	0.501191
Sum sq. resids	1.14E+09	58.96376
S.E. equation	9023.491	2.052242
F-statistic	2.977655	6.693726
Log likelihood	-187.2156	-36.21986
Akaike AIC	21.24618	4.468873
Schwarz SC	21.44404	4.666733
Mean dependent	-319.6111	-0.144333
S.D. dependent	10480.46	2.905771
Determinant resid covariance (dof adj.)	3.26E+08	
Determinant resid covariance	1.97E+08	
Log likelihood	-222.9763	
Akaike information criterion	25.88625	
Schwarz criterion	26.38090	

Number of coefficients	10

Vector Error Correction Model represents the FDI relationship with Inflation'. For this purpose, the object considered the 20 years data of FDI and Inflation, i.e. 2000-2001 to 201-2020. The FDI coefficient with Inflation is -0.000228 at lag 0 which indicates that the FDI has a relationship with Inflation. Furthermore, the table shows that the error correction terms t- values. In order to check the significant of the relationship wald test has been applied with the VECM equation.

EQUATION: D(DFDI) = C(1)*(DFDI(-1) - 2946.19188195*DINFLATION(-1) - 3156.99051701) + C(2)*D(DFDI(-1)) + C(3)*D(DINFLATION(-1)) + C(4)

Equation : C(1)=C(3)=0

Table 2: Wald Test

Wald Test:			
System: %system			
Test Statistic	Value	Df	Probability
Chi-square	4.848932	2	0.0885
Null Hypothesis: C(1)=C(3)=0			
Null Hypothesis Summary:			
Normalized Restriction (= 0)	Value		Std. Err.
C(1)	-0.670219		0.326424
C(3)	-467.9368		1058.349
Restrictions are linear in coefficients.			

Wald test represent that, the calculated value of Chi-square is 4.848932 which is less than critical value (12.592) at DF: 2 and p-value is observed to be greater than 0.05 implies that insignificant of the model. Hence it is concluded that accept the Null hypothesis and reject the Alternative Hypothesis i.e., There is a no Long run relationship between FDI and inflation

Relationship of Inflation with the FPI flows

Null hypothesis: There is no long run relationship of Inflation with the FPI flows.

Alternative hypothesis: There is a long run relationship of Inflation with the FPI flows

Step 1: lag order selection

The lag order selection criteria table shows that the LR test statistical test and Final prediction error tend to be fit at lag 0. Likewise, it is observed that criterion such as the Akaike Information Criterion and the Hannan Quinn Information Criterion are fit lag 0, while Schwarz Information Criterion is observed to be fit lag 0. Almost all of the criteria appeared fit at lag 0 and concluded that lag 0 was optimal for the classification of VECM

Table 3: Vector Error Correction Model

Vector Error Correction Estimates		
Sample (adjusted): 2003 2020		
Included observations: 18 after adjustments		
Standard errors in ( ) & t-statistics in [ ]		
Cointegrating Eq:	CointEq1	
FPI(-1)	1.000000	
DINFLATION(-1)	-6655.270	
	(2347.58)	
	[-2.83495]	
C	-10312.27	
Error Correction:	D(FPI)	D(DINFLATION)
CointEq1	-0.946545	9.80E-05
	(0.21784)	(4.2E-05)
	[-4.34520]	[2.31349]
D(FPI(-1))	-0.316076	-2.58E-05
	(0.17907)	(3.5E-05)
	[-1.76510]	[-0.74161]
D(DINFLATION(-1))	-4208.237	0.141368
	(1807.18)	(0.35134)
	[-2.32861]	[0.40236]
C	2347.807	-0.169489
	(3086.93)	(0.60015)

	[0.76056]	[-0.28241]
R-squared	0.750139	0.373765
Adj. R-squared	0.696597	0.239572
Sum sq. resids	2.38E+09	89.88952
S.E. equation	13033.48	2.533906
F-statistic	14.01036	2.785275
Log likelihood	-193.8340	-40.01478
Akaike AIC	21.98156	4.890531
Schwarz SC	22.17942	5.088392
Mean dependent	1656.389	-0.144333
S.D. dependent	23661.95	2.905771
Determinant resid covariance (dof adj.)		9.68E+08
Determinant resid covariance		5.85E+08
Log likelihood		-232.7730
Akaike information criterion		26.97478
Schwarz criterion		27.46943
Number of coefficients		10

Vector Error Correction Model represents the FPI relationship with Inflation'. For this purpose, the object considered the 20 years data of FDI and Inflation, i.e. 2000-2001 to 2001-2020. The FPI coefficient with Inflation is-2.58E-05 at lag 0 which indicates that the FPI has a relationship with Inflation. Furthermore, the table shows that the error correction terms t- values. In order to check the significant of the relationship wald test has been applied with the VECM equation.

EQUATION: D(FPI) = C(1)*(FPI(-1) - 6655.27010874*DINFLATION(-1) -10312.2720393) + C(2)*D(FPI(-1)) + C(3)*D(DINFLATION(-1)) + C(4)

Equation: C(1)=C(3)=0

Table 4: Wald Test

Wald Test:		

System: %system			
Test Statistic	Value	df	Probability
Chi-square	19.17096	2	0.0001
Null Hypothesis: C(1)=C(3)=0			
Null Hypothesis Summary:			
Normalized Restriction (= 0)	Value	Std. Err.	
C(1)	-0.946545	0.217837	
C(3)	-4208.237	1807.185	
Restrictions are linear in coefficients.			

Wald test represent that, the calculated value of Chi-square is 19.17096 which is greater than critical value (12.592) at DF: 2 and p-value is observed to be less than 0.05 implies that significant of the model. Hence it is concluded that reject the Null hypothesis and accept the Alternative Hypothesis i.e., There is a Long run relationship between FPI and inflation

Objective 2: To study the impact of Indian on the FDI and FPI flows

The study examines the inflation impact on the FDI and FPI flows into India. The study has framed the following hypothesis.

Null hypothesis: Indian Inflation has no impact on FDI flows

Alternative hypothesis: Indian Inflation has an impact on FDI flows

Table 5: Ordinary Least Square

Dependent Variable: DFDI			
Method: Least Squares			
Sample (adjusted): 2001 2020			
Included observations: 20 after adjustments			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3193.386	1607.806	1.986176	0.0625

DINFLATION	-225.7878	840.3969	-0.268668	0.0012
R-squared	0.003994	Mean dependent var		3175.650
Adjusted R-squared	-0.051340	S.D. dependent var		7006.655
S.E. of regression	7184.263	Akaike info criterion		20.69181
Sum squared resid	9.29E+08	Schwarz criterion		20.79139
Log likelihood	-204.9181	Hannan-Quinn criter.		20.71125
F-statistic	0.072183	Durbin-Watson stat		1.998752
Prob(F-statistic)	0.791240			

Ordinary Least Square represents that, inflation is observed to be insignificant effect FDI with -225.7878. Further the p-value is observed to be having value greater than 0.05 (i.e., 0.0625) Hence it is concluded that acceptance of Null hypothesis and rejection of Alternative Hypothesis.

Null hypothesis: Indian Inflation has no impact on FPI flows

Alternative hypothesis: Indian Inflation has an impact on FPI flows

Table 6: Ordinary Least Square

Dependent Variable: FPI				
Method: Least Squares				
Sample (adjusted): 2001 2020				
Included observations: 20 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.244877	2850.174	4.367723	0.0004
DINFLATION	3.709978	1489.780	-2.490286	0.0228
R-squared	0.256245	Mean dependent var		12157.35
Adjusted R-squared	0.214925	S.D. dependent var		14373.56
S.E. of regression	12735.62	Akaike info criterion		21.83683
Sum squared resid	2.92E+09	Schwarz criterion		21.93641
Log likelihood	-216.3683	Hannan-Quinn criter.		21.85627
F-statistic	6.201522	Durbin-Watson stat		2.218217
Prob(F-statistic)	0.022763			

Ordinary Least Square represents that, inflation is observed to be significant effect FPI with 3.7099. Further the p-value is observed to be having value lesser than 0.05 (i.e., 0.0004) which signifies that one unit increase in the inflation will decreases the fpi flows by 3709.978 in future Hence it is concluded that rejection of Null hypothesis and acceptance of Alternative Hypothesis.

FINDINGS OF THE STUDY:

1. The study have attempted VECM analysis to identify the relationship of Inflation with FDI and FPI. The study found that the variables are fit at lag 0 in FDI and FPI. The VECM is observed to be having the negative coefficient values and Wald test have witnessed there is no Long run relationship of Inflation with FDI whereas, Inflation with FPI has the significance as well as the long run relationship between the variables. Hence, it is observed to be having the FPI flows into India more than the FDI.

2. The study have found that there is an Impact of the Inflation on FPI with the coefficient value as 3.70997. It resembles that a unit increase in the inflation will decreases the FPI flows and it is also having the significance whereas in the Inflation impact on the FDI, there is no significance as well there is a negative impact of Inflation on the FDI (-225.7878). It implies that a unit increase in the inflation will not effect on the FDI.

CONCLUSION OF THE STUDY:

The present study have concluded that there is a negative relationship between the inflation and FDI and positive relationship between inflation and FPI. Here, the study found that there are FPI flows more compared with the FPI flows in India since there is a positive relationship observed between inflation and FPI. The impact analysis through OLS, states that there is a positive impact as the unit rise in the prices will increase the FPI whereas decrease in FDI. Hence, FDI has the negative impact on the Inflation. Hence, Inflation has the more impact on the FPI than FDI.

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