FDI and FPI: An Insight into Its Trends and Patterns

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ABSTRACT
Foreign Investment plays a very vital role by contributing to the growth of an economy by increasing its productivity by transfer of technology, financial resources and new and innovative management techniques. It is all the more important for developing countries like India since these countries need foreign capital inflows for its growth and development. Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI) both are associated with improvement growth of the country's economy. The present paper attempts to study the trends and patterns of flow of foreign capital in the form of FDI and FPI for a period of 13 years i.e., from 2006-07 to 2018-19. The paper also studies the relationship between FDI, FPI and BSE Sensex using statistical tools like correlation and multiple regression. An attempt is also done to analyse contribution of top 5 countries through FDI during the study period. This paper also analysis the trend of investments in top 5 sectors which has attracted investments through FDI route during the study period.
Keywords: BSE Sensex, Correlation, FDI, FPI, Foreign Investment, Multiple Regression

INTRODUCTION

Capital is a vital ingredient for economic growth of any country. But most of the countries have to depend on foreign investments since they cannot meet their total financial requirements from internal sources alone. The most common types of foreign investments are Foreign Direct Investments (FDI) and Foreign Institutional Investors (FII).

Under FDI foreign investors can directly invest in the assets of another nation. Many foreign companies are interested to invest in developing country like India due to comparatively low wages, due to availability of huge labour force which is also cheap, favourable government policies and tax exemptions.

Another route of foreign investment is FPI which is nothing but investing in financial assets of another country like shares, bonds etc. of companies located in another country. It is otherwise called ad Foreign Institutional Investors (FII).

FDI and FPI have emerged as important sources of funding for India. This foreign capital helps to create employment opportunities, develop infrastructure and acquire technical knowhow which contributes to the growth of the economy. FDI is the most preferred use for attracting foreign investment, since it is much more stable than FPI and signals long-lasting commitment.

REVIEW OF LITERATURE

Aggarwal & Solomon (2017) emphasised on the importance of foreign capital for the growth of a developing nation like India. They used correlation and multiple regression techniques to study the impact of FDI, FPI and BSE Sensex.

Kumar (2014) has made an attempt to analyse the trend of FDI flow into the country and also find the relationship between FDI, FII and GDP of the country. He has used statistical techniques like trend analysis and correlation.

Anitha (2012) analysed FDI inflow into the country after economic reforms of 1991. In addition to that the trends of FDI inflow into the country were also projected for a period of five years i.e., from 2010-11 to 2014-15 using Autoregressive Integrated Moving Average (ARIMA) forecasting technique.

Rani (2015) discussed the trend of FDI in India and also assessed the sector wise foreign direct investment in India for a period of 14 years i.e., from 2000-01 to 2013-14.

Sood (2015) attempted to study the role of FDI and FII in the growth of the Indian economy during 2001-2015. It was concluded that FDI has a significant impact on the economic growth of India whereas FII does not have significant impact on the economic growth of India.

Kulshrestha (2014) attempted to find out determinants of foreign institutional investment in India. The objective of the study was to find out whether there exists any relationship between FII and Indian capital market.

NEED FOR THE STUDY

India is one of the fastest growing economy in the world and FDI and FPI plays a major role in the development of Indian economy. Hence this study was conducted to understand the trend and pattern of inflow of foreign capital in the form of FDI and FPI. This study is done for a period of 13 years i.e., from 2006-07 to 2018-19.

OBJECTIVES OF THE STUDY

1. To study and analyse the pattern and trend of flow of foreign direct investment and foreign portfolio investment into India for a period of 13 years i.e., from 2006-07 to 2018-19.
2. To study the correlation between BSE Sensex, Foreign Direct Investment and Foreign Portfolio Investment.
3. To study the impact of foreign direct investment and foreign portfolio investment on BSE Sensex.
4. To analyse the changes in the FDI contribution of top 5 countries during the study period
5. To study the trend of flow of FDI into major sectors where FDI flow is maximum

HYPOTHESIS TESTING

H_1: There is significant relationship between foreign direct investments on BSE Sensex.
H_2: There is significant relationship between foreign portfolio investments on BSE Sensex.

RESEARCH METHODOLOGY

The objectives stated above were studied using information gathered from secondary data. Secondary data was gathered from sources such as published annual reports of RBI, Department of Industry Policy and Promotion, websites like fpi.nsdl.co.in, bseindia.com etc. The data thus collected has been analysed through tables & graphs. The Karl Pearson's coefficient of correlation and multiple regression analysis have been done to understand the relationship between foreign direct investment, foreign portfolio investment and BSE Sensex.

DATA ANALYSIS AND INTERPRETATION

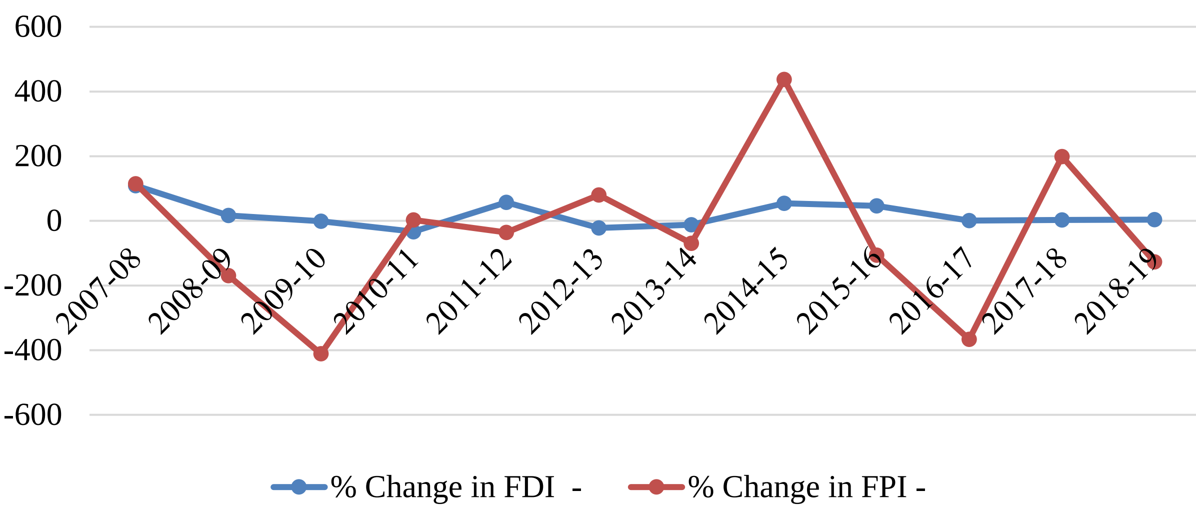
Total flow of foreign capital through foreign direct investment and foreign portfolio investment for a period of 12 years i.e., from 2006-07 to 2017-18 is shown in the table below along with the percentage change during the study period.

Table: 1
Cash Inflows into India through FDI and FPI

FY	FDI	% Change	FPI	% Change
2006-07	9307	-	30841	-
2007-08	19425	108.71	66179	114.59
2008-09	22697	16.84	-45811	-169.22
2009-10	22461	-1.04	142658	-411.41
2010-11	14939	-33.49	146438	2.65
2011-12	23473	57.13	93726	-36.00
2012-13	18286	-22.10	168367	79.64
2013-14	16054	-12.21	51649	-69.32
2014-15	24748	54.15	277461	437.20
2015-16	36068	45.74	-18176	-106.55
2016-17	36317	0.69	48411	-366.35
2017-18	37366	2.89	144682	198.86
2018-19	38744	3.69	-38930	-126.91

Source: RBI Annual Reports and NSDL FPI Monitor

Graph: 1
Cash Inflows into India through FDI and FPI



Interpretation

It is evident from the above data and graph that there are wide fluctuations in the amount of cash inflows into India through both FDI and FPI. However, the fluctuations are more in case of FPI. There was a huge increase in the FDI in the year 2007-08 compared to the previous year 2006-07; However, it fell drastically in the next few years and was the lowest in the year 2010-11. It However, increased substantially in the year 2011-12, but again showed a declining trend bit recovered in the year 2014-15. Since then there has been an increase in the FDI inflows though the percentage increase was low in the last three years i.e., 2016-17, 2017-18 and 2018-19.

On the other hand FPI is showing wide fluctuations both in total amount and also in the percentage changes. It increased in the year 2007-8 as compared to the previous year 2006-07, but later decreased drastically. It recovered little bit but again declined in the year 2011-12. It was negative in the year 2015-16, but recovered soon and showed an increasing trend till 2017-17. However, in the year 2018-19 it again showed a decline.

Table: 2
Correlation and Regression Analysis between Sensex, FDI and FPI

FY	Sensex	FDI	FPI
2006-07	13072.1	9307	30841
2007-08	15644.44	19425	66179
2008-09	9708.5	22697	-45811
2009-10	17527.77	22461	142658
2010-11	19445.22	14939	146438
2011-12	17404.2	23473	93726

2012-13	18835.77	18286	168367
2013-14	22386.27	16054	51649
2014-15	27957.49	24748	277461
2015-16	25341.86	36068	-18176
2016-17	29620.5	36317	48411
2017-18	32968.68	37366	144682
2018-19	38672.91	38744	-38930

Source: Source: RBI Annual Reports, NSDL FPI Monitor and bseindia.com

Table: 3
Karl Pearson's Co efficient of Correlation

	Sensex	FDI	FPI
Sensex	1		
FDI	0.7847	1	
FPI	0.0645	-0.2211	1

Interpretation

There is positive correlation between FDI and Sensex which implies FDI is moving in the same direction as the market. On the other hand, there is very slight positive correlation between FPI and Sensex which implies that FPI is rarely moving with the market. Similarly FDI and FPI are showing weak negative correlation which shows that both are sometimes moving in the opposite direction. But it is quite evident from the data that increase in FDI in India is leading to increase in investments by FPI because of its positive effect on the economic development of a country.

Multiple Regression Analysis of FDI, FPI and BSE Sensex

In case of multiple regressions, there is one dependent variable and more than one independent variable. Multiple regression model in this particular case is as follows:
BSE Sensex -= b_0 + b_1(FDI) and b_2(FPI)

BSE Sensex is considered as dependent variable and FDI and FPI as independent variable.

Table: 4
Regression Statistics:

Multiple R	0.8217
R Square	0.6753
Adjusted R Square	0.6103
Standard Error	5196.271
Observations	13

Interpretation

With the help of the model we can know the strength of the relationship between the dependent variable and the two independent variables. Multiple R is the multiple correlation coefficients between the dependent and independent variables. The value 0.8217 shows the positive relationship. R square is the coefficients of determination and its value is 0.6752. It tells us that 67.52% of variation in the dependent variable BSE Sensex is explained by the independent variables FDI and FII.

Table: 5
ANOVA

	Df	*SS*	*MS*	*F*	*Significance F*
Regression	2	561495179.3	280747589.6	10.3976	0.003611
Residual	10	270012314.7	27001231.47		
Total	12	831507494			

Interpretation

ANOVA generally shows the acceptability of the model. Regression gives the information about the variation accounted for by the model whereas the residual row shows information about the variation that has not been accounted by the model. It is clear from the above table that the p value (Significance F) is 0.0036 which is lesser than the significance level of 0.05. Hence the model is found to be statistically significant.

Table: 6
Coefficients

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	2452.824	4669.7374	0.5252	0.6108
FDI	0.7276	0.16005	4.5461	0.001065
FPI	0.02243	0.01656	1.3542	0.2055

Interpretation

The coefficient of FDI has a standard error of 0.16005, t-statistic of 4.5461 and p-value of 0.001065. The significance level is (α) 0.05. It is clear from the table that the p value is much lesser than α, i.e., $p < 0.05$. Hence the alternative hypothesis (H_1) is accepted that there is a significant relationship between FDI and BSE Sensex.

The coefficient of FPI has a standard error of 0.01656, t-statistic of 1.3542 and p-value of 0.2055. The significance level is (α) 0.05. It is evident from the above table that p value is higher than α, $p > 0.05$. Hence there is no significant relationship between FPI and BSE Sensex.

Table: 7
FDI Flows to India – Contribution of Top 5 Countries

FY	Mauritius	% Change	Singapore	% Change	Netherlands	% Change	U.S.A	% Change	Japan	% Change
2006-07	3,780		582		559		706		80	
2007-08	9,518	151.80	2,827	385.74	601	7.51	950	34.56	457	471.25
2008-09	10,165	6.80	3,360	18.85	682	13.48	1,236	30.11	266	-41.79
2009-10	9,801	-3.58	2,218	-33.99	804	17.89	2,212	78.96	971	265.04
2010-11	5,616	-42.70	1,540	-30.57	1,417	76.24	1,071	-51.58	1,256	29.35
2011-12	8,142	44.98	3,306	114.68	1,289	-9.03	994	-7.19	2,089	66.32
2012-13	8,059	-1.02	1,605	-51.45	1,700	31.89	478	-51.91	1,340	-35.85
2013-14	3,695	-54.15	4,415	175.08	1,157	-31.94	617	29.08	1,795	33.96
2014-15	5,878	59.08	5,137	16.35	2,154	86.17	1,981	221.07	2,019	12.48
2015-16	7,452	26.78	12,479	142.92	2,330	8.17	4,124	108.18	1,818	-9.96
2016-17	13,383	79.59	6,529	-47.68	3,234	38.80	2,138	-48.16	4,237	133.06
2017-18	13,415	0.24	9,273	42.03	2,677	-17.22	1,973	-7.72	1,313	-69.01
2018-19	6570	-51.02	14632	57.79	2519	-5.9	2823	43.08	2745	109.06

Source: Source: RBI Annual Reports and NSDL FPI Monitor

Interpretation

It is clear from the above data that the percentage of investments by Mauritius showing a fluctuating trend. It increased drastically in the year 2007-08 and 2009-10. However, it decreased in the later years and again increased from the year 2016-17 onwards but again declined in the year 2018-19. Similarly, Singapore also increased its investments in the year 2007-08 and 2008-09. However, later it showed a declining trend and again increased in the year 2011-12, 2013-14, 2014-15 and 2015-16 but declined again in 2016-17. It increased in the last two years of the study period.

Netherlands on the other hand has increased its investments in India through FDI route steadily. It decreased in the year 2013-14, 2017-18 and 2018-19. USA also increased its investments in India initially. But it started reducing from the year 2010-11 but recovered from the year 2013-

14. However, in the years 2016-17 and 2017-18 investments by USA has decreased only to increase in the year 2018-19. Similarly, Japan also made very high investment in India in the year 2007-08. Later also they increased the investments in majority of the study period. However, it declined in the year 2017-8 but again increased drastically in the year 2018-19.

Table: 8
FDI Flows to India – Top 5 Sectors

FY	Com.S	% Change	Manu	% Change	FS	% Change	CS	% Change	BS	% Change
2006-07	423		1641		1330		824		2425	
2007-08	66	-84.40	3726	127.06	3850	189.47	1035	25.61	1158	-52.25
2008-09	2067	3031.82	4777	28.21	4430	15.06	1647	59.13	643	-44.47
2009-10	1852	-10.40	5143	7.66	2206	-50.20	866	-47.42	1554	141.68
2010-11	1228	-33.69	4793	-6.81	1353	-38.67	843	-2.66	569	-63.38
2011-12	1458	18.73	9337	94.80	2603	92.39	736	-12.69	1590	179.44
2012-13	92	-93.69	6528	-30.08	2760	6.03	247	-66.44	643	-59.56
2013-14	1256	1265.22	6381	-2.25	1026	-62.83	934	278.14	521	-18.97
2014-15	1075	-14.41	9613	50.65	3075	199.71	2154	130.62	680	30.52
2015-16	2638	145.40	8439	-12.21	3547	15.35	4319	100.51	3031	345.74
2016-17	5876	122.74	11972	41.87	3732	5.22	1937	-55.15	2684	-11.45
2017-18	8809	49.91	7066	-40.98	4070	9.06	3173	63.81	3005	11.96
2018-19	5365	-39.1	7919	12.07	6372	56.56	3453	7.54	2597	-13.58

Source: Source: RBI Annual Reports and NSDL FPI Monitor

Interpretation

It is understood from the above data that during majority of the study period Manufacturing (Manu) sector was able to attract large amount of FDI, though there were fluctuations in the amount of funds invested through FDI. But in the last year this sector was not able to attract many funds. On the other hand, communication services (Com S) which showed wide fluctuations in the amount invested through FDI has increased its investment from 2015-16 to 2017-18 but investments declined in the year 2018-19.

Financial Services (FS) sector which attracted huge amount of FDI in the year 2007-08 later showed a declining trend. However, it improved in the year 2011-12 and again decreased in the year 2013-14. It increased drastically in the year 2014-15, but in the later years it increased at a declining rate. However, it showed improvement in the year 2018-19. Computer Services (CS) sector also attracted FDI in the year 2007-08 and 2008-09, but later showed a declining trend. It However, improved in the year 2013-14 and continued this trend till 2016-17 when it showed a decline. However, it improved in the year 2017-18 and 2018-19.

Investment in Business Services Sector (BS) showed a decline in investments through FDI in the initial years but showed an improvement in the year 2009-10 only to decline in the next year. Similarly it improved in the year 2011-12, but declined in the next two years. Investments drastically increased in the year 2015-16 but later declined in the year 2016-17 and then slightly improved in the year 2017-18 only to decline in the year 2018-19.

FINDINGS

It has been observed from the study that there have been fluctuations in the cash inflows in the form of FPI and FDI, but the fluctuations are more in case of FPI. However, last financial year witnessed an increase in both FDI and FII inflow.

Both FDI and FPI is positively correlated with BSE Sensex, which implies that they move in the same direction. However, FDI is more positively correlated with BSE Sensex.

It is also evident from the multiple regression analysis that the independent variables FDI and FPI are able to explain around 67.52 % of the dependent variable BSE Sensex. It is also clear from the study that there is no significant impact of FPI on BSE Sensex. But there is significant impact of FDI on BSE Sensex.

It is also understood from the analysis that the FDI contribution of top 5 countries are not only fluctuating during the study period, but it has reduced in the last year i.e., 2017-18. During the period of study, Mauritius has emerged as the most dominant source of FDI in India. However, its share decreased in the year 2018-19 and the share of Singapore and Japan increased drastically.

Similarly, when we observe the trend of investment in the top 5 sectors attracting FDI, it is clear that the percentages of investments are fluctuating. There has been a surge in the investment in all the sectors under study except communication services sector and business services sector which has seen a decline in investments in the year 2018-19. Financial Services sector witnessed a large inflow of investment in the year 2018-19.

SUGESSIONS AND CONCLUSION

There is no doubt that both FDI and FPI are the major sources of foreign capital needed for the growth and development of the economy, FPI is highly volatile when compared to FDI, and this volatility can aggravate economic problems during recession. It is also evident from the study that the highest amount of FDI gone to service sector, telecommunication and computer hardware and software during the study period compared to manufacturing sector. It is necessary to attract foreign capital to Indian economy so as to accelerate the growth of the economy along with achieving objectives like removal of poverty, balanced regional development and also make our balance of payments position favourable.

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