"IMPACT OF FOREIGN DIRECT INVESTMENTS ON INDIAN STOCK MARKET"

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Abstract : *The post liberalization period has witnessed an increasing trend in Foreign Direct Investment inflows into India commensurate with increasing economic growth rate. As a result, the inflow of FDI has become a striking measure of economic development in both developed and developing countries. India is one of the largest emerging markets in the world and has become an important destination for Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FII).*

FDI not only leads to accessing foreign capital, but also facilitates the flow of sophisticated technology, desired skills, tools of innovation etc to home country. The pace of FDI inflows in India initially was low due to regulatory policy framework but there is a sharp rise in investment inflows from 2005 onwards because of the new policy guidelines. This increased foreign inflows have a huge bearing on the fluctuations caused in the stock market. Using statistical tools like correlation coefficient and regression, the paper makes an attempt to examine the relationship and impact of Foreign Direct Investment on Indian stock market. The most popular Indian stock market indices – Sensex and Nifty were considered as the representative for analysis. By analyzing the extracted data from Sensex, Nifty and FDI for the period of 13 years, it was found that the increase in the FDI significantly influenced the fluctuations in the stock markets in India in tandem with the results of similar studies examined in the literature review. The study concludes that the flow of FDI in India is one of the determinants influencing the trend of Indian stock market.

Key words: *Impact, FDI, Sensex, Nifty, Correlation and Regression.*

Introduction

Capital being one of the important factors of production plays a major role in production and distribution activity. The capital is required not only for commencement of the new venture but also throughout the life of the company. However capital, especially when it is short in supply, can be the limiting factor for commencing, expansion and diversification of the business. In view of economic crisis on one hand and the perceived importance of foreign capital in the economic development of the country on the other, the government of India has been making continuous efforts to attract foreign capital during the post liberalization period. As a result of the continuous efforts by the government of India, there has been steady rise in the inflow of foreign capital on the one hand and overall progress in various sectors of the Indian economy on the other.

Foreign Investment refers to investments made by residents of a country in financial assets and production process of another country. After opening up of the borders for capital movement these investments have grown in leaps and bounds. But it had varied effects across the countries. In developing

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countries, there is great need for foreign capital, not only to increase their productivity of labour but also to build the foreign exchange reserve to meet the trade deficit. Foreign investment provides a channel through which these countries can have access to foreign capital. Foreign investment can come in two forms: Foreign Direct Investment (FDI) and Foreign Portfolio Investment. While the former results in creation of physical infrastructure, the later is invested in financial markets.

FDI not only leads to access to foreign capital, but also facilitates the domestic countries the flow of sophisticated technology, desired skills, tools of innovation etc. The paces of FDI inflows in India initially were low due to regulatory policy framework but there is a sharp rise in investment inflows from 2005 onwards because of the new policy guidelines. Today India is considered as one of the biggest emerging markets in the world and has become an important destination for Foreign Direct Investment (FDI).

Foreign Investment (FI) has long been a controversial issue for the beneficial and adverse effects. Two main aspects are concerned when it comes to FI, destabilization and demonstration effects. Destabilization effect deals with the issue that whether FI increases or decreases the volatility of stock prices while demonstration effect indicates whether the fundamental factors on stock markets would change (Kit and Yi, 2006). The recent global financial crisis has revived the need to place some restrictions on capital flows. Even the IMF, a staunch votary of capital account convertibility, has acknowledged that capital controls are a legitimate part of the toolkit to manage capital inflows in certain circumstance (Ostry, 2010). Thus, FDI is preferred over FPI because the former is seen to be stable and, being a bundle of assets in addition to capital, it could enable the host economy to gain competitiveness. Portfolio flows are rendering the financial markets more volatile through increased linkage between the domestic and foreign financial markets (Kohli, 2001, 2003, and Sethi and Patnaik,nd).

Review of Literature

The comprehensive literature centered on economies pertaining to empirical findings and theoretical rationale tends to demonstrate that FDI is necessary for sustained economic growth and development of any economy in this era of globalization. The extent of literature on impact of FDI is discussed below:

Shaveta Gupta, Neha Kalra And Rajesh Bagga examined the Impact of FDI on stock market volatility – evidence from Indian stock market. The objective of the research was to analyse the impact of foreign direct investment on Indian stock market and also to analyse the impact of foreign portfolio investment on Indian stock market. Using Correlation and Multiple Regression Methodologies, this paper examines the impact of Foreign Investment inflows on the Indian stock market. The paper finds long-run relationship between Foreign investment and stock exchange barometer index Sensex by extracting the data on monthly basis, for both the Sensex and the FDI and FPI from January 2001 to February 2012.Using Regression Model, it was found that increase in FDI significantly influence the fluctuations in the stock market in India.

Dr. Syed Tabassum Sultana, Prof. S Pardhasaradhi examined the impact of Flow of FDI and FII on Indian stock market. The current paper makes an attempt to study the relationship and impact of FDI & FII on Indian stock market using statistical measures correlation coefficient and multi regression. Sensex and Nifty were considered as the representative of stock market as they are the most popular Indian stock market

indices. Based on 11 years data starting from 2001 to 2011, it was found that the flow of FDI & FII was moving in tandem with Sensex and Nifty. The study concludes that Flow of FDIs and FIIs in India determines the trend of Indian stock market.

In order to investigate whether FDI announcements provide information to investors, Ding & Sun (1997) studied whether shareholder benefits were a product of their firms' FDI decisions, and whether abnormal returns were attainable by trading shares. Their results showed that on an average 2.73% additional return could be observed by investors buying and holding the stock of an announcing firm 21 days around the announcement date. On the same lines, Wang and Shen (1999) put forth that large and sudden inflows may stimulate stock prices while the outflow of FI may reduce equity value, thus, ultimately, increasing the volatility of stock markets. In another related study by Bekaert and Harvey (2000), it was found that insignificant increase in the volatility of stock returns follow capital market liberalizations.

Nitin Kansal examined the "Impact of FDI & FII on India". The objective of his research is to find the trends & patterns in the FDI from different countries flown into India during 1991-2007 period means i.e. during post liberalization period & Influence of FII on movement of Indian stock exchange during the post liberalization period that is 1991to 2007. The key findings of this research are that net FDI in India during 2005-2006 was valued at $4.7 billion. During 2006-2007, it got tripled, to $15.7 billion. Almost one-half of all FDI is invested in the Mumbai & New Delhi regions. Researcher concludes that the process of economic reforms initiated from July 1991 have opened up many sectors to the financial institutors. It concludes that FII did have high significant impact on the Indian capital market.

A study conducted by the World Bank in 1997 reports that stock market liquidity improved in those emerging economies that received higher foreign investments.

Li (2002) studied the impact of opening up of domestic market to foreign investors in Taiwan and found no significant changes in stock market return after market opening. But author agreed that the impact on return .whould be there because large international investors tend to study companies more thoroughly.

Chopra examines the effect of policy reforms on the FDI in India. The analysis has been carried out with the help of annual data from 1980-2000. The research includes policy related variables such as the degree of openness of the economy, debt-service ratio, foreign exchange rate and GDP as the explanatory variables of FDI inflows in India. Empirical result shows that GDP is an important factor which motivates FDI in the country.

Another attempt was made in Indian context by Badhani (2005) to examine the long-term and short-term relationship among stock prices, dollar rupee exchange rate and net FPI investment in India, using the monthly data of BSE Sensex, dollar-rupee exchange rates and net monthly FPI investment flows from April 1993 to March 2004. The study showed that there is co-integration between net FPI investment flow and stock prices. Related to the earlier studies, Desai at el (2005) studied the FDI and domestic capital stock during 1970 to 1980 and by applying the regression, concluded that FDI has significant impact on capital stock.

Jayachandran and Seilan investigate the relationship between trade, Foreign Direct Investment (FDI) and economic growth of India over the period 1970-2007. The results of Granger causality test show that there is a causal relationship between the examined

variables. The direction of causality relationship is from FDIs to growth rate and there is no causality relationship from growth rates to FDIs.

Nayak (2006) conducted a research on Globalization of Foreign Direct Investment in India covering time from 1900–2000. The study revealed that today's liberalized economy and globalized structure of FDI in India have been an outcome of the adjustment and alignment process of the Indian Government to the dynamics of the various domestic and international pressures and global competition since the 1900s, and it is not merely a phenomenon of post 1991 as popularly perceived. Bekaert et al (2007) also demonstrated a positive effect from the level of openness to foreign investors to liquidity in emerging equity markets.

Objectives of the study

From the past few years, India has emerged as one of the safe investment heavens in the eyes of various foreign nations. The huge foreign investment flows have been witnessed in Indian market associated with increased chances of vulnerability and destabilization of the economy, a need was felt to examine the impact of Foreign Investments on the stock market. The main objectives of the study are

- To study the trends and patterns of foreign capital flow into India in the form of FDI.
- To analyse the impact of foreign direct investment on Indian stock market (Sensex and CNX Nifty).

Scope of the study

The present study takes into consideration 13 years data. To study the impact of FDI on Indian stock market, the most popular stock market indices Sensex and CNX Nifty was considered.

Research methodology

Data collection - The secondary data is used as a base for conducting the study. The required data related to FDI have been collected from various sources i.e. Bulletins of Reserve Bank of India, publications from Ministry of Commerce (DIPP), Govt. of India. The BSE Sensex and CNX Nifty data is down loaded from the websites of bseindia and nseindia respectively. Monthly closing index values are taken and averaged to get the index values for each year. The present study considers 13 years data starting from the financial year 2000-01 to 2012-13.

Analytical tools and techniques

In order to analyze the collected data, the statistical tools such as linear regression and Karl's Pearson's co-efficient of correlation are used. Correlation coefficient is a statistical measure that determines the degree to which two variable's movements are associated. Correlation coefficient value ranges from –1 to 1. Negative value of correlation indicates: if one variable increases in its values, the other variable decreases in its value and positive value indicates: if one variable increases in its values the other variable also increases in its value. In the current study to study the linear relationship between variables such as FDI and Sensex & Nifty correlation is applied.

The linear regression analysis is an approach to modeling the relationship between a scalar dependent variable Y and one or more explanatory variables denoted X. The case of one explanatory variable is **called** *simple linear regression.*

Linear regression Model 1

$Y = a + bX$

X = FDI (Independent Variable)

Y = BSE Sensex (Dependent Variable)

Linear regression Model 2

$Y = a + bX$

X = FDI (Independent Variable)

Y = CNX Nifty (Dependent Variable)

Data analysis

Table 1 - Table showing the FDI and Values of BSE Sensex and CNX Nifty

Year	FDI (US $ Million) X	BSE Sensex Y	CNX Nifty Y
2000-01	4,029	4,212.23	1,336.49
2001-02	6,130	3,322.97	1,077.13
2002-03	5,035	3,167.25	1,036.08
2003-04	4,322	4,581.89	1,428.13
2004-05	6,051	5,785.67	1,808.54
2005-06	8,961	8,482.32	2,517.67
2006-07	22,826	12,374.50	3,584.70
2007-08	34,843	16,799.01	4,890.47
2008-09	41,873	12,124.80	3,713.29
2009-10	37,745	15,799.06	4,645.75
2010-11	34,847 P	18,647.65	5,584.07
2011-12	46,553 P	17,453.89	5,247.26
2012-13	27,197 P	18,332.90	5,485.12

Sources - FDI from Department of Industrial Policy & Promotion

BSE - BSE India Website

NSE - NSE India Web site

The above table shows that the amount of FDI inflow into the country . the FDI inflow into the country has shown an increasing trend during the considered period except during the 2002 to 2004, also in the year 2010 – 11 and 2012-13 (Provisional). The BSE Sensex values showing a increasing trend in almost all the years except 2001 to 2003, 2008-09 and the same trend is repeated in 2011 –12 also. The CNX Nifty values showing a increasing trend in almost all the years except 2001to 2003, 2008-09 and the same trend is repeated in 2011 –12 also as similar to that of BSE Sensex.

Correlation between FDI, Sensex and Nifty

The Karl Pearson's correlation coefficient is applied to study the relationship of variables FDI, BSE Sensex and CNX Nifty. The following table presents the output, after considering 13 years data as mentioned earlier. Based on the results, it can be concluded that there is a high positive correlation between FDI & BSE Sensex and FDI & CNX Nifty, the correlation is found significant at 1% level.

Table 2 - Table showing Correlation coefficients

	BSE Sensex	CNX Nifty
FDI (US $ Million)	0.8901	0.8942

Model 1 - Impact of FDI on BSE Sensex using Linear Regression Model

Independent Variable - FDI

Dependent Variable – BSE Sensex

The null hypothesis and alternative hypothesis with respect to BSE Sensex and FDI are as follows:

H0 – Flow of FDI in to India and BSE Sensex trend are independent

H1 - Flow of FDI in to India and BSE Sensex trend are dependent

Table 3 - Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	0.8901	0.7924	0.7735	2928.50
a. Predictors: (constant) FDI (US $ Million)				
b. Dependent Variables: BSE Sensex				

Table 4 - ANOVA

Model		Sum of Square	Df	Mean Square	F	Sig
1	Regression	360187510.5	1	360187510.5	41.9988	4.5466
	Residual	94337399.72	11	8576127.247		
	Total	454524910.2	12			

Calculated value of F (F Cal = 41.9988) belongs to critical / rejection region (F tab = 9.65 for V1 = 1, V2 = 11 at 1% level of significance). Therefore H0 is rejected. It implies that H1 is accepted. Hence it can be concluded that flow of FDI into India and BSE Sensex trend are dependent.

Model 2 - Impact of FDI on CNX Nifty using Linear Regression Model

Independent Variable - FDI

Dependent Variable – CNX Nifty

The null hypothesis and alternative hypothesis with respect to CNX Nifty and FDI are as follows:

H0 – Flow of FDI in to India and CNX Nifty trend is independent

H1 - Flow of FDI in to India and BSE Sensex trend is dependent

Table 5 – Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the estimate
1	0.8942	0.7997	0.78815	838.41
a. Predictors: (constant) FDI (US $ Million)				
b. Dependent Variables: CNX Nifty				

Table 6 - ANOVA

Model		Sum of Square	Df	Mean Square	F	Sig
1	Regression	30883001.54	1	30883001.54	43.93	3.718
	Residual	7732419.286	11	702947.207		
	Total	38615420.83	12			

Calculated value of F (F Cal = 43.93) belongs to critical / rejection region (F tab = 9.65 for V1 = 1, V2 = 11 at 1% level of significance). Therefore H0 is rejected. It implies that H1 is accepted. Hence it can be concluded that flow of FDI into India and CNX Nifty trend are dependent.

Findings of the study

- The amount of FDI inflow into the country has shown an increasing trend during the considered period except during the 2002 to 2004, also in the year 2010 – 11 and 2012-13 (Provisional).
- The BSE Sensex values shows increasing trend in almost all the years except 2001to 2003, 2008-09 and the same trend is repeated in 2011 –12 also.
- The CNX Nifty values showing a increasing trend in almost all the years except 2001 to 2003, 2008-09 and the same trend is repeated in 2011 –12 also as similar to that of BSE Sensex.
- There is a high positive correlation between FDI & BSE Sensex and FDI & CNX Nifty, the correlation is found significant at 1% level.
- Model 1 - Calculated value of F (F Cal = 41.9988) belongs to critical / rejection region (F tab = 9.65 for V1 = 1, V2 = 11 at 1% level of significance). Therefore H0 is rejected. It implies that H1 is accepted. Hence it can be concluded that flow of FDI into India and BSE Sensex trend are dependent.
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Conclusion

Growing India needs abundant foreign capital in the form of FDI & FII for the development of basic infrastructure like Roads, Railways, Sea Ports, Warehouses,

Banking Services and Insurance Services etc. Moreover, rapid industrialization since 1991 has further strengthened the need of foreign capital across various industries. Many developing countries suffer from severe scarcity of funds in highly capital-intensive areas such as infrastructure. This problem can be diverted to the foreign capitalists by allowing them to invest. Other words, foreign capital are the panacea for the scarcity of all resources. The flow of FDI & FII accelerated the Indian economy and also gave opportunities to Indian industry for technological up-gradation, gaining access to global managerial skills and practices, optimizing utilization of human and natural resources and global competitive advantage with greater efficiency.

From the current study, it is evident that there is a high positive correlation between FDI & BSE Sensex and FDI & CNX Nifty, the correlation is found significant at 1% level. The two models developed were tested using linear regression analysis. In the first model BSE Sensex as a dependent variable and FDI as independent variable. Based on the analysis it can be concluded that flow of FDI into India and BSE Sensex trend are dependent. Similar results were obtained for second model Nifty as a dependent variable. Hence it can be concluded that the impact of flow of FDI on Indian stock market is significant.

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