A Macroeconomic Approach to Foreign Investment Flows in India

** Sonia Chawla*
*** Priyanka Sharma*

Abstract

The Indian economy, a developing economy and an attractive destination for foreign investment, has witnessed many ups and downs in its growth since its liberalization in 1991. Foreign investment in India has increased continuously since 1990-91 to 2010-11. Studies have shown that the major investment of FDI in India has been in the services sector. The movement of FDI and FIIs in India is affected by many macroeconomic variables like inflation, GDP, money supply, IIP, WPI, exchange rate, balance of trade, and so forth. The present paper conducts a review of studies in this area so as to establish a relation between macroeconomic variables and the inflow of foreign investment in India.

Keywords : **FDI, FII, GDP, Inflation, Interest rate.**

JEL Classification : E2, F4, F61

Paper Submission Date : June 16, 2013 ; Paper sent back for Revision : August 24, 2013 ; Paper Acceptance Date : December 27, 2013

The Indian economy is so versatile that there exist many variables which move the economy ahead. There are different parameters which govern the ups and downs in the growth of the economy like foreign investment, exports, imports, literacy rate, employment, and so forth. The major macroeconomic variables like inflation, exchange rate, interest rate, industrial growth, money supply, and so forth act as a steering wheel of our economy. The Indian economy stood at the 11th position in the world with regards to the nominal gross domestic product (GDP) for the fiscal year 2011-12. The year 2011-12 witnessed a 9 year low growth of the Indian economy (it grew at a rate of 6.5%) and the reasons traced could be the weak monetary policy, inflation issues, and cut in investments. There are some perquisites of the economy which need to be carefully monitored from time to time to build a strong base of the economy. India is one of the most attractive destinations for foreign investment. Since liberalization, when foreign direct investment (FDI) and foreign institutional investment (FII) were allowed to enter India, our economy has grown by manifolds. Foreign investments play a very significant role in the Indian economy. The importance could be attributed to the following reasons :

➲ **Increased Investment in the Country:** Foreign investment in the form of FDI enhances the level of foreign savings in the country which leads to increase in investments.

➲ **Improvement in Technology and Infrastructure:** More inflow of FDI develops the infrastructure as foreign companies come to India, and they also bring the updated and latest technology to the country.

➲ **Increased Productivity:** The domestic market becomes competitive with the entry of FDIs, which leads to an increase in the productivity level of the country.

➲ **Enhanced Flow of Equity Capital:** FIIs are well known for a greater eagerness for equity than debt.

➲ **Improved Corporate Governance:** FIIs constitute professional bodies of asset managers and financial

* *Professor and Head,* Department of Business Management, D.A.V Institute of Engineering & Technology, Jalandhar, Punjab.
E-mail : mimitrohit@gmail.com
** *Assistant Professor,* Department of Business Management, D.A.V Institute of Engineering & Technology, Jalandhar, Punjab.
E-mail : priyanka_daviet@yahoo.in

analysts, who, by contributing to a better understanding of firms' operations, improve corporate governance practices in the host country.

Objectives of the Study

(1) This paper aims at a thorough review of some studies in the field of foreign investment in India.

(2) The study discusses the amount of foreign investments made in India and its contribution in different sectors of the economy.

(3) The study also aimed to ascertain the future parameters that need to be researched for better explanation of movement of foreign investment in India with reference to its impact on the economy.

Progress and Trend of Foreign Investment in India

The amount of FDI and FII have grown at a good pace with the passage of time. The growth pattern can be ascertained from the Table 1 and Figure 1, which depict the trend of FDI and FPI from 1990-91 to 2010-11. FDI rose from the level of ₹ 174 crore in 1990-91 to ₹138462 crore in 2010-11. In the same way, FIIs also showed an upward movement with ₹ 13.4 crore in 1992-93 to ₹10553.8 crore in 2010-11. In March 2012, FDI was recorded at $ 8.1 billion, which is 8 times in comparison to the FDI figures of March 2011. In May 2012, the Government of India approved 14 foreign direct investment (FDI) proposals amounting to US$ 288.05 million, based on the recommendations of Foreign Investment Promotion Board (FIPB) (Indian Economic Overview, 2011).

The Figure 2 clearly reveals that the major contribution of FDI has been in the service sector in India, that is, cumulative FDI equity inflow from 2000 to 2010 was 21% in the service sector. The data depicted in the Figures 2 and 3 clearly highlights the shift in the sectoral contribution of FDI. From 1990 to 1991, the service (7%), transportation (9%), telecommunication (7%), electrical equipment (8%), and chemical (7%) sectors were attractive sectors for FDI, but from 2000 to 2011, the investment shifted to service (21%), computer software and hardware (8%), telecommunication (8%), real estate (7%), and construction (7%) sectors. Foreign investments are one of the major contributors to the capital of the economy, which comprises of many major macroeconomic variables. The movement of foreign investment is quite volatile in our country and bears a link to the economic indicators. If we see the figures of May- June 2012, we can infer that with the rise in the rate of inflation and downfall of the rupee against the dollar (upto ₹57 per dollar), the foreign investment to the extent of crores of rupees was pulled out of India by the foreign investors.

Macroeconomic Approach to Foreign Investment

A lot of work has been done taking into consideration the effect of FDI/ FII on different aspects of the Indian economy. Some revealed the impact on the Sensex and some on the growth of the economy. The major studies in this field from 2001 to 2012 are discussed in the following paragraphs.

Kohli (2001) analyzed the pattern and trend in capital flows into India in the 1990s and how these affected the key macroeconomic variables, that is, exchange rate, money supply, and foreign exchange reserves in the economy. The findings revealed that FDI inflows are less volatile due their long term nature and are less vulnerable to sudden withdrawals out of the country. This leads to productive use of capital and consequent economic growth. The author also observed that exchange rate variations do not stabilize the movement of capital inflows in the country. The granger causality test established that real exchange rate variations were not the cause of capital flows in the country.

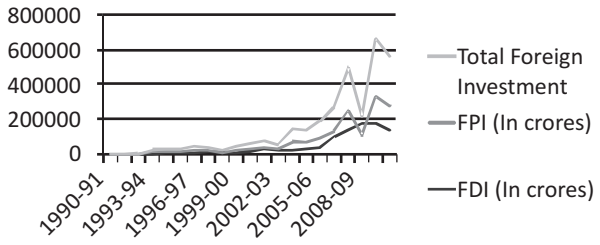
Sethi and Patnaik (2007) analyzed the impact of international capital flows on economic growth of India. The international flows were considered in terms of FDI, FII, and FPI, and the index of industrial production (IIP) was considered to be the benchmark of economic growth. After testing the stationarity levels by using DF, ADF, and

Table 1. Trend of FDI & FPI in India

Year	A. Direct investment		B. Portfolio investment		Total (A+B)	
	₹ crore	US $ million	₹ crore	US $ million	₹ Crore	US $ million
1990-91	174	97	11	6	185	103
1991-92	316	129	10	4	326	133
1992-93	965	315	748	244	1713	559
1993-94	1838	586	11188	3567	13026	4153
1994-95	4126	1314	12007	3824	16133	5138
1995-96	7172	2144	9192	2748	16364	4892
1996-97	10015	2821	11758	3312	21773	6133
1997-98	13220	3557	6794	1828	20014	5385
1998-99	10358	2462	-257	-61	10101	2401
1999-00	9338	2155	13112	3026	22450	5181
2000-01	18406	4029	12609	2760	31015	6789
2001-02	29235	6130	9639	2021	38874	8151
2002-03	24367	5035	4738	979	29105	6014
2003-04	19860	4322	52279	11377	72139	15699
2004-05	27188	6051	41854	9315	69042	15366
2005-06	39674	8961	55307	12492	94981	21453
2006-07	103367	22826	31713	7003	135080	29829
2007-08	140180	34835	109741	27271	249921	62106
2008-09	173741	37838	-63618	-13855	110123	23983
2009-10	179059	37763	153516	32376	332575	70139
2010-11	138462	30380	143435	31471	281897	61851

Source : Reserve Bank of India. (RBI). (2011). Foreign investment flows. Retrieved from http://www.rbi.org.in/scripts/PublicationsView.aspx?id=13743

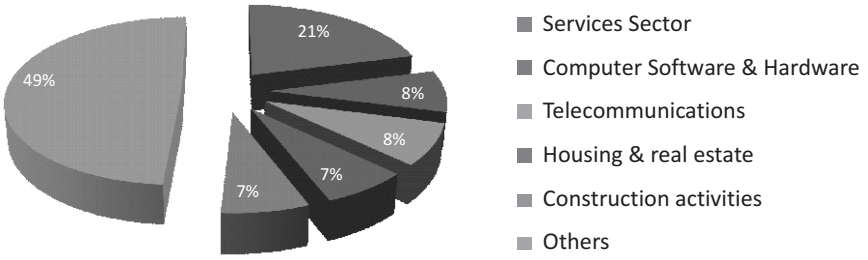
Figure 1. Trend of FDI & FPI in India



Source : Reserve Bank of India. (RBI). (2011). Foreign investment flows. Retrieved from http://www.rbi.org.in/scripts /PublicationsView.aspx?id=13743

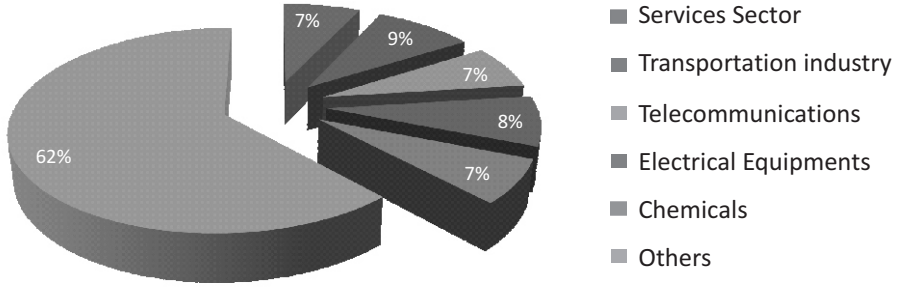
Philips Perron test of the monthly data from April 1995 to December 2004, it was observed through OLS regression analysis that FDI and FPI had a positive and direct impact on the growth of the economy. On the other hand, if FIIs were taken into consideration, then it was concluded that they had a negative impact on the growth of economy; the probable reason being the volatile nature of FIIs in India. The overall impact of total international capital flows was considered to have a positive impact on our economy.

Figure 2. Sector-Wise Distribution of FDI Equity Inflows (Cumulative, between April 2000 to February 2011)



Source: National Council of Applied Economic Research. (2009). FDI in India and its growth linkages. Retrieved from http://dipp.nic.in/english/publications/reports/fdi_ncaer.pdf

Figure 3. Sector-Wise Distribution of FDI Equity Inflows (Cumulative, between August 1991 to December 1999)



Source: Sector – wise distribution of FDI equity inflows (n.d.). Retrieved from http://dipp.nic.in/English /Publications/FDI_Statistics/SECTOR-WISE-INFLOWS.pdf

Dumludag and Sukruoglu (2007) observed the effect of macroeconomic indicators such as market size and growth rate on the FDI to be positive. They also revealed that the functioning of the judicial system, government stability, investment environment, internal and external conflict, and socioeconomic conditions also affected FDI in emerging economies. The weakness of the legal infrastructure including legal system development and enforcement was also found to be a setback for the emerging economies. The reason of the non-implementation of the laws is the political, social, historical, and cultural factors of emerging economies. The results revealed that more efforts need to expended for uplifting the quality of institutions to receive more FDI and to enjoy high GDP levels.

Chellaswamy and Udhayakumar (2007) discussed the movement of FIIs in the Indian context from 1992 to 2006. They discussed the trend of FIIs in India and also analyzed the percentage of FIIs in different companies. The paper established that the FIIs' presence in the Indian market demanded more support from financial institutions and led to the growth of the capital markets. FIIs are very much concerned with the economy of the country and the government needs to strengthen FII investments ; also, the functioning of the regulatory bodies needs to improve to stop undesirable speculation.

Prasanna (2008) analyzed the contribution of FIIs on 25 companies listed on the Sensex from 2001 to 2006 ; he also studied the relation between FII and firm specific characteristics like ownership structure and so forth and also analyzed the performance variables which influence the FIIs' decisions. The paper revealed that with reference to the ownership structure, the FII investments were more where there was less dominance of family shareholding and there was more of public shareholding. Considering the financial performance parameters, the shares' returns and earnings per share were more attractive parameters for taking investment decisions.

Masood and Ahmad (2009) analyzed the relation between total capital inflows which comprised of FDI, FII, external assistance, banking capital, and commercial borrowing with macroeconomic variables like WPI, money

supply, forex, and current A/c balance. They concluded that FDI showed an upward trend without many fluctuations, but FII showed an upward trend with more fluctuations. The trend behaviour of real effective exchange rate was also positive, but effective exchange rate was found to be negative. The Granger causality test confirmed the bidirectional causality between total capital inflows (TCI) and real effective exchange rate (export based) and between TCI and forex. However, unidirectional causality was observed between TCI and REERT (real effective exchange rate trade based). Capital account balance (CAB) was the only variable which was observed to be stationary at all levels.

Sethi and Sucharita (2010) discussed the three aspects of private foreign capital inflows from 1995 to 2007. The first aspect revealed the cointegration between the different pairs of variables, and the results showed the long-run equilibrium relationship between private foreign capital flows (FINV) and money supply, money supply and WPI, WPI and exchange rate, and exchange rate and exports. The second test examined the cointegration by using the Granger causality test after testing the stationary levels by DF and ADF. The tests revealed that FINV granger caused exchange rate and IIP. However, no causality was observed between FINV and other variables. The third stage was related to the application of OLS regression analysis and the results drawn were that FII negatively affected economic growth, whereas FDI and FPI positively affected economic growth.

Kaur and Dhillon (2010) examined different parameters affecting FIIs in India. The parameters discussed related both to the host country (India) and home country (USA). The different parameters, that is, macroeconomic factors considered were wholesale price index, index for industrial production, exchange rate in context of India, monthly producer price index, and monthly U.S. rate of treasury bill. Also, the financial factors taken into account were monthly returns of Sensex, market capitalization of BSE, stock market turnover of BSE, returns on S & P, and variability of the Sensex over S & P 500 index. The data taken into consideration was month wise from April 1995 to December 2006. By using auto regressive distribution lag, it was observed that considering the financial parameters, the host country stock market returns (Sensex) had a positive and significant impact, whereas home country returns (S & P500) and variability of S&P 500 with Sensex had a negative impact on FIIs' investment in the long and short term run. The macroeconomic factors - economic growth of the index had a positive impact ; whereas, inflation of the home country had a positive impact in contrast to inflation of the host country. The home country's interest rate also had a negative impact on the host country's stock market.

Jayachandran and Seilan (2010) studied the relationship between trade, foreign direct investment (FDI), and economic growth of India over the period from 1970-2007. Using Granger's causality test, it was reported that there is no reciprocal causality relationship between these variables in India. FDI and exports affected economic growth, however, the high or low economic growth rate did not have an effect on the presence of FDIs and exports in India. The direction of causality relationship was from exports to growth rate and from FDI to growth rate.

Tiwari (2011) studied the panel framework of the impact of FDIs on economic growth in 23 Asian countries from 1986 to 2008. The results revealed that exports and FDI both enhanced the growth of the Asian countries. A non-linearity relationship of both exports and FDI was also studied, which revealed that exports had a more positive impact on growth, and it was suggested to Asian countries to emphasize more on exports. FDI was also found to have a negative impact on economic growth and income distribution.

Kumar (2011) examined the major parameters like stock market returns, exchange rate, money supply, interest rate, index of industrial production, and wholesale price index from the period starting from January 1993 to December 2009 to establish their relation with FIIs. The Granger causality test was applied to check the causal relation of the parameters with FIIs. The stationarity of the data was also tested using the ADF test. The granger test figures revealed that the stock market returns, IIP, and exchange rate were the main determinants of FIIs in India; whereas, no causal relation was detected between money supply, WPI, interest rate, and FIIs. The researcher said that the exchange being very speculative lead to speculation regarding FIIs, and in a way, destabilized the movements in the exchange rate.

Azam, Khan, Hunjra, Ahmad, and Chani (2011) studied the role of institutional investors and macroeconomic policy factors on FDI inflows in seven South Asian countries over a period of 12 years since 1996 to 2007. Using the Hadri test, it was established that all the variables considered for the study were stationary. Haussmann's test was applied on panel data, which revealed that good institutional quality plays a key role in attracting FDI inflows,

and poor macroeconomic policies have a negative impact on FDI. Good institutional quality and poor macroeconomic policies generate a negative effect in a combined form on FDI. This study further implied that poor macroeconomic policies deteriorate institutional quality and create a negative effect on FDI inflows.

Niazi, Riaz, Naseem, and Rehman (2011) investigated the impact of inflation and growth on FDI from 2001 to 2010 using multiple regression models. Taking FDI as the dependent variable and GDP and inflation as dependent variables, the results revealed a positive but insignificant relation between FDI and GDP, while a negative and insignificant relation was observed between FDI and inflation.

Chaturvedi (2011) revealed that the correlation between FDI and economic developments is +.89, which is highly positive. FDI has been a major source of capital for our country since 1990. It has also been reported that FDI has made a major contribution in the service sector since liberalization.

Omojevwe, Zelda, and Sekar (2012) studied the growth of FDI and some macroeconomic variables, which influence its flow in India and Nigeria. The study considered the time period between 1961 to 2010. The time-series data was tested for its stationarity using the augmented Dickey-Fuller test (ADF) and then, the multiple regression model was applied to determine the factors influencing FDI inflows. The ADF test revealed the non stationarity of the data individually, but their cointegration regression residuals were stationary and this indicated a long-run relationship between the variables. The GDP and exchange rate were found to be statistically significant for the inflow of FDI in contrast to interest rate, inflation, and openness to trade. As the Indian economy was liberalized in 1991, so the Chow test was applied for structural stability and it revealed a structural change due to liberalization policies of the government.

Ray (2012) analyzed the causal relationship between foreign direct investment (FDI) and economic growth in India and also empirically estimated the effect of FDI on economic growth in India using the cointegration approach for the period from 1990-91 to 2010-11. The empirical analysis on the basis of ordinary least square method suggested a positive relationship between foreign direct investment (FDI) and GDP and vice versa. The unit root test established that both economic growth and foreign direct investment were found to be integrated of order one using the Kwiatkowski, Phillips, Schmidt, and Shinn (KPSS) test for unit root only. Johansen's cointegration test confirmed an existence of long run equilibrium relationship between the two. The Granger causality test revealed the presence of uni-directional causality, which ran from economic growth to foreign direct investment. The error correction estimates gave evidence that the error-correction term was statistically significant and had a negative sign, which confirmed that there was no problem in the long-run equilibrium relation between the independent and the dependent variables.

Lahiri (2012) discussed the relationship of FPI with exchange rate and interest rate for the period from 2005 to 2011. The study revealed that under the policy stance of the RBI, that is, interest rate and exchange rate intervention, output should be insensitive to FPI flows. With the use of the scatter plot, it was revealed that there is no clear trend between the FPI and output variables and a negative relation was exhibited between domestic credit and FPI, while the scatter plot between FPI and flow of foreign reserves exhibited an upward trend.

Suresh (2012) tested the interest rate sensitivity of four major components of capital flows, that is, FDI, FII inflows, ECBs, and NRI deposits from 2001 to 2010. The study revealed that net capital flows are sensitive to interest rate differentials according to both, causality analysis and long run cointegrating relationship, and 1% point increase in interest differential lead to 0.05 % point increase in cumulative net capital flows to India. Amongst net capital flows, FDI and FII were not much sensitive to interest rate differentials. ECBs and NRI deposits were recorded to be interest rate sensitive, as 1% point change in interest rate was found to bring about 0.85% point change in ECBs. Also, in the case of NRI deposits, it was estimated that 1% point change in interest rate on FCNR (B) deposits brought about a 0.13% point change in cumulative FCNR(B) deposits, and 1% point change in interest rate differential brought about 0.26% point change in NR(E)RA deposits.

Discussion

As can be gauged from the review of literature, many studies have been conducted that have analyzed the relationship between foreign investments and macroeconomic variables. These studies have revealed the impact

of the macroeconomic variables on FDI and FII inflows. The Indian economy is affected bymany macroeconomic variables like inflation, GDP, WPI, money supply, and so forth, and it has been established that India's GDP grew due to the inflows of foreign investment into the country. FDI (it is being implemented with a long term perspective in mind) has shown little variations with respect to its withdrawals from the economy and is much affected by institutional policies. Variations in inflation and interest rates have a major impact on the Indian capital markets, and these variations are also a cause of inflows and outflows of foreign investment in India, specifically FIIs.

The studies reviewed in the previous section revealed that GDP, inflation, and interest rates have a relation with FDI and FII and vice-versa. The Indian economy, in comparison to other developing economies, is at a good position with regard to inflows of foreign investment, and the foreign investment coming into India has had a major impact on the growth of our economy. Hence, it can be said that the research studies taken into consideration revealed that our economy's growth is linked to inflows of foreign investment, which is affected by inflation and interest rates.

Research Implications

The research study will be useful for academicians for their future research purposes. The study highlights the major macroeconomic variables having an impact on foreign investment in India.

Conclusion and Scope for Future Research

From the review of studies presented in this paper, it is quite evident that foreign investment and macroeconomic variables have a strong relationship with each other. Most of the studies pointed out to the inflow and outflow of FIIs from the economy at different points of time like during fall of GDP, rising inflation, depreciating exchange rate, and so forth. The timing of the inflow of foreign investment, is, to a large extent, affected by the economic situation at different times, which is reflected in the GDP, rate of inflation, balance of trade, wholesale price index, exchange rate, and so forth.

Future studies in this area can emphasize on more number of macroeconomic variables and can develop their interlinkages with foreign investment by taking into consideration a longer period of time than what was considered in the present study. Future studies can investigate the following aspects:

(1) The correlation between the major Indian economy indicators and the foreign investment coming into India.

(2) The causality relation between FDI, FII and the macroeconomic indicators like GDP, WPI, money supply, inflation, and so forth.

(3) Trend of foreign investment in India since the time it has been allowed to enter India.

References

Azam, M., Khan, H., Hunjra, A. I., Ahmad, H.M., & Chani, M.I. (2011). Institutions, macroeconomic policy factors and foreign direct investment: South Asian countries case. *African Journal of Business Management, 5* (11), 4306-4313.

Chaturvedi, I. (2011). *Role of FDI in economic development in India: Sectoral analysis*. International Conference on Technology and Business Management, March 28-20, 2011.

Chellaswamy, P., & Udhayakumar, J. (2007). Foreign institutional investors in India. *Indian Journal of Finance, 1* (5), 38-43.

Dumludag, D., & Sukruoglo, D. (2007). The impact of macroeconomic and institutional variables on Foreign direct investment flows in emerging markets. *IIBF Dergisi, 23*, 133-166.

Indian economy overview (June, 2011). [web log post]. Retrieved from http://archbhoo-india.blogspot.in/2012/06/indian-economy-overview-2012-un.html

Jayachandran, G., & Seilan, A. (2010). A causal relationship between trade, foreign direct investment and economic growth for India. *International Research Journal of Finance and Economics, Issue 42*, 74- 89.

Kaur, M., & Dhillon, S. S. (2010). Determinants of foreign institutional investors' investment in India. *Eurasian Journal of Business Economics, 3* (6), 57-70.

Kohli, R. (2001). *Capital flows and their macroeconomic effects in India*. Indian Council for Research on International Economic Relations, Working Paper no.64. Retrieved from http://icrier.org/pdf/renu64.PDF

Kumar, R. (2011). Determinants of FIIs in India: Evidence from granger causality test. *South Asian Journal of Marketing and Management Research, 1* (1), 61-68.

Lahiri, H. (2012). Foreign portfolio investment in India and plausible exchange rate and interest rate regimes: Policy options open to the RBI. C*ontemporary Issues and Ideas in Social Sciences, 7,* 1-33.

Masood, T., & Ahmad, M.I. (2009). Macroeconomic implications of capital inflows in India. *International Review of Business Research Papers, 5* (6), 133-147.

National Council of Applied Economic Research. (2009). FDI in India and its growth linkages. Retrieved from http://dipp.nic.in/english/publications/reports/fdi_ncaer.pdf

Niazi, G.S.K., Riaz, S., Naseem, M.A., & Rehman, R.U. (2011). Does an inflation and growth of a country affect its foreign direct investment? *Journal of Management, Economics and Finance, 1*(1), 84-90.

Omojevwe, Z. E., & Sekar, C. (2012). Comparison of the economic factors that influence foreign direct investment growth in Nigeria and India. *Journal of Agriculture and Social Research (JASR), 12* (1), 99-107.

Prasanna, K. P. (2008). Foreign institutional investors: Investment preferences in India. *Journal of Administration and Governance, 3* (2), 40-51.

Ray, S. (2012). Impact of foreign direct investment on economic growth in India: A cointegration analysis. *Advances in Information Technology & Management, 2* (1), 187-201.

Reserve Bank of India. (RBI). (2011). Foreign investment flows. Retrieved from

Sector wise distribution of FDI equity inflows (n.d.). Retrieved from http://dipp.nic.in/English/Publications/FDI_Statistics/SECTOR-WISE-INFLOWS.pdf

Sethi, N., & Patnaik, K. U. S. (2007). Impact of international capital flows on India's economic growth-in view of changing financial market. *The Indian Journal of Economics , 88*(348).

Sethi, N., & Sucharita (2010). Impact of private foreign capital inflows on economic growth in India: An empirical investigation. *Journal of Social and Economic Policy, 7* (2), 143-160.

Suresh, A. (2012). Sensitivity of capital flows vis-a-vis interest rate differentials: An empirical assessment for India. *Zenith: International Journal of Multidisciplinary Research, 2* (3), 74-93.

Tiwari, A. K. (2011). Economic growth and FDI in Asia: A panel-data approach. *Economic Analysis and Policy, 41* (42), 173-187.