CHAPTER - V

CONCLUSION

The interest in the impacts of the exchange rate levels and its volatility on Foreign Direct Investment (FDI) is growing among policy makers, as the number of countries adopting the floating exchange rate system has been increasing. Empirical investigation of the relationship between exchange rate and FDI is very important for the formulation of FDI policies, because it brings various benefits to both the home and host countries. FDI transfers not only financial resources, but also technology and managerial know-how from the home countries to the host countries. It also increases competitive pressures on local firms in the host country, which results in an improvement in their technical and allocative efficiencies. In the light of the importance of FDIs to both the home and host countries, it is essential to examine what motivates the home investors to invest in other foreign countries.

Once a foreign investor decides to invest in the host country, he has to make crucial decisions on the choice and mode of entry. These crucial decisions relate to the pre-FDI stage, i.e., before entering the host market. Once the decision to enter the foreign market is made, the timing of investment would be considered in terms of the risk factors involved in the initial stage of investment (i.e., sunk cost), governed by the exchange rate risks. The foreign investor would decide when to enter or exit depending upon exchange rate uncertainty prevailing in the market. Hence, the study focused on the analysis of impact of exchange rate levels and its uncertainty on FDI in India.
In addition to exchange rate levels and its uncertainty, there are other factors such as market size, inflation rate, lending interest rate, trade openness, agglomeration effect and wealth effect that determine FDI. The study also analyses these factors to identify the motivation of the foreign investors’ decision to invest in India.

Most of the available studies in the area focus on developed countries. In the case of India, very few studies focus on the impact of exchange rate on capital flows, but not particularly on FDI. The present study attempts to fill the lacuna in research on FDI in India.

Against this background, the main objectives of the study were:

i) to analyze the impact of exchange rate levels on FDI inflows in India.

ii) to analyze the impact of exchange rate volatility on FDI inflow in India;

iii) to examine the factors that motivates the foreign investors to take decision to invest in India.

The study used quarterly data during the period 1996: II to 2008: I, which were collected from various issues of Monthly Bulletin, Reserve Bank of India (RBI) and Hand Book of Indian Economy 2008-09, RBI.

To examine the objectives, the study adopted a simple theoretical model developed by Kogut and Kulatalika (1994) to describe the process of decision-making concerning the choice of production, which is determined by the level of real exchange rate dynamics. Further, the study followed the Goldberg and Koldstad (1995) model to illustrate the nature of utility preference of risk averse investors on profit making, when exchange rate uncertainty exists.

Gross Domestic Product (GDP) was considered as a proxy for market size. Bank Prime Lending Rate (BPLR) was considered as a proxy for cost of investment.
Monthly data for whole sale price index was collected and converted into quarterly basis for measuring inflation rate. Openness of trade was measured by adding export and import, and divided by GDP as a proxy for trade barriers. Wealth effect was measured through Bombay Stock Exchange index (base year 1983-84=100). Lag of FDI was interpreted as the agglomeration effect in the model. The study also used three exchange rate series to generate exchange rate volatility, namely, trade based real effective exchange rate (RER), nominal effective exchange rate (NER) for the base year 1991-92 and bilateral exchange rate (BIEX) between US$ and Indian Rupee. The study has been conducted using monthly data for the period April 1996 to January 2008, which were converted into quarterly series.

The study generated exchange rate volatility using Autoregressive Conditional Heteroskedasticity (ARCH), Moving Average Standard Deviation (MASD) and Hodrick and Prescott (HP) method. Autoregressive Conditional Heteroskedasticity (ARCH) model was considered as the bench mark model and the presence of ARCH effect tested in RER, NER and BIEX series. The study identified its presence only in BIEX. In the absence of ARCH effect in NER and RER series, the study computed volatility through Moving Average Standard Deviation (MASD) and Hodrick and Prescott (HP) method. Later, the study selected MASD as the optimal measure of exchange rate volatility for NER and RER series using non-nested testing method. The time series technique adopted for studying the objectives were distributed lag model and autoregressive distributed lag (ARDL) model. In addition, the study graphically plotted cumulative residual sum of square (CUSUM) and CUSUM square tests, and forecast error test to evaluate the parameter stability in the models.
The major findings of the study are as follows:

1. The study found weak evidence of negative and insignificant relationship between exchange rate levels and FDI. However, there was a strong discernable negative relationship between exchange rate volatility and FDI under all measures of volatility incorporated in the model. The negative coefficient of exchange rate uncertainty confirmed the prediction of the Goldberg and Koldstad (1996) model, that a multinational enterprise (MNE) would ignore better business opportunities in the host country which experienced high variability in exchange rate. As the FDI investors lacked the capability to hedge (in order to reduce risk of exchange rate variability) in the long- run, exchange rate volatility might emerge as an important determinant for risk averse investor. Therefore, stabilisation of currency was an important policy factor that needed to be considered as a measure to promote FDI.

2. GDP, included to capture the size of the market, had a positive and significant impact on FDI decision. The estimated relationship suggested the importance of growing domestic market, besides more efficient utilisation of natural resources and exploitation of economies of scale. These help to promote sustainable economic growth and development that create domestic capacity to maximise benefits from FDI, which in turn tend to strengthen the domestic economy through greater competitiveness, expand domestic and export markets and promote optimal financial resource allocations.

3. The coefficient of lags of FDI was positive and significant, reflecting the influence of agglomeration effect on foreign investors’ decision making on FDI. Investment decision by a foreign investor is seen as a good signal of favourable conditions to invest in India.
4. The negative association between inflation rate and FDI indicated that the foreign investors were risk-averse, implying that they would not risk expected profits from investment. The price of goods and services in the host country would increase, due to inflation, resulting in higher production costs due to higher factor prices. Thus, inflation in the host country tends to negatively impact investment decision of multinational corporations (MNCs), especially of those which plan to raise capital in the domestic market. This is because, like exchange rate volatility, high inflation rate is considered a reflection of poor macroeconomic conditions. Therefore, to encourage investment, it is necessary to stabilise inflation rate in India. Policies that control inflation rate tend to reduce risk and uncertainty to investment, and improve business environment that attract FDI.

5. The effect of trade openness, emerged negative and significant, implying that as a foreign country participates more in FDI, its trade tends to decrease. This can be considered as an evidence of the prevalence of horizontal FDI, where firms penetrate foreign markets through FDI rather than trade. Inflation rate, considered as a proxy for cost of production, plays a negative role and lending interest rate, a proxy for cost of investment in India, which may also triggering the firms switching decision carries a negative sign.

6. Coefficient of stock market growth had the expected positive sign, but emerged statistically insignificant. This seemed to imply that wealth effect does not play a major role in the determination of FDI in the long-run.

7. Lending interest rate had a negative but insignificant effect on FDI, implying that the higher the cost of borrowing in home country relative to that in India, the lesser would be the ability of foreign firms to gain cost advantage over its Indian
rivals (which have better access to cheaper finance). But, the insignificance of cost of capital coefficient for India may be due to the fact that investments in the country’s sectors, on an average, require a lower degree of external financing.

Thus, the negative impact of exchange rate volatility on FDI, indicated that a flexible but stable exchange rate system was needed to successfully attract FDI.

**Scope for further study**

This study can be possibly extended to micro level, by collecting industry and country-wise data, to understand the factors influencing investors’ FDI decision making at industry level, and their reactions.