

# Chapter: 7

## Major findings, conclusions and policy suggestions

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### 7.0 Findings and conclusions

Large amount of literature analyzed the contribution of FDI in an economy. Most of the empirical work found that the FDI plays an important role in the development of different sectors of an economy. Early 1990's have brought recessions in developed nations and that swing of the international business cycle almost certainly made profit opportunities in developing countries which appear relatively more attractive (Calvo Guillermo A. et al. 1993). Countries desire to open their economy because FDI is the non-debt funds which contribute to connect the different segments of the economy. FDI inflow and macroeconomic variables have different types of relationship (as explained in chapter 1 and 3).

Numerous empirical studies have conducted to investigate whether FDI inflow has influenced to macroeconomic variables or macroeconomic variables influenced the inflow of FDI. The overall evidences are best characterized as mixed type results. Nexus of results are reviewed in literature. For instance, Shylajan C S (2011), found that inflation has negative impact on FDI in India. FDI has negative impact on employment generation in retail sector in India (Nizamuddin Mohammed, 2013), therefore it enhance unemployment. Government expenditure in form of development expenditure has a positively significant effect on the FDI inflow in Africa (Anyanwu John C 2011). Kaur Mandeep et al (2014) found positive impact of FDI on gross capital formation in India. Salahuddin Mohammad et al (2010) found that the foreign direct investment and gross domestic saving are complements in case of developing country. Calvo Guillermo A. et al. (1996) found that the substantial portion of the surge in capital inflows has channeled to accumulation of foreign exchange reserve. Real exchange rate recorded negative associated with inflow of FDI (Goldberg and Klein, 1998). Asiedu (2002) found that trade openness also promotes FDI. Nexus result of relationship between

macroeconomic variables and FDI inflow found with selected variables in Indian context. Further, this study extended and prompted with the addition of more variables to investigate the relationship of FDI inflow and endogenous and exogenous macroeconomic variables.

The main objective of this study was to examine whether FDI has any significant effect on macroeconomic variables. The study has accordingly included the different endogenous and exogenous macroeconomic variables to investigate the causal relationship with FDI inflow.

For the purpose, different econometrics tests such as ADF, PP, Johansen co-integration, VECM and Granger Causality test has been used to analyse the relationship between FDI inflow and macroeconomic variables (as discussed in chapter 3). The major findings of the study are discussed as below.

### **7.0.1 Major findings of FDI and endogenous macroeconomic variables**

In this section, major findings of relationship investigation between FDI inflow and inflation, unemployment, gap of output growth, development expenditure, non-development expenditure, gross domestic saving and gross fixed capital formation are discussed:

- The study finds that during the different phase of time both endogenous and exogenous variables fluctuated by both internal and external uncertainties. For example uncertainties due to global environment and reform of first stage and second stage of the Indian economy. Internal and external economic and political environment is also the reason for the fluctuation of macroeconomic variables as supported by Elif Arbatli (2011) and Keshava S.R. (2008).
- The study confirms the co-integration among the Inflow of foreign direct investment and endogenous macroeconomic variables by Johnson co-integration test (result

reported in chapter 5). Trace and max statistics confirm the co-integration between FDI inflow and inflation, unemployment, development expenditure, non-development expenditure gross fixed capital formation and gross domestic saving.

- However, the study found that the inflation has insignificant value and yet the positive relationship with inflow of foreign direct investment. Further, this study found the unidirectional relationship between inflow of Foreign Direct Investment and inflation. Inflationary pressure is an obstacle to start a new venture or Inflation is an interruption for green field investment and good for brown field investment. It is also observed that the higher inflation rate attracts more FDI inflow in different years. Khan Gholam Syedain (2014), did not find causality between FDI and inflation in India. Contradictory, Tripathi Vanita et al (2012), found that the inflation is granger caused by FDI inflow in case of India. This result is supported by Khan Gholam Syedain et al. (2014) as positive relationship in Indian context. Different views also given by Faiza Saleem et al. (2013), positive relationship exists between foreign direct investment and inflation and Jason Kiat (2007), Inflation has negative impact on FDI. Shylajan C S (2011), also found the negative impact of inflation on FDI in Indian context.
- The study found that the unemployment has significant positive relationship with inflow of foreign direct investment. This study also found the unidirectional relationship between inflows of foreign direct investment and unemployment. The nexus of result found in the literature which varies country to country and sector to sector. FDI is not having a significant impact on unemployment in case of India, engagement of uneducated and semi-educated people at various sectors is less than engagement of educated workforce in service, retail and manufacturing and big industries in small strength, comparatively (Gupta Nidhi, 2013). FDI has negative

impact on employment generation in India (Nizamuddin Mohammed, 2013), therefore it generates unemployment. FDI create jobs for skilled employee in India for service sector (Someshu Pakanati, 2015). Shu-Chen Chang (2006) has not found any significant association between unemployment and inflow of FDI.

- Development expenditure has significantly value of coefficient (0.28) and positive relationship with inflow of foreign direct investment. One unit increase in development expenditure induces FDI inflow less than proportionate. This study also found the unidirectional relationship between development expenditure and inflow of foreign direct investment. FDI inflow is a complementary for development expenditure. Government expenditure is positively significant effect on the FDI inflow in Africa, a developing nation (Anyanwu John C 2011).
- Non-development expenditure has also significant value of coefficient (-0.12) and negative relationship with inflow of foreign direct investment. One unit decrease in non-development expenditure induces FDI inflow which is also less than proportionate. This study also found the unidirectional relationship between inflow of Foreign Direct and non-development expenditure. Large proportion of public spending is attributed to non-development expenditure in developing country (Husnain Muhammad Iftikhar ul 2011). Greater the growth rate of public spending smaller the FDI. FDI affects growth positively while public spending retards economic growth (Husnain Muhammad Iftikhar ul 2011).
- This study found that the gross fixed capital formation has significant coefficient value (0.32) and positive relationship with inflow of foreign direct investment. One billion rupees gross fixed capital formation (GFCF) induces less proportionate FDI

inflow. Gross fixed capital formation and FDI inflow has unidirectional relationship reference to this study. However, the complementary relation between GFCF and foreign investment is examined by (Roy Samrat and Mandal Kumarjit 2011). Kaur Mandeep et al (2014) found positive impact of FDI on gross capital formation in India.

- The significant coefficient value of GDS (-0.20) Gross domestic saving has negative relationship with inflow of foreign direct investment. Decrease in domestic saving increase FDI inflow. Gross domestic saving and FDI inflow has also unidirectional relationship in this study. Salahuddin Mohammad et al (2010) found the bidirectional relationship between foreign direct investment and gross domestic saving. Leshoro Temitope L.A. (2014) found that FDI and saving has not causality relationship in case of South Africa. Salahuddin Mohammad et al (2010) found that the foreign direct investment and gross domestic savings are complements in case of developing country. Chung chen, et al. (1995) had not found the effect of FDI on domestic saving.
- The significant coefficient of error correction method confirms that the Inflation, Unemployment, Gap of Output growth, gross fixed capital formation and gross domestic saving are the independent variables which significantly effects the Inflow of foreign direct investment in long run. Some short run coefficients of studied variables also influence the inflow of foreign direct investment in short run. (Analysis given in Chapter 5).

## 7.0.2 Major findings of FDI and exogenous macroeconomic variables

In this section, major findings of relationship investigation between FDI inflow and foreign reserve, exchange rate, trade openness, net external assistance, net commercial borrowing, rupees debt service and net NRI deposits are reported below (analysis given in chapter 6):

- This study confirms the co-integration among the Inflow of foreign direct investment and exogenous macroeconomic variables by the Johnson co-integration test (trace and max statistic) (result reported in chapter 6).
- In this study, it is found that the inflow of foreign direct investment (value of coefficient 2.77) has significant positive relationship with foreign reserve. This study confirms the bidirectional relationship between foreign reserve and FDI inflow. In 2006-07 and 2007-08, higher foreign reserve observed with higher growth rate of FDI inflow (observations reported in chapter 4). Sonawane Mukunda (2015), found positive relationship between foreign reserve and FDI inflow in India. Calvo Guillermo A. et al. (1996) found positive relationship between FDI inflow and foreign reserve.
- This study found that exchange rate (weak rupees and per dollar value) (value of coefficient 140.92) has significant positive relationship with inflow of foreign direct investment. Higher growth rate for exchange rate observed in 1998-99 and lower FDI inflow. Strong position of Indian currency hurts the sentiments of foreign investors (observations can be captured from appendix and chapter 4). Sonawane Mukunda (2015), found positive relationship between exchange rate and FDI inflow in India. This result is supported by Khan Gholam Syedain et al. (2014). Contradictory,

exchange rate has negative association with inflow of FDI (Goldberg and Klein, 1998).

- This study found that the trade openness has negative relationship with FDI inflow but it was found insignificant. Trade openness and foreign direct investment has also unidirectional relationship with less significant value of probability. Tripathi Vanita et al (2012), found that the openness granger caused by FDI inflow in case of India. Contradictory, Sonawane Mukunda (2015), found positive relationship between openness and FDI inflow in India. Elizabeth Asiedu (2002) found that trade openness promotes FDI.
- The study found that the net external assistance has significant positive relationship with inflow of foreign direct investment. One billion rupees increase in net external assistance increase inflow of FDI which is highest than proportionate. In 1990-91, net external assistance was 39 billion rupees and 69 billion rupees in 2012-13. It was 31 percent of FDI inflow in 1990-91 and reduced by 3 percent in 2012-13. Investment promotion agencies help to terminate the external assistance by FDI inflow (Jacques Morisset, 2003).
- The study found that the net NRI deposit has significant positive relationship with inflow of foreign direct investment. One billion rupees increase in net NRI deposit increase inflow of FDI which is highest than proportionate. In 1990-91, net NRI deposit was 27.56 billion rupees and 807 billion rupees in 2012-13. Higher growth rate in NRI deposits recorded in 1992-93, 1995-96, 1996-97, 2000-01, 2006-07 and 2011-12, and FDI inflow has been the positive growth rate flow during these periods (as observed in chapter 4). Granger causality test confirm that the inflow of Foreign

Direct Investment cause to net NRI deposits which has unidirectional relationship. Bajpai Nirupam et al. (2000) said that commercial borrowing from NRIs became disaster that was the cause when lots of short term capital had come in and lots had moved out.

- Net commercial borrowing and inflow of foreign direct investment significantly negatively relationship in long run the value of coefficient is (-23.37). Net commercial borrowing has also bidirectional relationship with Inflow of Foreign Direct Investment. Compare to 2012-13 commercial borrowing was less than in 1990-91.
- Rupees debt service and Inflow of Foreign Direct Investment has significantly negative relationship in long run. One billion rupees reduction in rupees debt service increases FDI inflow more than proportionate. The gap of outgoing flow of rupees and incoming flow of rupees was higher in 1990-91 and lower in 2012-13.
- Significant value of ECM confirms that foreign reserve, exchange rate and trade openness, these are the independent variables which are significantly adjust the Inflow of foreign direct investment in long run. Some short run coefficients of studied variables also influence the inflow of foreign direct investment.

### **7.1.1 Hypothesis test results of FDI and Endogenous macroeconomic variables**

On the basis of the finding the study results of the  $H_0$  are discussed below:

- $H_0$ : FDI inflow does not cause inflation, unemployment and gap of growth output.

$H_0$  is **not accepted** for unidirectional causal relationship between FDIINFL and GNPDIFL, FDIINFL and UNOKUN.

- $H_0$  : FDI inflow does not cause development expenditure and non-development expenditure.

$H_0$  is **not accepted** for unidirectional causal relationship between DE and FDIINFL, FDIINFL and NDE, and NDE and DE.

- $H_0$  : FDI inflow does not cause gross fixed capital formation and gross domestic saving.

$H_0$  is **not accepted** for unidirectional causal relationship between GFCF and FDIINFL, and GDS and FDIINFL.

### **7.1.2 Hypothesis test results of FDI and Exogenous macroeconomic variables**

On the basis of the finding the study results of the  $H_0$  are discussed below:

- $H_0$  : FDI inflow does not cause foreign reserve, annual exchange rate and trade openness.

$H_0$  is **not accepted** for bidirectional causal relationship between FR and FDIINF.

- $H_0$  : FDI inflow does not cause net external assistance, net commercial borrowing, rupees debt services and net NRI deposits.

$H_0$  is **not accepted** for bidirectional causal relationship between NCB and FDIINFL, and unidirectional for FDIINFL and NNRID.

## 7.2 Policy Suggestions

Capital inflow in developing countries has been seen as beneficial by all parties. For the capital-rich developed economies, such investment appears a desirable way of diversifying risk and investing in productive assets that will, in a few decades, fund the retirement of the baby boom generation. The main policy decisions involve the interaction among foreign direct investment, exchange rate, monetary policy, fiscal policy and aggregate economic variables. Foreign direct investment inflows can lead to inflationary pressures, especially when they are monetized. FDI inflow of capital also implies a higher demand for a nation's currency; it often means an appreciating exchange rate, which may widen the trade deficit to uncomfortable levels. Overall, in a world of high capital mobility, where capital inflows can depart just as rapidly as they arrived, there is a genuine risk that their effects on inflation, the exchange rate, financial sector and on aggregate economic variables can lead to severe macroeconomic instability.

Some policy suggestions based on major findings of this study are discussed herewith:

- **Monetary and Fiscal policy:** This study found that the inflation and unemployment has a positive relationship with inflow of foreign direct investment. Brown field investment is the option for foreign investors to earn profit. We should focus on green field investment to establish new projects and provide employment. Engagement of uneducated and semi-educated people at various sectors like service, retail and manufacturing is at a minimum level. Contribution of the primary sector is lower in GDP and highly dependent for employment. The contribution of the service sector is higher in GDP but it provides employment only to the educated labour force. So, sterilization and regulation are the most popular policy responses to FDI inflow in both Latin America and Asia, aimed to insulate the money supply, exchange rate from the effect of FDI inflows. The intent is to mitigate inflationary pressures and avoid the loss of

control over the domestic money stock. There should be a greater control on banks amount to a reversal of the underlying trends of financial liberalization in developing countries. Changes in legislation and sensitive political actions usually cannot be undertaken on short notice, which would often be needed to offset the effects of the capital inflows. Fiscal policy consideration suggest that taxes and expenditures should be set to reflect long term goals, rather than in response to what can be excessively volatile fluctuations in international capital market. Policy makers should also be focused on vocational education and technical education because skilled labour attracts more FDI.

- **Diversified FDI:** As this study found positive relationship between development expenditure and gross fixed capital formation and inflow of foreign direct investment. Non-development expenditure and gross domestic saving has negative relationship with inflow of foreign direct investment. FDI inflow is a complementary for development expenditure and domestic capital. The saving money is either kept with the public or is invested back. When the money is invested back, we come to the figures known as capital formation. So it is necessary to boost the productivity. Capital formation is dependent on the reinvestment which is repatriated in form of profit. In certain cases non-availability of items in India; they have to form a joint venture with respective companies in such fields to manufacture such items within the boundary of the nation and no imports to be allowed. No brown field expansion would be allowed and only green field capacity building to be allowed. So far, the focus of policy and analysts has been mainly on FDI as an aggregate. Policy makers should focus much more on attracting diverse type of FDI to fulfill the requirement of non-development expenditure and shortage of funds due to lower saving.

- Controlling FDI inflow: External assistance, NRI Deposit has positive relationship with FDI inflow. Commercial borrowing and rupees debt service has negative relationship with FDI inflow. Various countries, such as Chile and Colombia, have imposed taxes on short term borrowing abroad with intent to discouraging inflow that are thought to be particularly speculative. Chile chose to tax inflow by imposing a reserve requirement on international loans intermediated through the banking system. Policies should be in favor of controlling on short term external assistance and NRI deposit. Bajpai Nirupam et al (2000) said that commercial borrowing from NRIs became disaster that was the cause when lots of short term capital had come in and lots had moved out. Investment promotion agencies help to terminate the external assistance by FDI inflow (Jacques Morisset, 2003).
- Exchange rate and foreign reserve policy: This study found that the weak currency attracts more FDI inflow and increase foreign reserve. Increased exchange rate flexibility grants the monetary authorities a greater degree of autonomy in the conduct of domestic monetary policy and permits them to exercise more control over the monetary aggregates. Several countries have adopted crawling exchange rate bands, which can be seen as an intermediate case between fixed and flexible exchange rates. In, 1994, for example Colombia joined Chile and Mexico in adopting a preannounced crawling exchange band. Exchange rate and price stability must be foremost priority for the Indian economy to attract the FDI as these are estimated to be important factor influencing FDI inflow in the country. India can build a state of confidence among the foreign investors through taking effective measures for controlling fluctuation in exchange rate and price level in a country. Most attention should be paid the stabilization as a necessary condition for foreign investment attraction strategy in India.

- Absorption Capacity: The opening of the economy to foreign trade and the policy of permitting foreign direct investment not only forced the domestic manufacturers to compete globally, but it also progressively made the plant managers and government officials develop and adopt the rules and the laws of market economy. These changes will inevitably propelled the domestic economy toward greater reliance on the market with improve in management, variety, quality, cost and achieve better economic results.
- FDI Promotion method: such kind of attitude toward FDI by Indian authorities can give fruitful incentives. Various legislated investment incentives should be offered during the project consultation and the joint-venture approval process gradually should be simplified as more final decisions allows at the local level. Promulgate various investment and ownership laws, the increase in the security of private property rights and contracts created greater confidence among the foreign direct investors, leading to the increase in FDI.

There should be favorable economic environment in terms of increasing efforts like soft and hard approach in form of provision of subsidies raw material, power, and land and tax concession and political stability for the better development of macro variables. Development expenditure, Output growth, Gross fixed capital formation and Gross domestic saving these are showing the sound position of an economy which helps to create the possibility for the inflow of foreign direct investment. So, the opportunities for the employment, to combat with inflation, to increase the foreign exchange reserve, to boost the trade, to increase the development of infrastructure and to bridge the gap of capital account with non-debt fund can be generated.

### **7.3 Limitation of the Study**

There are many constraints in this study. This constraint comes in the forefront to carry out such an exercise, which does not have all the information at a single space. The empirical study in social science, especially aggregate variables based on the secondary information to investigate the relationships cope with many problems. There are following limitations of the study:

- The present study is based on macroeconomic variables or aggregate data consisting of yearly data and hence will not capture the micro level information of the variables.
- The major limitation of this study is the non-availability of data on unemployment and employment in unorganized sector. No source provides comprehensive, regular and reliable data. Census of India collects data on labour force with a gap of 10 years. Similarly National Sample Survey Organisation(NSSO) conducts survey after five years. The number of unemployed registered with employment exchanges is also highly unreliable. Moreover, definition of unemployment adopted by these sources is also not uniform.
- The variables taken in the study are selected on the basis of availability of data. However, the selected variables represent the phenomenon appropriately as a number of other studies have adopted almost similar variables for the purpose.

### **7.4 Further Research Analysis**

The present study is the investigation of bidirectional relationship. This research can be modified further by measuring the unexpected change in FDI and predicting its effects on the future values of the selected macroeconomic variables. This study can be modified further in below given process:

- This study can be extended to increase the time series or cross section data of the study which is depended on the availability of data. Number of variables can be increase.
- This study, further, can be extended to another developing country to compare their policy phenomena regarding the inflow of FDI. Comparative analysis can be made among different countries on the base of this study.
- It can be, further, diversified with sectoral regional wise causal relationship of FDI inflow and macro variables.

In recent years, India has been attracting the inflow of FDI in different sectors with the assumption to provide employment, create infrastructure, to become self-dependent in future. In this regard it is suggested that a causative relationship between macro variables and FDI inflow can be an interesting area of research.