The role of foreign direct investment (FDI) in Indian agriculture sector: An analysis of opportunities and challenges

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Abstract
Foreign Direct Investment (FDI) is an investment made by Multi-National Enterprises (MNEs) or by a non-resident in an enterprise of host (recipient) countries over which they have a control and earn private return. It is important to distinguish between Direct and Indirect Foreign Investment. The indirect investment includes portfolio investment, acquisition of stock of an enterprise, medium-term and long-term loans by financial institutions and intermediaries, and investment in new issues of national loans, bonds and debentures. FDI in Indian Agricultural sector is no doubt a necessity, however, any increase in equity stake of the foreign investors in existing joint ventures or purchase of a share of equity by them in domestic firms would not automatically change the orientation of the firm. That is, “the aim of FDI investors would be to benefit from the profit earned in the Indian market. As, a result, in such cases FDI inflows need not be accompanied by any substantial increase in exports, whether such investment leads to modernization of domestic capacity or not”. Therefore, it is a challenge for a developing country like India to channelize its capital inflow through FDI into a potential source of productivity gain for domestic firms especially into agricultural sector. In this context, this empirical study is taken up to examine the role of FDI in Indian Agricultural Sector. The study has used secondary data.

Keywords: FDI, agricultural, secondary data

1. Introductory Background: Role of Foreign Direct Investment
Foreign Direct Investment (FDI) is an investment made by Multi-National Enterprises (MNEs) or by a non-resident in an enterprise of host (recipient) countries over which they have a control and earn private return. It is important to distinguish between Direct and Indirect Foreign Investment. The indirect investment includes portfolio investment, acquisition of stock of an enterprise, medium-term and long-term loans by financial institutions and intermediaries, and investment in new issues of national loans, bonds and debentures. The direct investment is a long-term equity investment in a foreign company that gives the investor managerial control former the company (Griffiths and Hall 1984). In fact, FDI is considered as an equity capital in India though the IMF guideline prescribes to include reinvestments and venture capital on the FOI flows (RBI 2003). Accordingly, the Government of India redifined the FDI inflows in 2002 and included reinvestments and venture capital along with equity capital. However, the present study has considered FOI as an equity capital.

It is important to note that the developing countries had significantly eased restrictions on FDI inflows and operations of MNEs in the early 1980s. This trend became even more widespread during the 1990s, which brought a significant FDI inflow into the developing countries. In fact, developing countries received nearly 40 per cent global FDI inflows in 1994-96 compared to 25 per cent in 1980-84 (United Nations Conference on Trade and Development, UNCTAD 1994). This trend of growing share of developing countries kept on increasing till 1999-00, but it went down to 30 per cent during 2001-02. Over the last three decades, the stock of FDI as a percentage to the GDP has been phenomenal. It is 256 percentages for the world as a whole but the onus is largely in favour of the developing countries as against the developed countries since the percentage is 435 for developing countries and the percentage is 210 for developed countries. However, the absolute FDI stock over the same period is Rs. 25,834,356.00 crores in the developed world whereas the same for the developing world is Rs 9,395,046.00 crores. Within the group of developing countries, the distribution of FDI inflows varies significantly both across regional groups and individual countries. China has been the largest developing countries recipient of FDI since 1992 and India has been placed in the 7th spot in 2002. In fact, India opened up its economy and allowed MNEs in the core sectors as a part of reform process in the beginning of 1990s. Since then it has attracted a big share of FDI inflows among the developing countries and has become one of the lucrative investment locations for the foreign investors. The net FDI inflow grew from Rs. 174 Crores in 1990-91 to Rs. 10,686 Crores in 2000-01, resulting in the annual average growth rate as high as 6 per cent (RBI 2001). Emphasizing on the role of FDI in the
developing countries, Moran (199X) observes that FDI is a method of transmission of the package of ‘managerial resources’ from one country to another. The package of ‘managerial resources’ may include specialized and technological knowledge in the areas of patents, know-how, sales techniques, managerial expertise, and ability to obtain funds and credit. Since the productivity of such transferred managerial resources is very high in the recipient country, they make a big contribution to the development of industry to which they are made available in the host country. Productivity is high because these resources were earlier in short supply relative to other factors of production. Naturally, therefore, when they are now made available, their productivity will increase. There is quite a substantial empirical literature on FDI, which supports this argument. Chenery and Strout (1966) state that foreign assistance was the striking force for the rapid and sustained growth by countries like Greece, Israel, Taiwan and the Philippines during 1950s. In each case, a substantial increase in investment financed largely by foreign loans and grants, which has led to rapid growth of GNP followed by a steady decline in the dependence on external financing. The huge success of the Chinese economy in the post-Mao ear is also credited to the FDI flows into China (Sahoo et al 2002).

The role and impact of FDI on the host economy is also subject to criticism. In the earlier stages, a few studies had shown that foreign capital had a negative impact on the growth of the developing economies (Singer 1950). Empirical evidence also supports the argument of Singer. The empirical study by Xu 2000) has investigated the U.S. Multi-National Enterprises (MNEs) as a channel of international technology diffusion in 40 countries from 1966 to1994. This study has found strong evidence of technology diffusion from U.S. MNEs affiliates in developed countries (DCs) but weak evidence of such diffusion in the less developed countries (LDCs). Foreign firms bring the destructive impact on the host economy because the foreign companies operate in industries where there are substantial barrier to entry and increasing market concentration (Grieco 1986). In that case, the foreign firms may lower the domestic savings and investment by extracting rent. The foreign firms may drive out the local producers from business and substitute imported inputs. In such a situation, the foreign firms may not bridge the gap between domestic investment and foreign exchange. Also, the repatriation of profit by the foreign firms may drain out the capital from the host country.

The policy maker for the Indian economy tried to join the competition for attracting more FDI as it was assumed that 101 has going to be a prominent factor to achieve higher growth of the Indian economy. It assumed that FDI could play a vital role as a source of capital, management, and technology in India. It has been argued that FDI could bring technological diffusion to the economy through knowledge spillover and enhance a faster rate of growth in India. It is important to note that the gain in the national income also depended on the size of capital inflow and elasticity of demand for capital, which could increase the technological and managerial inputs and transfers and spillover to local firm. Thus, it increases the production at faster rate at the national level. However, given the imperfect market condition like in India may lower the domestic saving and investment by extracting the capital through prepared access to local capital market. It can be argued that the MNEs, in the name of FDI, may drive out the local film because of their oligopolistic power, and also, the repatriation of profit may drain out the capital of the host country. These arguments raise several questions. Does FDI flow help the developing countries like India to achieve higher economic growth? If so, is the FDI flowing to India sufficient, given the size and diversity of the Indian economy?

What are the necessary policy requirements to attract more FDI? In this context, it is also relevant to observe whether macroeconomic indicators or sector-specific indicators or combination of both determine the FDI inflow in India? How can FDI be used to attain higher economic growth, both at the macro level as well as at the sectoral level. What are the sacrifices needed to be made to us the FDI in the growth process of the economy? In order to answer these questions, it is necessary to make a detailed study of the impact and the determinants of FDI inflows to India at the macro level as well as at the sectoral level, which is has a short history of liberalization. Thus, the main objective of this study is to analyze the impact of FDI flow and the policy concerns it engenders.

One of the most striking developments during the last two decades is the spectacular growth of FDI in the global economic landscape. This unprecedented growth of global FDI in 1990 around the world make FDI an important and vital component of development strategy in both developed and developing nations and policies are designed in order to stimulate inward flows. In fact, FDI provides a win – win situation to the host and the home countries. Both countries are directly interested in inviting FDI, because they benefit a lot from such type of investment. The ‘home’ countries want to take the advantage of the vast markets opened by industrial growth. On the other hand the ‘host’ countries want to acquire technological and managerial skills and supplement domestic savings and foreign exchange. Moreover, the paucity of all types of resources viz. financial, capital, entrepreneurship, technological know- how, skills and practices, access to markets- abroad- in their economic development, developing nations accepted FDI as a sole visible panacea for all their scarcities. Further, the integration of global financial markets paves ways to this explosive growth of FDI around the globe.

1.1 An Overall View

The historical background of FDI in India can be traced back with the establishment of East India Company of Britain. British capital came to India during the colonial era of Britain in India. However, researchers could not portray the complete history of FDI pouring in India due to lack of abundant and authentic data. Before independence major amount of FDI came from the British companies. British companies set up their units in mining sector and in those sectors that suits their own economic and business interest. After Second World War, Japanese companies entered Indian market and enhanced their trade with India, yet U.K. remained the most dominant investor in India.

Further, after Independence issues relating to foreign capital, operations of MNCs, gained attention of the policy makers.
Keeping in mind the national interests the policy makers designed the FDI policy which aims FDI as a medium for acquiring advanced technology and to mobilize foreign exchange resources. The first Prime Minister of India considered foreign investment as “necessary” not only to supplement domestic capital but also to secure scientific, technical, and industrial knowledge and capital equipments. With time and as per economic and political regimes there have been changes in the FDI policy too. The industrial policy of 1965, allowed MNCs to venture through technical collaboration in India. However, the country faced two severe crisis in the form of foreign exchange and financial resource mobilization during the second five year plan (1956 –61). Therefore, the government adopted a liberal attitude by allowing more frequent equity participation to foreign enterprises, and to accept equity capital in technical collaborations. The government also provides many incentives such as tax concessions, simplification of licensing procedures and de-reserving some industries such as drugs, aluminium, heavy electrical equipments, fertilizers, etc in order to further boost the FDI inflows in the country. This liberal attitude of government towards foreign capital lures investors from other advanced countries like USA, Japan, and Germany, etc. But due to significant outflow of foreign reserves in the form of remittances of dividends, profits, royalties etc, the government has to adopt stringent foreign policy in 1970s. During this period the government adopted a selective and highly restrictive foreign policy as far as foreign capital, type of FDI and ownerships of foreign companies was concerned. Government setup Foreign Investment Board and enacted Foreign Exchange Regulation Act in order to regulate flow of foreign capital and FDI flow to India. The soaring oil prices continued low exports and deterioration in Balance of Payment position during 1980s forced the government to make necessary changes in the foreign policy. It is during this period the government encourages FDI, allow MNCs to operate in India. Thus, resulting in the partial liberalization of Indian Economy. The government introduces reforms in the industrial sector, aimed at increasing competency, efficiency and growth in industry through a stable, pragmatic and non-discriminatory policy for FDI flow. In fact, in the early nineties, Indian economy faced severe Balance of payment crisis. Exports began to experience serious difficulties. There was a marked increase in petroleum prices because of the gulf war. The crippling external debts were debilitating the economy. India was left with that much amount of foreign exchange reserves which can finance its three weeks of imports. The outflowing of foreign currency which was deposited by the Indian NRI’s gave a further jolt to Indian economy. The overall Balance of Payment reached at Rs. ( - ) 4471 crores. Inflation reached at its highest level of 13%. Foreign reserves of the country stood at Rs. 11416 crores. The continued political uncertainty in the country during this period adds further to worsen the situation. As a result, India’s credit rating fell in the international market for both short-term and long-term borrowing. All these developments put the economy at that time on the verge of default in respect of external payments liability. In this critical face of Indian economy the then finance Minister of India Dr. Manmohan Singh with the help of World Bank and IMF introduced the macro – economic stabilization and structural adjustment program. As a result of these reforms India open its door to FDI inflows and adopted a more liberal foreign policy in order to restore the confidence of foreign investors. Further, under the new foreign investment policy Government of India constiuted FIPB (Foreign Investment Promotion Board) whose main function was to invite and facilitate foreign investment through single window system from the Prime Minister’s Office. The foreign equity cap was raised to 51 percent for the existing companies. Government had allowed the use of foreign brand names for domestically produced products which was restricted earlier. India also became the member of MIGA (Multilateral Investment Guarantee Agency) for protection of foreign investments. Government lifted restrictions on the operations of MNCs by revising the FERA Act 1973. New sectors such as mining, banking, telecommunications, highway construction and management were open to foreign investors as well as to private sector.

2. Review of Theories

Theories of FDI may be classified and explained in terms of the determinants and its impact. The theories on the determinants of FDI are explained by the assumption of the market structure. viz. perfect and imperfect. The theories relating to the impact of FDI are based on the positive and negative impact of FDI on the host economy.

The theories assuming perfect competition include differential rate of return (Ila tbaub 1975) and portfolio diversification. It assumes that the difference in the rate of return across the globe and the objective of reducing the risk by portfolio diversification results in the FDI news. The portfolio diversification theory is an Improvement for the differential rates of return theory in the sense that by including the risk factor. It can account for countries experiencing simultaneously inflows and outflows of foreign direct investment. A more fundamental criticism of this theory has been the argument that in a perfect capital market there is no reason to have firms diversifying actinidies just to reduce the risk for their stockholders.

The theory of imperfect competition include: (a) Industrial Organisation (Ilymer 1976). (b) Internalization (Ruckley and Casson 1976). (c) Product Cycle (vern 1966) and (d) Oligopolistic Reaction (Knickerbocker 1973). Illener, the element of all these theories can be observed from Dunning’s Eclectic Paradigm (Dunning 1977. 1979. 1988). The paradigm integrates three strands of literature on foreign direct investment. viz., the industrial organization theory, the internalisation theory and the location theory. lie argues that three conditions must be satisfied if a limn is to engage in foreign direct investment. Firstly the time must have some ownership advantages with respect to other times and these advantages usually arise from the” possession of time-specific intangible assets. Secondly, it must be more beneficial time to use these advantages rather than to sell or lease them to other independent firms. Finally, It Must Be More Profitable To Use These Advantages In Combination With At Least Some Factor Inputs Located Abroad, Otherwise, Foreign Markets Would Be Served Exclusively By Exports. Thus. The Foreign
Direct Investment to Take Place. The Firm Must Have Ownership And Internalization Advantages, And A Foreign Country Must Have Locational Advantages Over The Finn's Home Country. Dunning Further Divided These Advantages Into Three Groups, Viz., (I) Ownership Advantages, (ii) Location Advantages And (iii) Internalisation Advantages. All These Three Advantages Constitute The Famous Oli (Ownership-Location-Internalisation) Model Of Dunning. Though The Oli Paradigm Covers Most Of The Detenninants Of The FDI Flows Into A Specific Location, It Doesn't Cover Certain Finn Specific Variablik Like Labour ProductiAity (Lpr). The Lpr Is A Very Crucial Guideline For Investors To Invest Especially At The Sectoral Level. There Are Two Models On The Impact Of FDI The First Model Assumes That FDI Would Be More Useful To The Economies With The Vicious Circle Of Under Development. In This Case. The Potential Host Economy Is Mired In A Poverty-Laden Equilibrium With A Vicious Circle Of Poverty. F Can Break This Circle By Complementing Local Savings And By Supplying More Effective Management. Marketing And Technology To Improve Productivity (Cardoso And Dornbusch 19/9). The Gain In National Income Depends On The Size Of The Capital Flows And The Elasticity Of The Demand For Capital. Furthermore, Technological And Managerial Inputs, Transfers And Spillovers To Local Firms May Cause The Nation's Production Function To Shift Upward. Thus, Under Competitive Conditions Which The Presence Of Foreign Firms May Enhance FDI Should Raise Efficiency, Expand Output And Lead To Higher Economic Growth In The Host Economy. The Emphasis On The New Resources That The Foreign Investors Bring To Remove The Bottlenecks That Deters The Development Process Is A Common Theme Among International Business Groups And Multilateral Agencies That Urge Greater Acceptance of FDI In The Developing Countries. The Second School Of Thought Criticises The Role And Motive of FDI, Particularly In The Developing Countries Like India. In The Earlier Stage, A Few Studies Have Shown That Foreign Capital Had A Negative Impact On The Growth Of The Developing Economies (Singer 1950). The Foreign Firms Brought The Destructive Impact On The Host Economy Because The Foreign Companies Operated In Industries Where There Were Substantial Barrier To Entry And Increasing Market Concentration (Grieco 1986).

2.2 FDI in Indian Agriculture

FDI in Indian Agricultural sector is no doubt a necessity, however, any increase in equity stake of the foreign investors in existing joint ventures or purchase of a share of equity by them in domestic firms would not automatically change the orientation of the firm. That is, “the aim of FDI investors would be to benefit from the profit earned in the Indian market. As, a result, in such cases FDI inflows need not be accompanied by any substantial increase in exports, whether such investment leads to modernization of domestic capacity or not”. Therefore, it is a challenge for a developing country like India to channelize its capital inflow through FDI into a potential source of productivity gain for domestic firms especially into agriculture.

As result economic reforms and various initiatives of the government, India has received total FDI of US$ 180,034million from the year 1990-91 to 2009-10. The FDI inflows have shown a rising trend owing to the sincere programs of structural liberalization and open marketers forms. The rise in flows of FDI till 1997 was not only the result of the liberalization policy but also due to the sharp expansion in the global scale of FDI outflows during the 1990s. Another causal factor may have been the recovery of the Latin American economies, which had begun to emerge from the ‘Debt Crisis’ of the 1980s. Then after during 1998-99 and 1999-00 there was decline in FDI inflow which was due to the decline in industrial growth rate in the economy and also due to the result of the ‘East Asian Financial Crisis’. But again in the next year, foreign investment started to bounce back. During2002-03 and 2003-04, again there was fall in flow of foreign direct investment which was due to the cost of Global Recession on the Indian economy. The FDI Equity inflows during the five years 2005-06 to 2009-10 showed a massive increase of more than seven times than those of the previous year’s 1991-92 to 1999-00 and 2000-01 to 2004-05. This increase was due to the revised FDI Policy in March 2005.

3. Objectives

The study covers the following objectives:
1. To study the trends and patterns of flow of FDI.
2. To assess the determinants of FDI inflows.
3. To evaluate the impact of FDI on the Economy.

4. Hypotheses

The study has been taken up for the period 1991-2008 with the following hypotheses:
1. Flow of FDI shows a positive trend over the period 1991-2008.
2. FDI has a positive impact on economic growth of the country.

5. Research Methodology

5.1 Data Collection

This study is based on secondary data. The required data have been collected from various sources i.e. World Investment Reports, Asian Development Bank’s Reports, various Bulletins of Reserve Bank of India, publications from Ministry of Commerce, Govt. of India, Economic and Social Survey of Asia and the Pacific, United Nations, Asian Development Outlook, Country Reports on Economic Policy and Trade Practice-Bureau of Economic and Business Affairs, U.S. Department of State and from websites of World Bank, IMF, WTO, RBI, UNCTAD, EXIM Bank etc.. It is a time series data and the relevant data have been collected for the period 1991 to 2008.

5.2 Analytical Tools

In order to analyse the collected data the following mathematical tools were used. To work out the trend analyses the following formula is used:

a) Trend Analysis i.e. \( \hat{y} = a + b \times x \) where \( \hat{y} \) = predicted value of the dependent variable
\[ a = y \text{ – axis intercept,} \]
b = slope of the regression line (or the rate of change in y for a given change in x),
x = independent variable (which is time in this case).

b) Annual Growth rate is worked out by using the following formula:

\[ AGR = \frac{(X2 - X1)}{X1} \]

where \( X1 \) = first value of variable \( X \)
\( X2 \) = second value of variable \( X \)

c) Compound Annual Growth Rate is worked out by using the following formula

\[ CAGR (t0, tn) = \left( \frac{V(tn)}{V(t0)} \right)^{1/tn - t0} - 1 \]

Where \( V(t0) \): start value, \( V(tn) \): finish value, \( tn - t0 \): number of years.

In order to analyse the collected data, various statistical and mathematical tools were used.

5.3 Model Building

Further, to study the impact of foreign direct investment on economic growth, two models were framed and fitted. The foreign direct investment model shows the factors influencing the foreign direct investment in India. The economic growth model depicts the contribution of foreign direct investment to economic growth. The two model equations are expressed below:

1. \[ FDI = f \{TRADEGDP, RESGDP, R\&DGP, FIN. Position, EXR.\} \]
2. \[ GDPG = f \{FDIG\} \]

where,

FDI= Foreign Direct Investment
GDP = Gross Domestic Product
FIN. Position = Financial Position
TRADEGDP= Total Trade as percentage of GDP.
RESGDP= Foreign Exchange Reserves as percentage of GDP.
R\&DGP= Research & development expenditure as percentage of GDP.
FIN. Position = Ratio of external debts to exports
EXR= Exchange rate
GDPG = level of Economic Growth
FDIG = Foreign Direct Investment Growth

Regression analysis (Simple & Multiple Regression) was carried out using relevant econometric techniques. Simple regression method was used to measure the impact of FDI flows on economic growth (proxied by GDP growth) in India. Further, multiple regression analysis was used to identify the major variables which have impact on foreign direct investment. Relevant econometric tests such as coefficient of determination R2, Durbin – Watson [D-W] statistic, Standard error of coefficients, T Statistic and F- ratio were carried out in order to assess the relative significance, desirability and reliability of model estimation parameters.

5.4 Selection of Variables

Macroeconomic indicators of an economy are considered as the major pull factors of FDI inflows to a country. The analysis of above theoretical rationale and existing literature also provides a base in choosing the right combination of explanatory variables that explains the variations in the flows of FDI in the country. In order to have the best combination of explanatory variables for the determinants of FDI inflows into India, different alternatives combination of variables were identified and then estimated. The alternative combinations of variables included in the study are in tune with the famous specifications given by United Nations Conference on Trade and Development, (UNCTAD 2007)77. The study applies the simple and multiple regression method to find out the explanatory variables of the FDI inflows in the country. The regression analysis has been carried out in two steps. In the first step, all variables are taken into consideration in the estimable model. In the second stage, the insignificant variables are dropped to avoid the problem of multi-collinearity and thus the variables are selected. However, after thorough analysis of the different combination of the explanatory variables, the present study includes the following macroeconomic indicators: total trade (TRADEGDP), research and development expenditure (R\&DGP), financial position (FIN. Position), exchange rate (EXR), foreign exchange reserves (RESERVESGP), and foreign direct investment (FDI), foreign direct investment growth rate (FDIG) and level of economic growth (GDPG). These macroeconomic indicators are considered as the pull factors of FDI inflows in the country. In other words, it is said that FDI inflows in India at aggregate level can be considered as the function of these said macroeconomic indicators. Thus, these macroeconomic indicators can be put in the following specifications:

MODEL-1

\[ FDI_t = a + b_1TRADEGDP_t + b_2RESGDP_t + b_3R\&DGDP_t + b_4FIN. Position_t + b_5EXR_t + e \ldots (4.1) \]

MODEL-2

\[ GDPG_t = a + b_1FDIG_t + e \ldots \ldots \ldots \ldots \ldots (4.2) \]

where,

FDI= Foreign Direct Investment
GDP = Gross Domestic Product
FIN. Position = Financial Position
TRADEGDP= Total Trade as percentage of GDP.
RESGDP= Foreign Exchange Reserves as percentage of GDP.
R\&DGDP= Research & development expenditure as percentage of GDP.
FIN. Position = Ratio of external debts to exports
EXR= Exchange rate
GDPG = level of Economic Growth
FDIG = Foreign Direct Investment Growth

t = time frame

6. Empirical Analysis of FDI in India

In order to assess the role of FDI on economic growth, two models were used. The estimation results of the two models are supported and further analysed by using the relevant
econometric techniques viz. Coefficient of determination, standard error, f-ratio, t-statistics, D-W Statistics etc. In the foreign direct investment model (Model-1, Table- 4.8), the main determinants of FDI inflows to India are assessed. The study identified the following macroeconomic variables: Trade GDP, R&DGDP, FIN. Position, EXR, and Reserves GDP as the main determinants of FDI inflows into India. And the relation of these variables with FDI is specified and analysed in equation 4.1. In order to study the role of FDI on Indian economy it is imperative to assess the trend pattern of all the variables used in the determinant analysis. It is observed that FDI inflows into India shows a steady trend in early nineties but shows a sharp increase after 2005, though it had fluctuated a bit in early 2000. However, Gross domestic product shows an increasing trend pattern since 1991-92 to 2007-08 (Table 4.2 and Chart - 4.2). Another variable i.e. trade GDP maintained a steady trend pattern upto 2001-02, after that it shows a continuous increasing pattern upto 2008-09. Reserves GDP, another explanatory variable shows low trend pattern upto 2000-01 but gained momentum after 2001-02 and shows an increasing trend. In addition to these trend patterns of the variables the study also used the multiple regression analysis to further explain the variations in FDI inflows into India due to the variations caused by these explanatory variables.

MODEL-1

Table 1

<table>
<thead>
<tr>
<th>FOREIGN DIRECT INVESTMENT MODEL</th>
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<tbody>
<tr>
<td>FDI = f [TRADEGDP, R&amp;DGDP, EXR, RESGDP, FIN, Position]</td>
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</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>t- Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>26.25</td>
<td>.126</td>
<td>207*</td>
</tr>
<tr>
<td>TradeGDP</td>
<td>11.79</td>
<td>7.9</td>
<td>1.5*</td>
</tr>
<tr>
<td>ReservesGDP</td>
<td>1.44</td>
<td>3.8</td>
<td>.41</td>
</tr>
<tr>
<td>Exchange rate</td>
<td>7.06</td>
<td>9.9</td>
<td>.72**</td>
</tr>
<tr>
<td>Financial health</td>
<td>15.2</td>
<td>35</td>
<td>.45</td>
</tr>
<tr>
<td>R&amp;DGDP</td>
<td>-582.14</td>
<td>704</td>
<td>.83**</td>
</tr>
</tbody>
</table>

R² = 0.623   Adjusted R²= 0.466
D-W Statistic = .98, F-ratio = 7.74

Note: * = Significant at 0.25, 0.10 levels; ** = Significant at 0.25 level.

In Foreign Direct Investment Model (Table 4.8), it is found that all variables are statistically significant. Further the results of Foreign Direct Investment Model shows that Trade GDP, R&DGDP, Financial Position (FIN. Position), exchange rate (EXR), and Reserves GDP (RESGDP) are the important macroeconomic determinants of FDI inflows in India. The regression results of (Table 4.8) shows that Trade GDP, Reserves GDP, Financial Position, exchange rate are the pull factors for FDI inflows in the country whereas R&DGDP acts as the deterrent force in attracting FDI flows in the country. As the regression results reveal that R&DGDP exchange rate does not portray their respective predicted signs. However, R&DGDP shows the unexpected negative sign instead of positive sign and exchange rate shows positive sign instead of expected negative sign. In other words, all variables included in the foreign direct investment model shows their predicted signs (Table – 4.9) except the two variables (i.e. Exchange rate & R&DGDP) which deviate from their respective predicted signs. The reason for this deviation is due to the appreciation of Indian Rupee in the international market and low expenditure on R&D activities in the activities in the country.
It is observed from the results that the elasticity coefficient between FDI & Trade GDP is 11.79 which implies that one percent increase in Trade GDP causes 11.79 percentage increase in FDI inflows in India. The Trade GDP shows that the predicted positive sign. Hence, Trade GDP positively influences the flow of FDI into India. Further, it is seen from the analysis that another important promotive factor of FDI inflows to the country is Reserves GDP. The positive sign of Reserves GDP is in accordance with the predicted sign. The elasticity coefficient between Reserve GDP and FDI inflows is 1.44. It implies that one percent increase in Reserve GDP causes 1.44 percentage increases in FDI inflows into India. The other factor which shows the predicted positive sign is FIN. Position (financial position). The elasticity coefficient between financial position and FDI is 15.2 % which shows that one percent increase in financial position causes 15.2 percent of FDI inflows to the country. India prefers FDI inflows in export led strategy in boosting its exports.

Further, the analysis shows that the trend pattern of external debt to exports (i.e. FIN. Position) has been decreasing continuously since 1991-92, indicating towards a strong economy. This positive indication is a good fortune to the Indian economy as it helps in attracting foreign investors to the country.

One remarkable fact observed from the regression results reveal that R&DGDP shows a negative relationship with FDI inflows into India. The results show that the elasticity coefficient between FDI and R&D GDP is -582.14. This implies that a percentage increase in R&D GDP causes nearly 582 percent reductions in the FDI inflows. This may be attributed to the low level of R&D activities in the country. This is also attributed to the high interest rate in the country and also investments in Brownfield projects are more as compared to investments in Greenfield projects. India requires more knowledge cities, Special Economic Zones (SEZs), Economic Processing Zones (EPZs), Industrial clusters, IT Parks, Highways, R&D hubs etc. so government must attract Greenfield investment. Another variable which shows the negative relationship with FDI is exchange rate. The elasticity coefficient between FDI and Exchange rate is 7.06 which show that one percent increase in exchange rate leads to a reduction of 7.06 percentage of FDI inflows to the country. The exchange rate shows a positive sign as expected of negative sign. Conventionally, it is assumed that exchange rate is the negative determinant of FDI inflows. This positive impact of exchange rate on the FDI inflows could be attributed to the appreciation of the Indian rupee against US Dollar. This appreciation in the value of Rupee helped the foreign firms in many ways. Firstly, it helped the foreign firms in acquiring the firm specific assets cheaply. Secondly, it helped the foreign firms in reducing the cost of firm specific assets (this is particularly done in case of Brownfield projects). Thirdly, it ensures the foreign firm higher profit in the long run (as the value of the assets in appreciated Indian currency also appreciates). The results of foreign Direct Investment Model also facilitates in adjudging the relative importance of the determinants of FDI inflows from the absolute value of their elasticity coefficients. In this regard it is observed from the regression results of Table - 4.8 that among the positive determinants, FDI inflows into India are more elastic to FIN. Position than to Trade GDP and Reserves GDP. It is also observable that FDI inflows are more sensitive to R&DGDP than to exchange rate as the elasticity coefficient between FDI and exchange rate is least, whereas the elasticity coefficient between FDI and R&D GDP is more. Further, to decide the suitability and relevancy of the model results the study also relies on other econometric techniques. The coefficient of determination i.e. R-squared shows that the model has a good fit, as 62% of foreign direct investment is being explained by the variables included in the model. In order to take care of autocorrelation problem, the Durbin – Watson (D-W statistics) test is used. The D-W Statistic is
found to be 98 which confirms that there is no autocorrelation problem in the analysis. Further the value of adjusted R-
square and F-ratio also confirms that the model used is a good statistical fit.

**MODEL-2**

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**Table 3**

In the Economic Growth Model (Table – 4.10), estimated coefficient on foreign direct investment has a positive relationship with Gross Domestic Product growth (GDPG). It is revealed from the analysis that FDI is a significant factor influencing the level of economic growth in India. The coefficient of determination, i.e. the value of $R^2$ explains 95.6% level of economic growth by foreign direct investment in India. The F-statistics value also explains the significant relationship between the level of economic growth and FDI inflows in India. D-W statistic value is found 1.0128 which confirms that there is no autocorrelation problem in the analysis. Thus, the findings of the economic growth model show that FDI is a vital and significant factor influencing the level of growth in India.

**7. Conclusion**

Capital investment either by indigenous or foreign capital seems to be a powerful catalyst to spur the investment climate in agricultural retailing, due to the current scenario of inefficient supply chain, lack of proper storage facilities and presence of multi-level intermediaries between farmers and direct consumers. Huge investment in marketing infrastructure is required to protect the agricultural sector which is not forthcoming from the Government sector. FDI-driven “modern retailing” being a direct interface between farmers and retailers trigger a series of reactions which in the long run can improve supply chain and transport sector of the rural agronomy of West Bengal and other states in India.

The policy of allowing 100% FDI in single brand retail can benefit both the foreign retailer and the Indian partner – foreign players get local market knowledge, while Indian companies can access global best management practices, designs and technological knowhow. By partially opening this sector, the government can reduce the pressure from its trading partners in bilateral and multilateral negotiations and can demonstrate India’s intentions in liberalising this sector in a phased manner.

Permitting foreign investment in agricultural retailing is likely to ensure adequate flow of capital into rural economy in a manner likely to promote the welfare of all sections of society, particularly farmers and consumers. It will bring about improvements in farmer income and agricultural growth and assist in lowering consumer price inflation.

Apart from this, by allowing FDI in retail trade, India will significantly flourish in terms of quality standards and consumer expectations, since the inflow of FDI in retail sector is bound to pull up the quality standards and cost competitiveness of Indian farmers. It, therefore, seems that FDI in agricultural retailing has the potential of sustaining agricultural growth... It is to be noted that the Indian Council of Research in International Economic Relations (ICRIER), a premier economic think tank of the country, which was appointed to look into the impact of BIG capital in the retail sector, has projected the worth of Indian retail sector to reach $496 billion by 2011-12 and ICRIER has also come to conclusion that investment of ‘big’ money (large corporate and FDI) in the retail sector will not harm interests of small and traditional retailers.

In light of the above, it can be safely concluded that allowing healthy FDI in the retail sector will not only lead to a
substantial surge in the country’s GDP and overall economic development, but will inter alia also help in integrating the Indian agricultural retail market with that of the global retail market in addition to providing higher profit margin to Indian farmers which the unorganized sector has undoubtedly failed to provide.

FDI in agricultural retailing must be dealt cautiously as it has direct impact on a large chunk of population. Left alone foreign capital will seek ways through which it can only multiply itself, and unthinking application of capital for profit, given our peculiar socio-economic conditions, may spell doom and deepen the gap between the rich and the poor. Thus the proliferation of foreign capital into agricultural retailing needs to be anchored in such a way that it results in a win-win situation for India. This can be done by integrating into the rules and regulations for FD retailing certain inbuilt safety valves. To ensure that the foreign investors make a genuine contribution to the development of infrastructure and logistics, it can be stipulated that a percentage of FDI should be spent towards building up of back end infrastructure, logistics or agro processing units. Reconstituting the poverty stricken and stagnating rural sphere into a forward moving and prosperous rural sphere can be one of the justifications for introducing FDI in agricultural retailing but the government should put in place an exclusive regulatory framework. It will ensure that the retailing giants do resort to predatory pricing or acquire monopolistic tendencies.

7.1 Overall Findings of the Study
The main findings of the study are as under:

7.2 Trends and Patterns of FDI Flows at World Level:
- It is seen from the analysis that large amount of FDI flows are confined to the developed economies. But there is a marked increase in the FDI inflows to developing economies from 1997 onwards. Developing economies fetch a good share of 40 percent of the world FDI inflows in 1997 as compared to 26 percent in 1980s.
- Among developing nations, Asian countries received maximum share (16%) of FDI inflows as compared to other emerging developing countries of Latin America (8.7%) and Africa (2%).
- India’s share in World FDI rose to 1.3% in 2007 as compared to 0.7% in 1996. This can be attributed to the economic reform process of the country for the last eighteen years.
- China is the most attractive destination and the major recipient of global FDI inflows among emerging nations. India is at 5th position among the major emerging destinations of global FDI inflows. The other preferred destinations apart from China and above to India are Brazil, Mexico and Russia. It is found that FDI inflows to India have increased from 11% in 1990-99 to 69% in 2000-2007.

7.3 Trends and Patterns of FDI Flows at Asian Level
- India, with a share of nearly 75% emerged as a major recipient of global FDI inflows in South Asia region in 2007.
- As far as South, East and South – East block is concerned India is at 3rd place with a share of 9.2% while China is at number one position with a share of 33% in 2007. Other major economies of this block are Singapore, South Korea, Malaysia, Thailand and Philippines.
- While comparing the share of FDI inflows of China and India during this decade (i.e. 2000-2007) it is found that India’s share is barely 2.8 percent while china’s share is 21.7 percent.

7.3 Trends and Patterns of FDI Flows at Indian Level
- Although India’s share in global FDI has increased considerably, but the pace of FDI inflows has been slower than China, Singapore, Brazil, and Russia.
- Due to the continued economic liberalization since 1991, India has seen a decade of 7 plus percent of economic growth. Infact, India’s economy has been growing more than 9 percent for three consecutive years since 2006 which makes the country a prominent performer among global economies. At present India is the 4th largest and 2nd fastest growing economy in the world. It is the 11th largest economy in terms of industrial output and has the 3rd largest pool of scientific and technical manpower.
- India has considerably decreased its fiscal deficit from 4.5 percent in 2003-04 to 2.7 percent in 2007-08 and revenue deficit from 3.6 percent to 1.1 percent in 2007-08.
- There has been a generous flow of FDI in India since 1991 and its overall direction also remained the same over the years irrespective of the ruling party.
- India has received increased NRI’s deposits and commercial borrowings largely because of its rate of economic growth and stability in the political environment of the country.
- Economic reform process since 1991 have paved way for increasing foreign exchange reserves to US$ 251985 millions as against US$ 9220 millions in 1991-92.
- During the period under study it is found that India’s GDP crossed one trillion dollar mark in 2007. Its domestic saving ratio to GDP also increases from 29.8 percent in 2004-05 to 37 percent in 2007-08.
- An analysis of last eighteen years of trends in FDI inflows in India shows that initially the inflows were low but there is a sharp rise in investment flows from 2005 onwards.
- It is observed that India received FDI inflows of Rs.492302 crore during 2000-2010 as compared to Rs. 84806 crore during 1991-1999. India received a cumulative FDI flow of Rs. 577108 crore during 1991 to march 2010.
- A comparative analysis of FDI approvals and inflows reveals that there is a huge gap between the amount of FDI approved and its realization into actual disbursements. A difference of almost 40 percent is observed between investment committed and actual inflows during the year 2005-06.
- It is observed that major FDI inflows in India are concluded through automatic route and acquisition of existing shares route than through FIPB, SIA route during 1991-2008.
- In order to have a generous flow of FDI, India has maintained Double Tax Avoidance Agreements (DTAA)
7.4 Trends and Patterns of FDI Flows at Sectoral Level of Indian Economy

Infrastructure Sector: Infrastructure sector received 28.6 percent of total FDI inflows from 2000 to 2008. Initially, the inflows were low but there is a sharp rise in FDI inflows from 2005 onwards. Among the subsectors of Infrastructure sector, telecommunications received the highest percentage (8 percent) of FDI inflows. Other major subsectors of infrastructure sectors are construction activities (6.15 percent), real estate (5.78 percent) and power (3.16 percent).

Mauritius (with 56.3 percent) and Singapore (with 8.54 percent) are the two major investors in this sector. In India highest percentage of FDI inflows for infrastructure sector is with New Delhi (23.2 percent) and Mumbai (20.47 percent). Infrastructure sector received a total of 2528 numbers of foreign collaborations in India. Out of 2528 numbers of foreign collaborations 633 were technical and 2795 were financial collaborations, which involves an equity participation of US$ 1111.0 bn. The top five Indian companies which received FDI inflows in Infrastructure sector during 2000 to 2008 are IDEA, Cellule Ltd., Bhaik Infotel P. Ltd., Dabhol power Company Ltd., and Aircel Ltd.

Services sector: In recent years Services sector puts the economy on a proper gliding path by contributing 55 percent to GDP. There is a continuously increasing trend of FDI inflows in services sector with a steep rise in the inflows from 2005 onwards. Services sector received an investment of 19.2 bn from 1991 to 2008. Among the subsectors of services sector, financial services attract 10.2 percent of total FDI inflows followed by banking services (2.22 percent), insurance (1.6 percent) and non-financial services (1.62 percent). In India, Mumbai (with 33.77 percent) and Delhi (with 16 percent) are the two most attractive locations which receives heavy investment in services sector. It is found that among the major investing countries in India Mauritius tops the chart by investing 42.5 percent in services sector followed by U.K (14.66 percent) and Singapore (11.18 percent). During 1991 to Dec 2008 services sector received 1626 numbers of foreign collaborations, out of which 77 are technical and 1549 are financial in nature.

Trading sector: Trading sector received 1.67 percent of the total FDI inflows from 1991-2008. The sector shows a trailing pattern upto 2005 but there is an exponential rise in inflows from 2006 onwards. Trading sector received 1130 (1111 numbers of financial collaborations and 20 numbers of technical collaborations) numbers of foreign collaborations during 1991-2008. Major investment in this sector came from Mauritius (24.69 percent), Japan (14.81 percent) and Cayman Island (14.6 percent) respectively during 2000-2008. In India, Mumbai (40.76 percent), Bangalore (15.97 percent) and New Delhi (12.05 percent) are the top three cities which have received highest investment in trading sector upto Dec. 2008. Trading of wholesale cash and carry constitute highest percentage (84 percent of total FDI inflows to trading sector) among the subsectors of trading sector.
Consultancy Sector: Consultancy sector received 1.14% of total FDI inflows during 2000 to 2008. Among the subsectors of consultancy sector management services received highest amount of FDI inflows apart from marketing and design and engineering services. Mauritius invest heavily (37%) in the consultancy sector. In India Mumbai received heavy investment in the consultancy sector. Consultancy sector shows a continuous increasing trend of FDI inflows from 2005 onwards.

Education sector: Education sector attracts foreign investors in the present decade and received a whopping 308.28 million of FDI inflows during 2004-2008. It registered a steep rise in FDI inflows from 2005. Mauritius remains top on the chart of investing countries investing in education sector. Bangalore received highest percentage of 80.14% of FDI inflows in India.

Housing and Real Estate Sector: Housing and Real Estate sector received 5.78% of total FDI inflows in India upto 2008. Major investment (61.96%) in this sector came from Mauritius. New Delhi and Mumbai are the two top cities which received highest percentage of (34.7% and 29.8%) FDI inflows. Housing sector shows an exponentially increasing trend after 2005.

Construction Activities Sector: Construction Activities sector received US$ 4.9 bn of the total FDI inflows. Mauritius is the major investment country in India. New Delhi and Mumbai are the most preferred locations for construction activities in India.

Automobile Sector: Earlier Automobile Industry was the part of transportation sector but it became an independent sector in 2000. During Jan 2000 to dec. 2008 this industry received an investment of US$ 3.2 bn which is 4.09 % of the total FDI inflows in the country. Japan (27.59%), Italy (14.66%) and USA (13.88%) are the prominent investors in this sector. In India Mumbai and New Delhi with 36.98 % and 26.63 percent of investment becomes favourite’s destination for this sector. Maximum numbers of technical collaborations in this sector are with Japan.

Computer Hardware and Software Sector: Computer Software and Hardware sector received an investment of US$ 8.9 bn during Jan 2000 to Dec. 2008. From 1991 to Dec. 1999 computer software and hardware was the part of electrical and electronics sector. However, it was segregated from electrical and electronics sector in 2000. This sector received heavy investment from Mauritius apart from USA and Singapore.

   • It is observed that major investment in the above sectors came from Mauritius and investments in these sectors in India are primarily concentrated in Mumbai and New Delhi.
   • Maximum numbers (3636) of foreign collaborations during 1991-2008 are concluded in the computer software and hardware sector.
   • It is found that maximum (i.e. 734) technical collaborations are concluded in automobile sector while computer software and hardware sector fetched maximum (3511) financial collaborations during 1991-2008.

7.5 FDI and Indian Economy

   • The results of Foreign Direct Investment Model shows that all variables included in the study are statistically significant. Except the two variables i.e. Exchange Rate and Research and Development expenditure (R&D/GDP) which deviates from their predicted signs. All other variables show the predicted signs.
   • Exchange rate shows positive sign instead of expected negative sign. This could be attributed to the appreciation of Indian Rupee in international market which helped the foreign firms to acquire the firm specific assets at cheap rates and gain higher profits.
   • Research and Development expenditure shows unexpected negative sign as of expected positive sign. This could be attributed to the fact that R&D sector is not receiving enough FDI as per its requirement. but this sector is gaining more attention in recent years.
   • Another important factor which influenced FDI inflows is the Trade GDP. It shows the expected positive sign. In other words, the elasticity coefficient between Trade GDP and FDI inflows is 11.79 percent which shows that one percent increase in Trade GDP causes 11.79 percent increase in FDI inflows to India.
   • The next important factor which shows the predicted positive sign is Reserves GDP. The elasticity coefficient between Reserves GDP and FDI inflows is 1.44 percent which means one percent increase in Reserves GDP causes an increase of 1.44 percent in the level of FDI inflows to the country.
   • Another important factor which shows the predicted positive sign is FIN. Position i.e. financial position. The elasticity coefficient between financial position and FDI inflows is 15.2 percent i.e. one percent increase in financial position causes 15.2 percent increase in the level of FDI inflows to the country.
   • In the Economic Growth Model, the variable GDP Growth (Gross Domestic Product Growth i.e. level of economic growth) which shows the market size of the host economy revealed that FDI is a vital and significant factor influencing the level of economic growth in India.

In a nutshell, despite troubles in the world economy, India continued to attract substantial amount of FDI inflows. India due to its flexible investment regimes and policies prove to be the horde for the foreign investors in finding the investment opportunities in the country.

8. Suggestions

   Thus, it is found that FDI as a strategic component of investment is needed by India for its sustained economic growth and development. FDI is necessary for creation of jobs, expansion of existing manufacturing industries and development of the new one. Indeed, it is also needed in the healthcare, education, R&D, infrastructure, retailing and in long term financial projects. So, the study recommends the following suggestions:

   • The study urges the policy makers to focus more on attracting diverse types of FDI.
The policy makers should design policies where foreign investment can be utilised as means of enhancing domestic production, savings, and exports; as medium of technological learning and technology diffusion and also in providing access to the external market.

It is suggested that the government should push for the speedy improvement of infrastructure sector’s requirements which are important for diversification of business activities.

Government should ensure the equitable distribution of FDI inflows among states.

The central government must give more freedom to states, so that they can attract FDI inflows at their own level. The government should also provide additional incentives to foreign investors to invest in states where the level of FDI inflows is quite low.

Government should open doors to foreign companies in the export – oriented services which could increase the demand of unskilled workers and low skilled services and also increases the wage level in these services.

Government must target at attracting specific types of FDI that are able to generate spillovers effects in the overall economy. This could be achieved by investing in human capital, R&D activities, environmental issues, dynamic products, productive capacity, infrastructure and sectors with high income elasticity of demand.

The government must promote policies which allow development process starts from within (i.e. through productive capacity and by absorptive capacity).

It is suggested that the government endeavour should be on the type and volume of FDI that will significantly boost domestic competitiveness, enhance skills, technological learning and invariably leading to both social and economic gains.

It is also suggested that the government must promote sustainable development through FDI by further strengthening of education, health and R&D system, political involvement of people and by ensuring personal security of the citizens.

Government must pay attention to the emerging Asian continent as the new economic power – house of business transaction and try to boost the trade within this region through bilateral, multilateral agreements and also concludes FTAs with the emerging economic Asian giants.

FDI should be guided so as to establish deeper linkages with the economy, which would stabilize the economy (e.g. improves the financial position, facilitates exports, stabilize the exchange rates, supplement domestic savings and foreign reserves, stimulates R&D activities and decrease interest rates and inflation etc.) and providing to investors a sound and reliable macroeconomic environment.

As the appreciation of Indian rupee in the international market is providing golden opportunity to the policy makers to attract more FDI in Greenfield projects as compared to Brownfield investment. So the government must invite Greenfield investments.

Finally, it is suggested that the policy makers should ensure optimum utilization of funds and timely implementation of projects. It is also observed that the realisation of approved FDI into actual disbursement is quite low. It is also suggested that the government while pursuing prudent policies must also exercise strict control over inefficient bureaucracy, red - tapism, and the rampant corruption, so that investor’s confidence can be maintained for attracting more FDI inflows to India. Last but not least, the study suggests that the government ensures FDI quality rather than its magnitude.

Indeed, India needs a business environment which is conducive to the needs of business. As foreign investors doesn’t look for fiscal concessions or special incentives but they are more of a mind in having access to a consolidated document that specified official procedures, rules and regulations, clearance, and opportunities in India. In fact, this can be achieved only if India implements its second-generation reforms in totality and in right direction. Then no doubt the third-generation economic reforms make India not only favourable FDI destination in the world but also set an example to the rest of the world by achieving what is predicted by Goldman Sachs23,24 (in 2003, 2007) that from 2007 to 2020, India’s GDP per capita in US$ terms will quadruple and the Indian economy will overtake France and Italy by 2020, Germany, UK and Russia by 2025, Japan by 2035 and US by 2043.

Reference

10. Chen Kun- Ming, Rau Hsiu–Hua and Lin Chia-Ching The impact of exchange rate movements on Foreign Direct