

Chapter 2

REVIEW OF LITERATURE

There is vast amount of literature available regarding determinants of FDI and its role in economic growth but very few studies have been done on the growth impact of FDI in Indian context. FDI influences economic growth through various channels. A few studies have found that FDI has positive impact on economic growth both directly as well as indirectly. The modern endogenous growth theory emphasizes the role of knowledge in economic development. FDI comes with modern technology and managerial skills can maximize benefit and minimize cost of production. It changes the business environment in the domestic market through spillover effects by increasing the level of competition. More FDI inflow gives better externalities with superior quality of technology and know-how. According to Blomstrom and Kokko, (1998), FDI's impact on growth is through demonstration effect, in which domestic firms get exposure from foreign firms' activities. The technological and management practices of foreign firms can be observed and copied by local firms to be utilized in their own operations. It increases the domestic firms' productivity. The local firms can learn by watching the foreign firms activities; however, automatic learning (through own process) takes more time to improve the skills leads to higher productivity. FDI also helps in overcoming shortage of capital in host country and complements the domestic investment (Noorzoy, 1979). Thus, an infusion of foreign investment does more than simply provide additional capital to the domestic firms, it is also accompanied by technological transfer which leads to the better performance of firm.

The second mechanism is through building linkages with domestic firms. When foreign firms build backward and forward linkages with domestic suppliers and distributors, knowledge from these firms can be transmitted to the suppliers and distributors, and ultimately the domestic firms using the same suppliers and distributors (Spencer, 2008).

Third, spillovers can occur through employees (Balasubramanyam et al., 1996). When employees from foreign firms take jobs in domestic firms or start his own firm, details about the foreign firms' technologies and management practices can diffuse to domestic firms, creating positive spillover effects. The fourth mechanism is that the increased competition that accompanies FDI entry can

force domestic firms to increase their productivity by updating manufacturing technologies and adopting advanced management practices to meet this competitive challenge (Blomstrom and Kokko, 1998). FDI spillovers involve a process in which domestic firms learn from foreign firm. Thus, FDI spillover effects also depend upon the role of domestic firms as the recipients of spillovers. While growth affect of FDI may differ according to its motive to access host market.

In contract to above discussion of favorable impact of FDI on domestic firms, some studies argued that FDI crowds out domestic investment and has adverse effect on growth (Haung, 1998, 2003, Braunstein and Epstein,2002). The substitution effects can also be possible when MNEs compete for limited investment opportunity in the host economy. In addition, FDI may disturb backward linkages through substitution of imports for domestic commodities (Noorzoy, 1979). The growth impact of FDI will be more effective if the host country focuses on quality of foreign investment rather than quantum of investment. As World Investment Report (2000) explained green field investment is more growth effective than FDI through M&A. Because the later one only changes the ownership which does not produce additional output.

In a theoretical discussion Sumner (2005) revealed that FDI is likely to be good for aggregate growth but its impact on growth of per-capita income and income distribution as well as local benefit is far from clear. This study also explored that since policies on FDI differ from country to country, the benefits in one country and one business environment might not be the same in different circumstance.

Thus, it would to more worthwhile to see the existence of FDI-growth relation across different economic environment. Based on the above theoretical literature several empirical studies have been conducted at micro as well as macro level. A summary of some important studies are presented below.

Some micro level studies have revealed that FDI inflow is more beneficial to the economic growth through manufacturing sector than other is. Rothgeb (1984) has made an attempt to reveal the effect of FDI on sectoral growth in third world states. The study employed GDP, FDI stock, FDI flow, Gross Domestic Fixed Capital Formation (GDFCF) and population growth obtained from U. S. Department of Commerce. The study revealed that FDI inflow disturbs growth in manufacturing sector in initial period but later it foster the growth. FDI inflow to manufacturing,

transportation and domestic trade promote growth in agriculture sector too. Moreover, impacts of FDI differ from country to country. Further Barrell and Pain (1997) employed Constant Elasticity of Substitution method to explore the growth impact of FDI in European countries. The variables such as sectoral output, sector wise FDI inflow, relative price, relative quality and R&D expenditure are employed for the period of 1971 to 1994. The result concluded that FDI can act as an important factors for diffusion of additional capital and new ideas in growth process of host countries. Hejazi and Pauly (2003) made an attempt to reveal the impact of FDI on domestic capital formation in Canada. The variables such as Gross Fixed Capital Formation (GFCF), FDI, R&D expenditures, Corporate Tax, price index for intermediate inputs sourced from World Investment Review are used in the study for the period of 1984 to 1995. The industry level data explored that growth of inward FDI can be misleading indicator for policy maker in Canada. In addition impact of FDI on GFCF depends on the underlining motivation for investment.

Patibandla and Sanyal (2000) examine the productivity effect of FDI at firm level in post reform period in India. The firm level study has been done for the period of 1989 to 1999. The study used variables like value added, value of plant and equipment, wage and salary, foreign equity, R&D expenditure, import of intermediary goods and capital goods share on total sales, export share on sales and firm size. The industries included in study are such as air conditioner, auto ancillaries, communication equipment, electronic process control, light commercial vehicles, motor cycles, motors and generators, passenger cars, refrigerators, tyres and tubes and washing machines. The OLS result revealed that there is no evidence of FDI effect on firm level productivity or R&D spending. It however finds that strong evidence that local firms benefit from foreign investment in their industries. But the spillover over effect depends on the size of the domestic firms. The larger firms are able to absorb the spillover more effectively than smaller firms are.

Again, OLS method has been employed by Alfaro (2003) to explore the sector wise impacts of FDI during 1981 to 1999. The variables included in the study are per-capita GDP growth rate, FDI, government spending, schooling, domestic investment, inflation and openness. These variables are collected from UNCTAD's World Investment Directory and World Bank Development Indicators. The cross section study for 47 countries revealed that FDI has negative impact on primary sector growth but positive effect on manufacturing sector. Further, this study has been strongly supported by Chakraborty and Nunnenkamp, (2007), who utilized Granger Causality and Panel Cointegration

to examine causal relationship between industry specific FDI and economic growth in India. The sector level study has been done for the period of 1987 to 2000 sourced from Annual Reports of Reserve Banks of India. . The cointegration relationship has been examined between output of primary, manufacturing and service sectors and FDI inflows to respective sectors. The result explored that the growth impact of FDI inflow on service sector is short-lived but with manufacturing sector has strong bi-directional relationship. Moreover, output growth in manufacturing sector attracts FDI inflows both in manufacturing and service sector.

Nair and Chandren (2006) employed Granger Causality and VECM model to examine relationship among FDI, manufacturing output and manufacturing export in Malaysia. The data on manufacturing value added output and manufacturing export obtained from Malaysian Economic Statistic of Department of Statistic Malaysia and data on FDI was obtained from the Malaysian Industrial Development Authority for the period 1970 to 2003. This study finds that there is a long run relationship between FDI, export and manufacturing output but no relation exist in the short run.

In a recent study, Wang (2009) examines impact of FDI inflow to manufacturing sector on economic growth in Asian economic. The study has been conducted for following Asian economies such as Bangladesh, Mainland China, Hong Kong, India, Indonesia, Korea, Malaysia, Pakistan, Philippines, Singapore, Thailand and Taiwan. The variables included in the study are GDP, overall FDI inflow, FDI inflow to manufacturing and non-manufacturing sectors, domestic investment and labor force; sourced from World Investment Directory, published by United Nations and World Economic outlook published by International Monetary Fund. Manufacturing FDI includes FDI in Food, Beverage and Tobacco, Textiles, Leather and Clothing, Chemicals and Rubber products, Nonmetallic Products and Basic Metal Products, Machinery and Equipment, Electrical Machinery and Apparatus, Motor Vehicles and Other Transportation Equipment and Other Manufacturing. Nonmanufacturing sector includes Agriculture and Mining, Construction, Finance, Other Service and Others. Estimation has been done by using random effects estimation, weighted least squares (WLS) controlling for heteroskedasticity and feasible generalized least squares (FGLS) panel regression. Study revealed that FDI in the manufacturing sector has a positive and significant impact on economic growth, but nonmanufacturing FDI does not contribute much to the host country's economic growth.

To examine the growth impact of FDI and its relationship with other macro variables, several macro level studies have been conducted. Balasubramanyam et al. (1996) attempted to examine the role of trade policy on growth impact of incoming FDI; hypothesis developed by Bhagwati (1978). The cross-country study utilized Generalized Instrumental Variable Estimator (GIVE) include 46 countries over the period of 1970 to 1985 on balance of payment, International Monetary Fund data. The variables used in the study are GDP in real terms, domestic investment share on GDP, FDI share on GDP and time to capture technical progress. The study revealed that foreign investment is more powerful driving force in growth process than is domestic investment. The trade policy plays an important role in linking FDI and economic growth. The growth impact of FDI is higher in export promoting countries than those following the policy of import substitution. Further, this study was strongly supported by Agrawal (2000), who examined the economic impact of FDI in south Asian region for the period of 1965 to 1996. The variables used in this study are GDP growth rate, domestic credit availability, net FDI flows, terms of trade, real exchange rate, net total foreign borrowing, real lending rate. The OLS estimation revealed that the impact of FDI is found to be negative prior to 1980, positive for mid 80s and strongly positive in late 80s and early 90s. Since most of the south Asian countries were following import substitution policy till early 1980s, FDI was unable to play an effective role in growth process of host country. Apart from this evidence, this study revealed that FDI could promote economic growth by creating employment opportunity in labor surplus economy and by improving technology and human capital and also have a positive impact on domestic investment.

Lee and Tech (2004) employed CES production function to find out the impact of FDI on economic growth and total factor productivity in the transition economies of Central and Eastern Europe, the Baltic State and the former USSR for the period of 1991-2000. They revealed that FDI contributes more to growth in comparison to domestic investment. The crowding – out effect of FDI on domestic investment is not clear in this study.

Vo and Batten (2004) employed JMM and Fixed Effect model with 79 countries for the period of 1980-2003 to reveal how far FDI support to the host country's economic growth. The variables chosen for this study are GDP per-capita, secondary school enrolment rate, domestic investment, FDI and population growth source from World Development Indicators, World Bank and International Financial Statistic, IMF. Study revealed that FDI is very much sensitive to social

variables like development of human capital. The trade openness and financial development also play major role in linking FDI and economic growth.

The growth impact of FDI may differ according to economic condition of a nation, to test this hypothesis, Olofsdotter (1998) considered both developed and developing. The OLS method has been employed for 50 countries panel data for the period of 180 to 1990. The variables collected from World Investment Directory by United Nations and World Investment Report by UNCTAD are GDP growth, domestic investment, FDI, openness and human capital. The result revealed that FDI has positive impact on economic growth. The beneficiary effect of FDI is quite stronger under the higher level of institutional capability. They also find an interesting result that openness and human capital development reduce the growth impact of FDI. This is because the rate of technical imitation does not depend on degree of trade openness. Moreover, in findings negative impacts of educational attainment on growth rate of output, he supported Pritchett (1996) argument that schooling although raising private wages may not in fact raise cognitive skill.

Borensztein et al (1998) investigates the importance of FDI in economic growth of host nation and its interaction with human capital and domestic investment. The Seemingly Unrelated Regression (SUR) technique has been employed for 69 developing countries for the period of 1970 to 1989. The variables are GDP per-capita, schooling, government consumption, FDI, investment rate used in the study. These variables are obtained from balance of payment and international financial system from IMF. This study explored that higher human capital stock can support the growth effect of FDI positively. The crowd out effect of FDI on domestic investment does not affect the productivity of FDI. The growth impact of FDI is not by complementing to domestic investment is through technology diffusion.

Kumar and Pradhan (2002) utilized fixed effect model to examine the growth effect of FDI and domestic investment. The data on growth rate of GDP, gross investment rate, FDI, human skill stock and labor force are collected from World Bank's World Development Indicators. The cross country study for the period of 1980-1999 revealed that FDI's relation with domestic investment is ambiguous. In case of some countries, the relationship is positive while in case of others including India it is found to be negative. The effect of FDI on growth through domestic investment is largely depends on quality and nature of FDI. MNCs entry through acquisition of domestic investment is likely to generate less favorable externalities for domestic investment than green

field investment. It may be recalled here that this study found a contradictory result with Agrawal (2000), who found crowding-in effect of FDI in South Asian region.

Mileva (2010) made an attempt to examine whether growth impact of FDI is through domestic investment. The cross-country study based on 22 transition countries, for the period of 1995 to 2005 employed Generalized Methods of Movement (JMM) on the variables like domestic investment, foreign resource flows (included FDI, equity and portfolio) share on PPP GDP and PPP exchange rate. Data are mainly collected from Global Development Finance database and World Development Indicators provided by the World Bank. Study shows a strong evidence of positive and long run impact of FDI on domestic investment. One dollar FDI inflow results in 0.74 percent increase in domestic capital formation. Moreover, Greenfield investment is more effective on crowding in domestic investment.

Alfaro et al (2003) conducted a cross country study consisting of 20 OECD and 51 non- OECD countries for the period of 1975-95. The Ordinary Least Square (OLS) method was employed to examine the role of local financial development in establishing the link between FDI and economic growth. Better financial market allows the agents to take advantage from FDI spill over. The variables used in the study are GDP, FDI, financial market, schooling, government consumption, black market premium and inflation for which data were obtained from balance of payment, IMF and World Development Indicators, World Bank. The 'financial market development' has been measured by four indicators such as liquidity liability, commercial central bank assets, private sector credit and bank credit. The result explored that poor financial development may compress the growth effect of FDI.

Hermans and Lensink (2007) attempted to find out the role of financial system in linking FDI and economic development. The panel estimation for 67 LDCs countries over the period of 1970 to 95 utilized per-capita GDP, FDI share on GDP, private sector bank loan to GDP ratio, domestic investment and secondary enrolment ratio sourced from balance of payment, IMF was carried out. The study revealed that the development of financial system of recipient country is an important precondition for FDI to have a positive impact on economic growth. A country having well developed financial system will positively contribute to the technical diffusion associated with FDI. Moreover, this study revealed that the growth impact of FDI depends on the circumstances in the host countries.

Durham (2002) conducted a panel study for 62 non-OECD and 21 high-income countries over the period of 1984 to 1998 to examine their absorptive capacity of FDI and its impact on economic growth. The OLS method has been employed to the impact on GDP growth rate of FDI inflow, equity foreign portfolio investment, education and trade openness. This result found that FDI has a positive effect on growth that increase in magnitude with the development of the stock market. A country having financially sound can more effective to absorb FDI than other.

Sylwester (2005) employed Three Stage Least Square (3SLS) to examine growth impact of FDI in 29 Least Developed Countries (LDCs) over the period of 1970 to 1990. The variables used in the study are GDP growth rate, population growth rate, FDI and inequality index which are collected from World Investment Report, World Bank. The study revealed that FDI has positive impact on economic growth.

Lensink and Morrissey (2001) made an attempt to study the impact of FDI on economic growth and also whether FDI volatility disturbs economic growth. The cross-country study employed OLS estimation to the data for 88 countries including both developed and developing for the period of 1975 to 97. The study used per capita growth of GDP, FDI, secondary school enrolment rate, black market premium and government consumption; collected from the major sources like IMF balance of payment and World Development Report, United Nation Conference on Trade and Development (UNCTAD). The estimation results revealed that FDI has positive impact on economic growth but volatility in FDI flows has adverse impact on economic growth.

Carkovic and Levine (2002) attempted to examine how far FDI accelerates economic growth. OLS method has been utilized to the data group of 72 countries for the period of 1960 to 1995. The variables included in the study are per-capita GDP, FDI share on GDP, average year schooling, inflation, openness, black market premium, financial development and government size sourced from World Development Indicators, World Bank and World Economic Output, IMF. This study found that FDI encourages technology transfers that in turn accelerate economic growth. Moreover, FDI inflow does not exert an independent influence on economic growth. Thus, sound economic policy may spur both growth and FDI.

To make the FDI-growth relation more transparent, Chakraborty and Basu (2002) made a time series analysis employing granger causality and VECM model in India during 1974-1996. The

variables such as FDI, GDP, import duties and Unit Labor Cost (ULC) collected from Development Indicators, the World Bank has been considered. Their study revealed that GDP causes FDI but not vice-versa. The share of import duty in the tax revenue as a measure of trade openness was revealed to be insignificant in determining either FDI inflow or GDP. The dummy variable as a proxy for the FDI liberalization in 1992 was found to be statistically significant. The econometric analysis suggests that FDI has long run impact on economic growth but not in short run. Moreover, short run increase in FDI flows for India is labor displacing. Because technology transfer brought in by FDI caused excess supply of labor creating downward pressure on labor cost.

However Bhat et al. (2004) employed Granger causality test to explore the casual nexus between foreign direct investment and economic growth in India. The Granger causality test employed on Index of Industrial Production (used as a proxy for GDP) and FDI for the period 1992 to 2002 sourced from Hand Book of Statistic on Indian Economy, Reserve Bank of India. The results revealed no causal relation between economic growth and foreign direct investment in India This may be because of higher transaction cost, lack of educated labor, lack of full integration of capital and financial market and lack of stability of Indian currency. They also suggested going further liberalization of FDI and much emphasis should be given for outward oriented trade policies.

Campos and Kinoshita (2001) employed granger causality and fixed effect method to identify the determinants of growth for transition countries. . This study utilized GDP, FDI share in GDP, Domestic Investment share in GDP, Human Resources, openness, government size, black market premium, private credit; which are collected from World Bank data set during the period of 1990 to 1998. This study concluded that FDI is an important factors in driving economic growth but it requires minimum level of human capital. Nevertheless FDI's influence on growth is more effective if the country adopts export promotion policy than policy of import substitution.

A time series analysis has been conducted by Ramirez (2006) in Chile to explore the linkages among FDI inflow, GDP and domestic investment. Vector Error Correction Granger Causality and Block Erogeneity test and OLS methods have been employed using the variables like GDP, FDI, domestic investment, real exchange rate and the ratio of debt service payment to export of goods and services variables. The data for the period of 1960 to 2001 has been collected from various

issues of Instituto Nacional de Estadística, OECD economic Surveys and Banco Central de Chile's Memorial Annual. The analysis shows that the causal link between DI and GDP is strong but the impact of GDP on FDI is minimal. Moreover, Chile's GDP and domestic investment do not have much effect on FDI. DI has greater impact on growth than FDI. The shock in GDP has more moderate impact on domestic investment.

Tang et al (2008) made an attempt to explain the importance of FDI in economic growth and whether it complements with domestic investment in China. Granger Causality and VECM are employed to quarterly data of FDI, GDP and domestic investment for the period of 1987 to 2004. Monthly gross industrial output has been compiled to construct quarterly GDP figures. All the variables are sourced from China Statistical Year Book. The empirical analysis revealed that FDI not only assists in overcoming shortage of capital, it has also stimulated economic growth through complementing domestic investment. The study is suggestive of encouraging FDI to invest in high-risk areas or in resource based industries where domestic investment is limited.

3.1 Conclusion

The above literature does not give any inconclusive evidence about the relationship between FDI and economic growth. But the studies give immense role to the variables like FDI, domestic investment, human capital and trade openness as determinants of economic growth. It also gives a contradictory result on relationship of FDI with economic growth and domestic investment. However, most of the cross-country studies employed OLS method to identify the determinants of economic growth while because of identification problem this method is inappropriate. Moreover, since the policies on FDI differ from country to country, therefore, it will be wrong to conduct a cross-country study. Therefore, this study utilizes ECM to study the growth impact of FDI and relationship between FDI domestic investment in India. However, some studies like Alfaro (2003), Durham (2002) and Hermans and Lensink (2007) revealed that FDI can promote growth only if finance development is facilitated. Therefore, it leads to an important question, whether FDI needs to be propelled by financial development to promote growth. Chakravorty and Basu (2002) utilized imports duty share in total tax as proxy for openness. But problem with this proxy is, if import duty changes keeping import constant or with same imports duty change in import will be earn same thing. Again import duty differ from product to product and country to country.

Therefore, trade volume ratio to GDP will be better than import duty share on total tax as a proxy for openness.