

# Chapter 2

## Review of Literature

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The present review of literature is dealing with the causal relationship between FDI and macroeconomic variables. Numerous empirical studies have been conducted to investigate whether FDI inflow is influenced by macroeconomic variables. The overall evidence is best characterized as mixed, as the results are regarding to the importance of labour costs, openness, investment climate, countries considered and fiscal incentives. Merely any study found that dealt with causal relationship between FDI and macroeconomic variables. Most of the studies are going on the effect of FDI on output, determinants of FDI, FDI and stock market etc. Review of literature is first supervisor which help to frame the research and generate ideas about the methodology to work on different variables. This chapter is divided into theoretical background of FDI, international studies and national studies. There are some efforts of review articles.

### 2.0 Review of literature

#### 2.0.1 Theoretical background of Foreign Direct Investment

In the recent past, there is much literature showing that FDI can have positive effects on growth in the host country. Most of the literature consists of endogenous growth models that try to rectify the shortcomings of the traditional framework of growth.

**Theory comparative advantage:** David Ricardo developed the classical theory comparative advantage in 1817. It was assumed that factors of production are fully mobile within a nation but immobile between countries<sup>i</sup>.

**Neoclassical theory:** This assumption carries over to the **Heckscher-Ohlin** model and most other theories of trade. Heckscher-Ohlin model introduced by Samuelson in 1941 explain the mobility of investment from countries with low marginal productivity of capital to the

countries with high marginal productivity of capital. It makes comparative advantage into an international theory, for without it regional comparative advantages within a nation would determine domestic trade in the same manner as foreign trade.

**Eclectic Theory:** Casson<sup>ii</sup> and Buckley<sup>iii</sup> theory of internalization was extended theoretically and refined empirically before being further extended by John Dunning<sup>iv</sup> in eclectic theory of international production, with its distinction between ownership and internalization advantages and its third element of location advantages, has become an integrating statement for the field of international business. It is, of course, a parallel approach to MNE theory; there is no major intellectual distinction between these two branches of the Reading School. Location theory suggest that the spatial allocation of plants and subsidiaries is determined by the costs of factor inputs in various regions, together with the transport costs involved in linking the production process with the firm's marketing strategy.

**General Theory:** Alan M. Rugman<sup>v</sup> faced criticism levelled against his statement that internalization theory is a 'general theory' of foreign direct investment<sup>vi</sup>. However, it was more useful to view these debates as where the protagonists agree on 90 percent of the issues but like to debate the other 10 percent so that dialectic will push forward the frontier knowledge. Now international business is reaching a mature stage, with a high degree of consensus, but debates about the origins of internalization theory remain of interest to scholars in the field.

**Theory of diversification:** Stephen Hymer first demonstrated in his 1960 doctoral dissertation<sup>vii</sup>, advantages can be one or more of several types: scale economies, managerial expertise, a technological or knowledge advantage, monopoly, product differentiation and financial strength, where this includes the benefits of international diversification<sup>viii</sup>. Hymer also used a transaction costs framework.

Different models of growth as well as endogenous growth models provide the basis for most of the empirical work on the FDI-growth relationship<sup>ix</sup>. The relationship has been studied by explaining four main channels<sup>x</sup>: determinants of growth<sup>xi</sup>, determinant of FDI<sup>xii</sup>, role of multinational firms in host country, and ‘direction of causality between the two variables’<sup>xiii</sup>. Limited growth theory accredits to FDI, the endogenous growth literature points out that, FDI can not only contribute to economic growth through capital formation and technology transfer but also do so through the augmentation of level of knowledge through labour training and skill acquisition. FDI is an important source of capital. It complements domestic private investment, and is usually associated with new job opportunities and enhancement of technology transfer and spill-over, human capital enhancement, and boosts overall economic growth in host countries<sup>xiv</sup>.

The most conclusive theoretical justification of FDI is provided by Dunning’s Ownership, Location and Internationalization frame work. This elegant framework incorporates the necessary and sufficient condition for FDI and suggests that at any given point of time presence of ownership advantage, location advantages, and internationalization advantages, are essential for undertaking FDI. Following Ownership, Location and Internationalization, three basic conditions need to be satisfied for FDI. Thus the framework group determinants of FDI into supply side(ownership and internationalization) and demand side (location specific features).

A macroeconomic analysis of the effect of international capital movement or foreign investment was initiated by G.D.A. MacDougall<sup>xv</sup> and subsequently elaborated by Murray C. Kemp. This has opened a route towards a macroeconomic approach to the problem. When capital moves freely between the countries of the world, marginal productivities of capital are equalized internationally; efficiency in the use of world resources improves; the output of the world increases, thus augmenting welfare of individual countries. Assume a world composed

of an investing country and a host country. Before international capital movement takes place, the marginal productivity of capital in the investing country is lower than that of the host country since capital is relatively abundant in the former. The law of diminishing marginal productivity is assumed for capital.

Neoclassical models of growth and endogenous growth models provide the basis for most of the empirical work on the FDI and growth relationship. This relationship has been studied by four ways. First, determinants of growth; second, determinants of FDI; third, role of multinational firms in host countries and last is the direction of causality between the two variables (Chowdhury and Mavrotas 2005). There are a wide variations lies among the countries with respect to the nature and availability of data, which make a cross-country comparison a risky business. Moreover, the policy towards FDI differs from country to country. Therefore, it needs a systematic time series analysis of individual country. The main objective of this study is to investigate the relationship between inflow of FDI and selected macroeconomic variables in India, using yearly time series observation. For the purpose the annual observations from 1990 to 2012 has been chosen to reveal the relationship between macroeconomic variables and FDI inflow.

## **2.0.2 Review of literature of international studies**

Calvo Guillermo A. et al. (1993) discussed the principal facts, developments and policies that characterize the episode from 1985 to 1994 of capital inflow to Asia and Latin America. Tabulation and average methods has been used to discuss the causes of capital inflow on macroeconomic. They also suggested many policy implication and policy management frames for capital inflow. They also highlighted the Mexican balance of payment crisis of 1994. Capital inflow channeled to accumulation of foreign exchange reserve. Countries such as Brazil and Chile which had more modest current account deficits, recorded surpluses prior to the surge in inflows. Current account has usually involved both an increase in national

investment and a fall in national saving. Investment ratios rose in most of these countries between 1990 and 1994, while the rate of saving declined in half of the countries considered.

Chung Chenet al.(1995) evaluated the policy of China toward foreign direct investment during the period from 1979 to 1993. They reviewed the different variables i.e. foreign loans, FDI, domestic saving, domestic investment, and the volume, sources, geographic distribution and composition of FDI were analyzed. Tabulation form of time series in percent method and regression analysis was used by authors. To investigate the contribution of FDI to Chin's rapid economic growth, it was necessary to analyze the behaviour and association among FDI , GNP and domestic investment. Annual data for 1968-1990 could be employed to conduct the analysis. Time series plots of those three variables indicate that all three series exhibit a clear increasing trend with respect to time. They found the presence of a positive relationship between foreign direct investment and economic growth although a much stronger positive relationship exists between domestic saving and growth. No evidence was found to support the critical view that FDI may have a negative effect on domestic saving. FDI shot up the inflation rate and external debt were in mild form beginning to period of this study.

Borensztein E.et al. (1997) tested the effect of foreign direct investment on economic growth. Secondary data collected from industrial counties to 69 developing countries over the period from 1979 to 1990. The results of study indicated that FDI has a positive overall effect on economic growth. The cross country regression also shown that FDI exerted a positive, though not strong, effect on domestic investment, presumably because the attraction of complementary activities dominates the displacement of domestic competitors. This is the indirect effect of FDI on macro environment. The most robust finding of that paper was that the effect of FDI on economic growth was dependent on the level of human capital available in the host country. They also found some evidence of a crowding in effect, namely that FDI was complementary to domestic investment.

Goldberg L. and Kelin M. (1998) presented the findings on the linkages among foreign direct investment, trade flows and the real exchange rate, between developing countries and the United State and Japan. Time series data from 1978 to 1993-1994 was used in the regression consists of a cross section panel of annual data. Foreign direct investment by Japan and the United States to the East Asian countries significantly affected by bilateral real exchange rates. Trade between the countries United States and Japan significantly affected by foreign direct investment.

Mello Luiz R.de (1999) estimated the impact of foreign direct investment on capital accumulation, and output and total factor productivity growth in the recipient economy. Time series and panel data evidence were provided for a sample from OECD and non-OECD countries for the period 1970-90. Augmented Dickey-Fuller test and co-integration test were used to fulfill the objectives, and concluded that the FDI leads growth and has long run relationship in the recipient economy via technological upgrading and spillovers. It shown that the extent to which FDI was growth enhancing depend on degree of complementarities and substitution between FDI and domestic investment. In developing country FDI found as a complementary of domestic investment.

Riccardo Faini et al. (1999) suggested that the growth of multinational production cannot account for the fall in manufacturing employment, at least in Italy. They estimated the elasticity's of labour demand with respect to wage using a panel of 14 Italian manufacturing industries. They also computed the linear correlation coefficients and the Spearman's rank correlation coefficients between the estimated elasticity and a few measures of multinational involvement and international integration. In the first stage, they used data for the period 1985-1995 to estimate a panel of 14 labour demand equations, one for each manufacturing sectors. They also used the simple error correction specification and regresses the change in labour quantities on real wages and on a measure of sectorial value added. The coefficient of

correlation has indeed the expected positive sign. The Spearman's rank correlation coefficient has higher and more significant when they measure globalization with the share of employees in foreign affiliates rather than with the degree of trade openness. Outward foreign direct investment has grown substantially in the 1990s. Their conclusion also found that the twin findings, Italy imports jobs through trade and exports them through foreign direct investments. The first fact mostly reflects the stance of macroeconomic policies, while the latter depends on basic factors such as comparative advantage and competitiveness.

Urmas Varblane, et al. (2000) examined the role of FDI in job creation and job preservation as well as their role in changing the structure of employment. Their analyses refer to Czech Republic, Hungary, Slovakia and Estonia from the period 1990 to 1998. Per capita FDI, share, central tendencies and correlation method were used to examine the objectives. They conclude that the FDI in employment creation had been most successful in Hungary and than in Estonia. Yet, FDI operate as complement rather than as substitute in employment generation. The bigger diversity of types of FDI was more favourable for the host economy, There was higher likelihood that it will lead to more diverse types of spillovers and skill transfers. This was important effects of the structure of FDI on employment in host economy.

Kevin Honglin Zhang (2001) investigated causality between FDI and economic growth for eleven developing countries of East Asia and Latin America. Data sourced from IMF, UNCTAD and World Investment Directory for different time period, i.e. 1960-97, 1980-97, 1987-97 and 1966-96. The study was based on econometrics and estimation method that has been developed fairly. Estimation work of the co-integration tests show that the long run FDI-GDP links exists for five countries. The results of estimated models for the five countries indicated that FDI and GDP in two countries have some non significant results and unidirectional causality was found for the other three countries. Six countries without FDI-GDP co-integration links, the conventional Granger causality test was conducted, which exist

in one case, unidirectional causal effects were found for the remaining five countries. Major finding of this study was that patterns of FDI-growth links display significant difference between East Asia and Latin America, and the difference probably reflect the enormous cross national diversity in economic structures.

Elizabeth Asiedu (2002) explored whether factors that affect Foreign Direct Investment in developing countries affect countries in sub Saharan Africa differently. He also shed light on ways via which policy makers in Sub Saharan Africa can attract FDI. He started to analyse by determining the variables that were relevant in explaining the variation in FDI and GDP. He used ordinary least square for all the estimation for the panel and cross section data. Variables were averaged over the ten year period, 1988-97 for panel regression and averaged over three sub periods, 1988-90, 1991-93, 1994-97 for cross section regression. The results indicated that the factors that drive FDI to developing countries had a different impact on FDI to Sub Saharan Africa. Infrastructure development and higher return on capital promote FDI to non Sub Saharan Africa countries but not to Sub Saharan Africa countries. Openness also promote FDI, means trade liberalization will generate more FDI in non Sub Saharan Africa countries than Sub Saharan Africa countries.

Jong Il Choe (2003) examined in "Do Foreign Direct Investment and Gross Domestic Investment Promote Economic Growth?" the causal relationship between economic growth and FDI and GDI in 80 countries over the period 1971 to 1995. Data are taken from the World Bank's World Development Indicators. The variables are PGDPG, FDIY and INVY i.e. annual growth rate of per capita GDP at Market Prices based on constant, ratio of FDI inflows to GDP and INVY is the GDI share in GDP respectively. These variables are constructed using the arithmetic averages over the periods 1971-75, 1975-79, 1979-83, 1983-87, 1987-91 and 1991-95. The reason for such five-years periods was to dilute cyclical influences and to maximize the number of sub periods. Some additional variables are



calculated for openness, growth of labour force and stability of the macro economy with the help of standard deviation of percentage change in the GDP deflator. Conclusion of his study shown the effects are more apparent from growth to FDI than the FDI to growth. Finding suggests that the strong relationship between growth and FDI or GDI might have been caused by rapid economic growth leading to high FDI inflows or GDI rates.

David Deok et al. (2003) investigated empirical evidence on the relationship between inward foreign direct investment (FDI), economic growth and domestic investment in Korea. The study period is 1985-1999. They employed a vector autoregression model and the innovations accounting techniques, and explore dynamic interactions between inward FDI, domestic investment and output. They found that FDI has positive effects on economic growth, but its effects seem to be insignificant. On the other hand, economic growth was found to have statistically significant and highly persistent effects on the future of FDI. Although FDI is exogenous contemporaneously, they found that FDI shows strong endogeneity to domestic macroeconomic conditions, which has not been uncovered in previous works. Their finding does not support that the view, FDI crowds out domestic investment.

Choong Chee-Keong, et al. (2004) estimated the links between FDI and economic growth by including the development of the domestic financial sector. Data of three developed countries and selected Asian countries were taken from 1965s to 2000, employed unit root, co-integration, VAR and Granger Causality test. The results of the study found bidirectional causality between FDI and economic growth directly, but rather through their dynamic interaction with the development of the domestic financial sector. The results prove that the presence of FDI inflows creates a positive technological diffusion in the long run. The short run causality depicts the similar behavior of FDI on economic growth across countries.

Akinlo A.Enisan (2004) investigated the impact of Foreign Direct Investment on economic growth in Nigeria. Secondary data period was taken from 1970 to 2001 and sourced from IMF, WB, Central Bank of Nigeria and African Development bank. Time series techniques i.e. unit root test, co-integration and ECM, were used to investigate. Variable were real output, private capital stock, stock of foreign investment, human capital, labour force, real export, budget balance, government consumption, and ratio of M2/GDP as proxy of financial development. ECM extracted that both private and foreign capital had not a statistically significant effect, on the economic growth. The results shown the argument that extractive FDI might not be growth enhancing as much as manufacturing FDI. Export has shown a positive and statistically significant effect on growth. Financial development has significant negative effect on growth, which might be due to high capital inflow. The result also suggested that the extractive FDI especially oil might not be growth enhancing as much as manufacturing.

Salehizadeh, Mehdi (2005) analyzed the contribution of FDI inflow in US. Study period over the year from 1980 to 2003. U.S. as recipient attracted more inflows of foreign direct investment (FDI) than any other economy. The study examined different categories of macro variables. Employment and wage measures of the US affiliates of foreign firms were analyzed. Their results shown a rising share of the American labour force as being employed by these affiliates, and that FDI inflows favour high-wage industries and sectors. Second, regression was estimated confirm the existence of a positive and significant relationship between FDI and US economic growth rates. The study founds as domestic savings lacking and running ever-rising current account deficits, it was imperative for the U.S. to continue to attract foreign capital, especially FDI.

Xiaoying Li and et al.(2005) investigated whether Foreign Direct Investment affects economic growth. They used Panel data of 84 countries over the period 1970-99. They used

the growth equation, augmented regression test to check the endogeneity and unit root test to investigate the effect on FDI and Growth by different macro variables. The results of study depicts that the endogeneity between FDI and economic growth exist for the period 1985 to 1999. This study concluded that there were a strong complementary connection between FDI and economic growth in both developed and developing countries. There were a strong positive interaction effect of FDI with human capital and strong negative interaction effect of FDI with technology gap on economic growth in developing countries.

Fernando Seabra and Lisandra Flach (2005) investigated the nature of causal relationship between FDI and Profit remittance in Brazil. All the data sourced from the Brazilian Central Bank for the period 1979q1 to 2003q4. FDI and Profit remittance causal relationship investigate employed the method of unit root, Johansen co-integration and Toda-Yamamoto granger causality test. The result of the study found an indicated unidirectional causality from FDI to Profit outflows.

Chowdhury Abdur and et al. (2005) focused on the causal relationship between FDI and economic growth. They used the data period 1969-2000 for three developing countries i.e. Chile, Malaysia and Thailand. Each country has a different history of macroeconomic, policy regimes and growth patterns, thus they made a group for a comparative analysis. Toda-Yamamoto test for causality was used to study the direction of causality between the two variables. Data on FDI were taken from the World Bank and IMF. Data on GDP were taken from the various issues of the International Financial Statistics published by the IMF. Their empirical findings were that it was GDP that causes FDI in Chile and not vice versa. There was evidence of a bi-directional causality between GDP and FDI in Malaysia and Thailand.

Shan Jordan (2006) investigated statistical relationship between macro-variables and income inequality in China and the degree of causality terms over the period 1955-98. The data

sources were; China Statistical Yearbook, Market Statistical Yearbook of China and China Trade Union Statistical Yearbook. At first ensured stationarity of the log values than VAR model was estimated on macro variables such as money supply, FDI, unemployment, inflation, export and fiscal spending, using annual data in real terms. Export and FDI were important elements influencing income disparity in China. Causal relationships between external variables i.e. export and FDI and income disparity were weak and marginally significant. Means, export and FDI does not increase income disparity.

Sahoo Pravakar (2006) examined the impact of FDI on economic growth, domestic investment and export in South Asian countries during the period of the study was 1970 to 2003 for the variables , GDP, FDI as percent of GDP, gross domestic capital formation, labour force, real export, literacy rate, total trade and openness, and infrastructure indicator included, (the period of the study was 1975 to 2003). Annual secondary data was taken from World Bank. Regression method was used to check the impact of FDI on macro variables. A panel regression equation estimated with all relevant potential determinants of growth. Granger Causality test was performed to check the causal relationship. The study found that FDI has a significantly positive impact on growth for four south asian countries which support the hypothesis that FDI was more beneficial for the export-led growth economies of South Asia. Co-integration revealed that FDI and all its potential determinants have a long run equilibrium relationship. The study found that the market size, labour force growth, infrastructure and trade openness as an important determinants of FDI.

Jonathan E. Haskel et al. (2007) estimated their objective, the productivity spill overs from FDI to domestic firms. They used a plant-level panel covering U.K. manufacturing from 1973 to 1992. Consistent with spillovers, they estimated a robust and significantly positive correlation between a domestic plant's TFP and the foreign-affiliate share of activity in that plant's industry. Typical estimates suggested that a 10-percentage-point increase in foreign

presence in a U.K. industry raises the TFP of that industry's domestic plants by about 0.5%. Their estimates also to calculate the per-job value of these spillovers.

Jason Kiat (2007) investigated emerging market of South African. This country is considered to be one of the most attractive investment destinations, with an abundance of natural resources, a sophisticated financial market and a relatively stable political environment. Linear regression analysis was employed on economic data which collected from 1981 to 2007 for 30 countries, to determine the relationship between FDI inflow, economic growth, exchange rate and inflation. The research found that FDI inflows economic growth, but the reverse is inconclusive. This study also found that the Inflation has negative impact on FDI inflow and the effect of exchange rate was debated.

Huizhong Li et al. (2007) started from the contradiction between China's sustained growth in foreign direct investment (FDI) net inflow and deterioration of the terms of trade. This paper analyzed the characteristics of FDI sectoral structure since the 1990 to 2005. This paper gives a concrete analysis of the influence mechanism and concludes that the flowing of FDI into labour-intensive export sectors caused the deterioration of China's terms of trade. The study found that the terms of trade needs direct FDI inflow into capital- and technology-intensive sectors and service sectors to improve their terms of trade.

Tang Sumei, et al. (2008) investigated the relationship among Foreign Direct Investment, Domestic Investment and Gross Domestic Investment in China during the period from 1988 to 2003. They used the multivariate VAR system with the error correction model and time series techniques of co-integration and Granger causality test to investigate. The study concludes that the FDI plays an important role in complementing domestic investment in China; Economic growth spurs large domestic investment and vice versa; causal links between GDI and Domestic Investment was bi-directional; and unidirectional causality from FDI to Domestic Investment and FDI to GDP.

Hazel Parcon(2008) analyzed the labour market flexibility,(measured by labour market standards and regulations), that effect the FDI inflows in two way. First, FDI inflows through the cost channel which decrease the FDI inflow. Second, FDI inflow has been strengthening the productivity channel. The sample area of this study has Japan and US for manufacturing and non-manufacturing sector. That study was also used the market flexibility indexes constructed by the World Bank from a survey of business people in over 150 countries. The study found a non linear relationship between different indicators of labour market flexibility and FDI inflows revealed that of labour market standards and regulations may be attractive for foreign investors. The study concluded, that the foreign investment to and from different countries and in different sectors are affected differently by different aspects of labour market standards and regulations.

Samuel Adams (2009) examined the effect of FDI on domestic investment to examine whether FDI crowds in or crowds out domestic investment over the period from 1990 to 2003 with panel data set for 42 Sub Saharan Africa countries. Regression analysis was employed to examine the effect of FDI on the variable Stock of human capital, openness of the economy, gross domestic investment, consumption, inflation rate, political risk and geographical location. The results of the study foundthat the contemporaneous FDI has negatively correlated with economic growth and lagged form of FDI has positively correlated with economic growth; domestic investment has positive and significantly correlated with economic growth; FDI was negative and significantly correlated with domestic investment and positively correlated in lagged form.

James B. Ang (2009) examined the relationship between FDI and growth as well as financial development and growth in Malaysia over the period 1965 to 2004. Log form of the variables was used with the five dummy variables to estimate the oil crises, global recession, Asian financial crises and the world trade recession. Principal component method was used as the

weights to construct the financial development index with econometrics methods. This study found that the FDI and output are positively related in the long-run. Financial development exerted a positive influence on output. Causality test found the bidirectional relationship between FDI and output growth.

Sayek Selin (2009) analyzed the Multinational Enterprises are able to shift investment between home and host countries to minimize the negative effects of changes in the macroeconomic environment. This study formalized a model that allows studying this investment –smoothing behavior of Multinational Enterprises facing inflation taxes in both the home and the host country. The study results suggested FDI has been used as a hedging tool, mitigating the effect of inflation taxes even if there are no formal hedging mechanisms. The investment-smoothing reaction of MNEs depends on the reason for investment, the financing sources of FDI, and substitutability between factors of production. This research concluded that the investment-smoothing possibility (FDI) reduces the real negative effects of inflation.

Muhammad Shahzad Iqbal, et al. (2010) investigated the causality relationship between Foreign Direct Investment, International Trade and Economic growth in Pakistan over the period 1988 to 2005. Data sourced from Pakistan's Statistical Yearbook of General Statistics Office. Unit Root test, Co-integration test and Granger Causality test in VECM were used to fulfil objective of their paper. Bidirectional causality was found between FDI and GDP, FDI and EXPORT, GDP and EXPORT, and IMPORT and EXPORT. This study concludes that FDI invested in Pakistan was attracted by its economic growth and its foreign trade strategy. FDI and trade were two important factors that enhance the affect of economic growth in Pakistan.

Arshad Muhammad (2012) studied the long run relationship among foreign direct investment , trade and economic growth for Pakistan over the period of 1965 to 2005. The results of the study indicate that trade significantly affect the inflow of FDI while relationship of FDI with GDP remains insignificant. Further the study found no significant relationship between export and FDI as well as in the FDI and Domestic investment.

Faiza Saleem et al. (2013) investigated the impact on Foreign Direct Investment due to the growth and inflation in Pakistan over the period 1990 to 2011. In this paper three variables was used namely FDI, GDP and inflation. To examine the impact of FDI on growth and inflation time series data, regression was used. The study concludes that there is a positive relationship exists between foreign direct investment and inflation and there exist a negative relationship between gross domestic product and foreign direct investment.

Jansen W. Jos et al. (2014) investigated the relationship between FDI and business cycle synchronization in the period 1982 to 2011 for eight industrialized countries. Data on FDI stocks was taken from International Direct Investment Statistics database maintained by the OECD for different sample period on its website. Estimation work is done by the help of regression and correlation analysis. The empirical literature on business cycle synchronization had focused on two dimensions of international economic interdependence. The first, dimension is international trade in goods and services, including specialization patterns. The second is international trade in financial assets, such as equity and bonds, and linkages among banking sectors. This study found that FDI stocks had become an essential aspect of International economic interdependence and that FDI constitutes a separate channel through which economics may affect each other, even with some time lag. The study also found that more synchronized business cycles were associated with stronger FDI relations in the period 1995 to 2011.



### **2.0.3 Review of literature of national studies**

Dua Pami et al. (1998) investigated the relationship between economic activity and foreign direct investment in India. Economic theory suggested that FDI can have a positive effect on the economy. They examined the relationship between FDI and Output in the post liberalisation period in the framework of a vector autoregressive model and Granger causality test. Monthly data on FDI approvals were available from 1992 onward while that for actual flows were only available since 1994. The paper highlights the comparison between the approvals of FDI and actual flows. FDI approvals can be treated as capturing the 'expectations' or 'sentiment' of foreign investors since approvals do not materialise until these are translated into actual flows. FDI approvals to proxy FDI flows since monthly data on actual flows were available for shorter time period. Index of Industrial Production was used as proxy of economic activity. Empirical conclusion found that the FDI approvals and actual flows have responded to the level of economic activity measured by industrial output. The evidence was inconclusive regarding the response of industrial production to FDI flows. Causality tests and innovation accounting analysis suggested that economic activity has yet to respond to actual flows while FDI approvals do affect output.

Purbava Yudhi Sadewa,(2000) investigated that the depreciation of currency of one country increases foreign direct investment flows. Their study is based on an option pricing approach. FDI flows data from Japan into the US suggest that the FDI flows may decrease as the currency of the host country depreciates. He choose between domestic production which for export and production in the foreign country. They examined the effect of exchange rate on the mode of operation of the firms. They found that depreciation in the currency of the host country will raises FDI flows from foreign firms only if initially the firms are mainly exporting. After became multinationals, the depreciation in the currency of the host country may give different effect on the FDI flows. If the foreign firms have technological advantage,

the currency depreciation reduces FDI flows from the foreign country. However, when the foreign firms have technological disadvantage, they will increase their FDI.

Sharma Kishor (2000) examined whether or not FDI has made any significant contribution to India's export growth. He used the variables, Export in different forms, Real Effective Exchange Rate (REER), Indian export prices relative to domestic prices, Foreign Direct Investment, and Gross Domestic Product. Models specified estimated annual secondary data taken from 1970 to 1998. They applied the hausman's specification test which indicates simultaneity bias the two-stage least squares (2SLS) procedure. He found that the demand for Indian export increased when its export prices fall relatively another countries export price, the real appreciation of the rupee adversely affects India's exports. Export supply was positively related to the domestic relative price of exports and higher domestic demand reduces export supply. Foreign investment appears to have statistically non-significant impact on export performance although the coefficient of FDI has positive sign.

Kohli Renu (2001) analyzed the effect of capital flow on macroeconomic in India. Her study is based on secondary data from 1985 to 1999. The study was divided into two parts with pre reform and post reform period to check the effect of capital flow on macroeconomic. Inflow of capital is measured in form of direct investment and portfolio investment. Capital Account's components were also considered in form of NRI Deposits, External Assistance, Commercial Borrowings and Global Depository Receipts in her working paper. She found effects of capital inflows are exchange rate appreciation, monetary expansion, rise in bank lending if the flows are intermediated through banks and effects upon savings and investment. She also observed trend in the bilateral in rupee-dollar, real and nominal, effective exchange rates over three decades, NEER and REER are observed to be depreciating after 1985 and in 1993 the regime switch the nominal depreciation persists.

Balasubramanyam V N and Vidya Mahambare (2002) made an analytical review of India's needs and requirements, and India's potential for attracting large flows of FDI. Their paper was focused on post 1991 phase, efficacy of FDI was an effective mechanism and policy framework. Inflow of FDI increased appreciably during the nineties and FDI appears to have had an impact on growth, export and productive efficiency of Indian Industry. On the basis of review of vast literature there were those who argue that a lot more needs to be done and India should throw all doors wide open to FDI. FDI was a superb catalyst of growth and not an initiator, its efficacy in promoting development objectives was conditioned by the presence of co-operant factors in the host economies and it was most effective in countries which possess a threshold level of human capital.

Chakraborty Chandana & Parantap Basu (2002) has investigated the relationship among different variables. Three dummy variables have also been included in the study to capture the different episodes of liberalization attempted by the Indian economy over the past two decades. They used the sample period of the analysis, 1974 to 1996 is divided into three distinct phases, 1980-84, the period immediately before liberalization; 1987-89, the period with liberalization in trade; and 1992-96, the period of comprehensive liberalization. Two co-integration relationships were then estimated between the four variables. The econometric analysis of the net FDI flow model for India suggests that there were existed, for India, two long run relationships between FDI, real GDP, unit labour cost and import duty. Econometrics modelling has indicated the long run relationship were existed among FDI, GDP, unit labour cost and share of import duty in total tax revenue. However, in the short-run, FDI flows were largely explained by real GDP which defines the size of the domestic market in India.

Mody Ashok et al. (2004) examined the foreign capital flows-domestic investment relationship for 60 developing over the period 1979 to 1999. Data sourced from World

Development Indicators report and Global Development Finance report, and World Bank's Country Policy Institutional Assessment Index which based on 20 indicators. The study used the panel annually and three years average. Regression method indicated that, on average, each dollar of long-run flows raised domestic investment by 66 cents in sample of countries. Short-run impact of a dollar of long term flows was to raise investment by between 32 and 44 cents. Real interest was negatively associated with investment which was reported in their paper. Paper's theoretical analysis shown, Financial integration allows agents to optimize their investment portfolios, and that may not involve increasing domestic investment. Conclusion suggested that the stronger policy environments strengthened the inflows of FDI.

Seth A.K. et al. (2007) examined the macro-economic impact of capital flows into India. The variables identified in the study have been drawn on the basis of the transmission mechanism to see how capital flows are transmitted into the economic system from 1991 to 2005. Macro environment is examined by the Exchange rate, exports, imports CPI and WPI, Capital flows, interest rates, money supply, trade and reserves on time series data basis. Regression, Engle and Granger co-integration and Granger Causality test have been used to examine the macroeconomic impact of capital flow. On the basis of their results the study concludes that capital flows have had a significant impact on the macroeconomic environment in the India in the post liberalization period. Capital flows have emerged as a significant explanatory variable of almost all financial and real variables that have been examined.

Palit Amitendu and Shoukier Nawani (2007), their study investigated to explain the country-wise variations in the pattern of FDI flows to developing Asian economies by empirical identifying location specific features (demand side variables) influencing such flows. The study also attempts to study the main determinants of inward FDI into India. The specified variables and data sources for the 14 countries in their sample, they had obtained data on annual FDI inflows during the period 1993-2004 from the United Nations Conference

on Trade and Development (UNCTAD) database. Their objective was fulfilled on inward FDI flows into a given sample of countries over a fixed period of time. Conclusion of this paper about FDI in developing Asia was export-oriented for the sample period. FDI seek to exploit some particular assets of host locations for producing exports for third-country market. The paper also found that with production processes becoming increasingly complex and technology-intensive, developing countries like India, must devote greater attention to the development of R&D and frontier technologies, failing which, they might lose out in the race for FDI.

Keshava S.R. (2008), worked on “The effect of FDI on India and Chines Economy ; A comparative analysis” is the comparative analysis of China and India to check the effect of FDI on an economy. The reference period of his study started from 1981 to 2004. Macro-economic variables namely export, private final consumption expenditure, foreign exchange, GDI, GDS, trade balance and balance of payment were taken to analyse the impact of FDI. Some key factors were also used to analyse the effect of FDI namely Hard Key Factors and Soft Key Factors, which are necessary to use the proper FDI. Since 1990s China has been in front of the developing world and hence economic development. So India is still far behind China in becoming the attractive FDI destination, for the obvious reason such as power shortage, poor infrastructure, security consideration and absence of an exit policy etc.

Dasgupta Nandita (2009), examined the long run effect of international trade and investment related push factors-Indian exports, imports and FDI inflows on the outflows of FDI over the period 1970 to 2005. They analysed the possible economic association between export, import, FDI inflows and FDI outflows. They variables used are FDI flows as nominal FDI outflows deflated by nominal Gross Domestic Product level. Export, import and FDI inflows are defined as the corresponding nominal flows deflated by the nominal levels of GDP. The study found that the unidirectional Granger Causality from export and import to FDI outflows

but no causality exists from FDI inflows to the corresponding outflows from India. Their conclusion confirmed the assumption that lagged imports and exports are driving force to FDI outflows.

Vijaykumar N. et al. (2009) investigated the causal relationship between Foreign Direct Investment and Growth of BRICS countries. The different time dimension has been used in this study separately for each BRICS nation. The growth in this study has been measured in form of industrial productivity of the respective nations for the purpose of industrial productivity of India has been constructed. The causality has been measured by ADFTest, Johansen Co-integration test is used to check the existence of co-integration. Brazil alone co-integrated among the selected countries at level. Vector Error Correction Model employed to trace the existence of long run relationship. The result of the study state that the relationship between growth and FDI is bidirectional in Brazil, Russia and South Africa and FDI while it is unidirectionally in case of India and China.

Prasanna N. (2010) analyzed the impact of FDI on the export performance in India over the period of 1991 to 2007. Regression method was used to analyze the impact of FDI on export performance. Empirical finding concludes that the inward FDI has significantly contributed to better the export performance of India. Indian manufacturing did not contribute significantly in enhancing export performance during the same period. Impact of FDI inflows on export performance was significantly positive. The study also suggests that the policy regarding domestic efforts to enhance manufacturing exports needs reassessment in line with the FDI policy framework in order to reap maximum and long term benefits.

Jayachandran G. et al. (2010) investigated the causal relationship between Trade, Foreign Direct Investment and Economic Growth for India. Data on export, import, foreign trade deficit and FDI inflow were taken from Balance of Payment of India from 1970 to 2007.

Time series econometrics methods were used to investigate the causal relationship. The study found the unidirectional relationship among economic growth rate, FDI and Exports were. According to him FDI and export in India was one of the factors affecting economic growth.

Agrawal Rahul et al. (2013) investigated the impact of Capital Flow in terms of Foreign Direct Investment on Macroeconomic Variables in India. Foreign Direct Investment flows are very crucial for an economy as they have spill-over effects on other macroeconomic variables which are equally important for the growth of the economy. The objective of study was to investigate the impact of global capital flows on major macroeconomic variables i.e. GDP, Inflation, exchange rate, trade openness, and terms of trade. His study focused on quarterly data of India from 1948 to 2010. The study concludes that the GDP, Inflation, Export, Import, Exchange rate, openness and terms of trade that contribute to the explanation of FDI in India by the help of unit root tests, regression and granger causality Test. The most important finding of the study has been the statistically significant role of lagged GDP growth rate in determining the capital flows for the next year.

Rohits (2014) studied the comparison between the exports from India to the world and export from China to the world. The study attempts to assess the impact of selected Indian and Chinese macroeconomic variables on the exports. Firstly, macroeconomic variables which put an impact on exports from any county were selected i.e. Gross Domestic Product, Foreign Direct Investment Inflow, Exchange Rate, Per Capita Real Income and Inflation. Secondary data from 2000 to 2012 collected from the official website of World Trade Organisation. Principal component analysis was used to prepare economic model from selected independent macroeconomic variables. In all selected macroeconomic variables GDP per capita came out to be the most significant variables, which has positive relationship with the export. The study concludes that the Foreign Direct Investment inflows in India have significantly increased Chinese exports, reasons behind this phenomenon perhaps FDI

inflows in India are enhancing export led industrial growth of China. The study also highlight that the FDI inflows in China have shown positive but insignificant growth in Indian Export. Further, the results of study also suggests that the FDI inflow in India have shown negative and insignificant relationship with exports from India that means, India have contributed in the development of the export led industries. Therefore, India is trying to attract such FDI inflows in India which contributes in the development of export from India.

## **2.2 Details survey of empirical studies**

Many empirical contributions have tried to explain the relationship between FDI and growth.

A detailed literature survey on the FDI and Macro variables has been outlined in this section.



As it can be seen in the most of these studies, FDI has analysed with limited macroeconomic variables mostly with output.

**Table :2.1 Summery of articles**

Sr. No.	Author and Year	Form of Data/Period	Methods	Findings
1	Calvo Guillermo A., et al. (1993),	Corsss Section/ 1985 to 1994	Tabulation and Average	Capital inflow channeled to accumulation of foreign exchange reserve and increase national investment.
2	Chung Chen, et al. (1995)	Time series / 1979-1993	Share, Regression Analysis	a positive relationship between foreign direct investment and economic growth; stronger positive relationship exists between domestic saving and growth; FDI shot up the inflation rate and external debt were in mild form beginning to period.
3	Borensztein E., et al. (1997)	Cross Section Data/ 1979 to 1990	Regression	FDI has a positive overall effect on economic growth. FDI exerted a positive, though not strong, effect on domestic investment
4	Magnus Blomstrom et al. (1997)	Cross Section/1970-94	Regression	Employment was associated with Foreign production mainly among blue-collar workers (Manual Labour).
5	Dua Pami et al. , (1998)	Time Series/1992M to 1994M	VAR and Granger causality test	Causality test suggested that Economic activity has yet to respond to actual flows while FDI approvals do affect output.
6	Goldberg L. and Kelin M. (1998)	Cross section time series data/ 1978 to 1993-94	Regression Analysis	FDI significantly affected by real exchange rates

7	Riccardo Faini et al (1999)	Panel Data/ 1985-1995	Method of Elasticity, Correlation and Regression	Italy imports jobs through trade and exports them through foreign direct investments
8	Mello Luiz R.de (1999)	Time Series and Panel Data/ 1970-90	ADF, Co-integration	FDI found as a complementary of domestic investment
9	Urmas Varblane, et al. (2000)	Time series panel data/ 1990 to 1998	Central tendencies and correlation	FDI will lead to more diverse types of spillovers and skill transfers. This was important effects of the structure of FDI on employment in host economy.
10	Sharma Kishor (2000)	Time Series/1970 to 1998	Augmented Regression (Hausman 2SLS)	Foreign investment appears to have statistically no significant impact on export performance although the coefficient of FDI has Positive sign
11	Kohli Renu (2001)	Time Series/ 1985 to 1999	Trend and Correlation	Capital flows financed more investment than consumption. Current account deficit widened in correspondence with capital surge and capital flows are associated with real appreciation in India
12	Kevin Honglin Zhang (2001)	Time Series/ 1960-1997	Unit Root, Co-integration and Causality test	The long run FDI-GDP links exists with unidirectional and bidirectional relationship.
13	Chakraborty Chandana &et al. (2002)	Time Series/ 1974 to 1996	Johansen Co-integration and VECM	The long run relationship were existed among FDI, GDP, unit labour cost and share of import duty in total tax revenue. FDI flows were largely explained by real GDP
14	Balasubramanyam V N and et al. (2002)	Post 1991 Phase	Analytical Review	Inflow of FDI increased appreciable during the nineties and FDI appears to have had an impact on

				growth, export and productive efficiency of Indian Industry
15	Elizabeth Asiedu (2002)	Cross Section Data/ 1988-97	Regression and Average	Infrastructure development and higher return on capital promote FDI. Openness also promotes FDI.
16	David Deok et al. (2003)	Time Series/ 1985-1999	VAR and Granger Causality Test	FDI has some positive effects on economic growth. FDI shows strong dynamic endogeneity to domestic macroeconomic conditions. FDI does not crowd out domestic investment
17	Jong Il Choe (2003)	Panel Data / 1971 to 1995	Regression, VAR and Granger Causality tests	Strong relationship between growth and FDI or GDI might have been caused by rapid economic growth leading to high FDI inflows or GDI rates
18	David Deok-Ki Kim ,et al. (2003)	Time Series/ 1985 -1999	Unit Root, VAR and Causality Test	FDI has some positive effect on economic growth.FDI shows strong dynamic endogeneity to domestic macroeconomic conditions did not support that FDI crowds out Domestic Investment.
19	Akinlo A.Enisan (2004)	Time Series/1970-2001	Unit Root, Co-integration and ECM	FDI has a positive effect on growth after a considerable lag, Private capital has insignificant positive effect on growth.
20	Mody Ashok et al. (2004)	Panel Data/ 1979 to 1999	Average and Regression	Real interest was negatively associated with investment. Liberalization attracted new flows, foreign capital stimulated less domestic investment
21	Choong Chee-Keong, et al. (2004)	Time Series/ 1965 to 2000	Unit Root, Co-integration , VAR and Granger Causality Test	FDI and economic growth were not co-integrated by themselves directly, but rather through their dynamic interaction with the development of the domestic financial sector.

22	Xiaoying Li and et al.(2005)	Panel Data/1970-1999	Simultaneous equation, augmented regression , unit root	Endogeneity does not exist in whole sample period and exist from the mid-1980s. FDI and economic growth become significantly complementary to each other and form an increasingly relationship.
23	Fernando Seabra (2005)	Time Series/ 1979-2003	Unit Root, Johansen Co-integration, and Toda and Yamamoto Granger Causality test	Unidirectional causality from FDI to Profit outflows
24	Salehizadeh, Mehdi (2005)	Time Series/1980-2003	Regression	American labour force as being employed by these affiliates, and that FDI inflows favour high-wage industries and sectors. Positive and significant relationship between FDI and US economic growth
25	Chowdhury Abdur and et al. (2005)	Time Series / 1969 to 2000	Unit Root, Toda-Yamamoto Causality test	GDP that causes FDI in Chile and not vice versa. Malaysia and Thailand, there was a strong evidence of a bi-directional causality between GDP and FDI.
26	Shan Jordan (2006)	Time Series/ 1955-98	Unit Root and VAR Model	Causal relationships between external variables i.e. export and FDI and income disparity were weak and marginally significant
27	Sahoo Pravakar (2006)	Panel Data/ 1970 to 2003	Regression, VAR and Granger Causality.	FDI and all its potential determinants have a long run equilibrium relationship. FDI was more beneficial for the export-led growth economies of South Asia.
28	Seth A.K. et al. (2007)	Time Series/ 1991 to 2005	Regression, Engle Granger co-integration and Granger Causality Test	Capital flows have had a significant impact on the macroeconomic environment.
29	Palit Amitendu and et al (2007)	Panel Data/ 1993-2004	On the basis of Analysis the data from UNCTAD	FDI in developing Asia was export-oriented.

30	Huizhong Li et al. (2007)	Panel Data/1990-2005	Sectoral Mechanism and analysis of intensive	Flowing of FDI into labour-intensive export sectors caused the deterioration of China's terms of trade.
31	Jason Kiat (2007)	Time Series / 1981-2007	Regression	Inflation was a negative impact, while the effect of exchange rate was debated
32	Jonathan E. Haskel et al (2007)	Panel Data/ 1973 to 1992	Correlation and Regression	Estimated a robust and significantly positive correlation between a domestic plant's TFP and the foreign-affiliate share of activity in that plant's industry and Creates jobs.
33	Keshava S.R., (2008)	Time Series/ 1981 to 2004	Regression, Ration and Average	India was still far behind China in becoming the attractive FDI destination, for the obvious reason of macro variables such as power shortage, poor infrastructure, security consideration and absence of an exit policy etc
34	Tnag Sumei et al. (2008)	Time Series / 1978 to 2004	Cointegration , VAR and Granger Causality	Domestic investment was complimentary with FDI; Domestic Investment and Growth Positively Correlated
35	Hazel Parcon(2008)	Single point of Time	Regression	Non linear relationship between different indicators of labour market flexibility and FDI inflow
36	Ajaga Elias et al. (2008)	Panel Data/ 1977-2001	Unit Root, Co-integration, VAR and Granger Causality	Bidirectional causality exists for FDI stock and monetary outcome variables as well as for FDI related employment and overall employment situation.
37	Vijaykumar N. et al. (2009)	Time Series/ Different Period for different country (1992 to 2007)	Unit root, Johansen Co-integration and VECM	Growth leads FDI bi-directionally for Brazil, Russia and South Africa and FDI leads growth uni-directionally for India and China respectively
38	Dasgupta Nandita (2009)	Time Series/ 1970 to 2005	Stationary, co-integration and granger causality tests	Causality from export and import to FDI outflows but no such causality exists from FDI inflows to the

				corresponding outflows.
39	Sayek Selin (2009)	Formulation of a Model	Derivation of System Equation, Vertical FDI and Horizontal FDI	Suggest FDI was used as a hedging tool, mitigating the effect of inflation taxes. Investment-smoothing reaction of MNEs depends on the reason for investment, the financing sources of FDI, and substitutability between factors of production
40	James B. Ang (2009)	Time Series/ 1965 to 2004	Unit Root, Johansen Co-integration , VAR, VECM and Engle and Granger Causality test	Causality test found the bidirectional relationship between FDI and output growth. FDI and output are positively related in the long-run.
41	Samuel Adams, (2009)	Cross Section Data/ 1990-2003	Regression	Domestic investment was positive and significantly correlated with economic growth. FDI was negative and significantly correlated with domestic investment and positively correlated in lagged form.
42	Prasanna N., (2010)	Time Series/ 1991-2006	Regression Analysis	Inward FDI has significantly contributed to better the export performance.
43	Himachalapathy R. ,(2010)	Time Series/ 1991 to 2008	Regression	FDI evaluated in terms of Economic Indicators such as GDP, GDP growth rate, Import Trade, Export Trade and Trade Openness which are the determinants.
44	Muhammad Shahzad Iqbalet al. (2010)	Time Series/ 1988 to 2005	Unit Root , Co-integration, Granger Causality test and VECM	Bidirectional causality found between FDI and GDP, FDI and EXPORT, GDP and EXPORT, and IMPORT and EXPORT
45	Jayachandran G. et al. (2010)	Time Series/ 1970 to 2007	Unit Root, Co-integration and Granger Causality test.	Direction of the relationship between economic growth rate, FDI and Exports were not reciprocal causality relationship.
46	Arshad Muhammad	Time Series/	Co-integration,	GDP cause FDI, FDI

	(2012)	1965 to 2005	VAR and Granger Causality test	has not effected on domestic investment
47	Agrawal Rahul et al. (2013)	Time Series/ 1948 to 2010, Post 1991	Unit Root tests, Regression and Granger Causality Test	Statistically significant role of lagged GDP growth rate in determining the capital flows
48	Faiza Saleem et al (2013)	Time Series/1990 to 2011	Regression	Positive relationship exists between foreign direct investment and inflation and there exist a negative relationship between gross domestic product and foreign direct investment
49	Rohits (2014)	Time Series/2000 to 2012	Principal Component regression analysis	FDI inflows in China have shown positive. FDI inflows in India have shown negative and insignificant relationship with exports. India have contributed in the development of the export led industries
50	Jansen W. Jos et al. (2014)	Panel Data / 1982 to 2011	Regression and Correlation	Found that more synchronized business cycles were associated with stronger FDI relations in the period 1995 to 2011, but not before 1995

<sup>i</sup> Krugman, Paul (1996) “Ricardo’s Difficult Idea”, <http://web.mit.edu/krugman/www/ricardo.htm>

<sup>ii</sup> Casson M. (1976), *The Future of Multinational Enterprise*, Macmillan, London

<sup>iii</sup> Buckley P. (1983), *New Theories of International Business*, Mark Casson (ed.), *The Growth of International Business*, London: George Allen & Unwin.

<sup>iv</sup> Dunning (1977,1981, 1988)

<sup>v</sup> Alen M. Rugman (2001), “My Contribution to International Theory”, *Journal of International Business and Economy*, <http://www.i-jibe.org/achive/2001fall/1-Rugman.pdf>

<sup>vi</sup> Alen M. Rugman, *The Theory of Multinational Enterprises*, *The Selected Scientific Papers of Alen M. Rugman*, Volume-1, Edward, Elgar Publishing Limited.

<sup>vii</sup> Stephen H. Hymer(1976), “The International Operations of National Firms: A Study of Direct Foreign Investment”, Cambridge, MIT Press, 1976.

<sup>viii</sup> Alan M. Rugman (1979), “International Diversification and the Multinational Enterprise”, Lexington, D.C. Heath, 1979.

<sup>ix</sup> <http://repec-sda.sdstate.edu/repec/sda/pdf/CausallinksbetweentradeFDIandEG.pdf>

<sup>x</sup> Ozturk Ilhan (2007)

<sup>xi</sup> Mody and Murshid (2002)

<sup>xii</sup> Chakrabarti (2001)

<sup>xiii</sup> Chowdhury and Mavrotas (2005),

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<sup>xiv</sup> Kornecki Lucyna & Orodulin Vladislav B (2011)

<sup>xv</sup> MacDougall GDA (1960), "The Benefit and Costs of Private Investment from Abroad: A Theoretical Approach", *Economic Record*, Vol.36, PP. 13-35