CHAPTER 1

INTRODUCTION

1.1 Introduction and Motivation of Study

There are two major reasons for the growing interest in Foreign Direct Investment (FDI) in the last two decades of the 20th century. First, the influence of Trans National Corporation’s (TNCs) has been increasing over the last two decades. Second, the role of FDI as a source of capital and a major tool in the fight against poverty began to be emphasized due to the decline in official development aid. In the wake of current globalisation, FDI has become a topic high on the policy agenda in developing countries. Most developing countries have low saving rates and hence investment rates. Foreign direct investment is viewed as a major stimulus to economic growth in developing countries due its ability to deal with two major obstacles, namely, shortages of financial resources and technology and skills, and has thus made it the centre of attention for policy-makers in developing countries in particular (Ana Marr 1997). Governments in developing countries perceive FDI as a key source of economic development (UNCTAD 1998). Given the potential role FDI can play in accelerating growth and other benefits associated with it, many countries are taking steps to improve the principal determinants influencing the locational choices of foreign investors.

There have been enormous changes in the amounts and the pattern of capital flows to emerging economies in the 1980s and the 1990s compared with the 1960s and 1970s. Since financial crisis in Latin America in 1980’s and recently in Asia, the reliance of developing countries on FDI has increased. Out of the net long-term resource flows to developing countries, FDI initially constituted only a small portion in comparison to official/private debt flows. However, the situation has changed drastically in the 1990’s, debt flows have virtually stagnated while FDI has increased five-fold from US $ 36 billion in 1991 to US $ 178 billion in 2000. Today, FDI flows contribute more resources to the developing countries than the debt flows. Thus there has been a sea change in developing countries' perspective on, and attitude towards FDI. As against a highly suspicious attitude of developing countries towards inward FDI in the past, most
countries now regard FDI as beneficial for their development efforts. India, as part of the developing world, has not been immune to this change.

Realizing the important contribution that FDI can play in economic development, the Industrial Policy Resolution of 1991 ushered in many major changes to attract FDI in India. For more than three decades after independence, India maintained a selective approach towards FDI (Kidron, 1965; Goyal, 1979). The approach was governed by multiple objectives of self-reliance, protection of national industry and entrepreneurs, import of select technologies and export promotion. Upto 1980’s aid and loans from bilateral sources and multilateral agencies like IMF, ADB, IBRD were the main sources of funding for economic development in India. As a result, during the late 1980s India relied increasingly on borrowing from foreign sources. The problem of debt servicing, in the form of interest payment is the biggest problem with this type. Around 25 percent of export earnings are drained out in the form of debt servicing charges. Increased borrowing from foreign sources in the late 1980s, which helped fuel economic growth, led to pressure on the balance of payments and led to crisis in 1990. Since the decline in official assistance, both multilateral and bilateral, in the last two decades, it is clear that wooing FDI today for India is a highly competitive game. Today it is widely taken for granted that FDI will be the main, and indeed almost only, vehicle of foreign financing in developing countries for years to come. The UNCTAD’s (World Investment Report 2004) puts India among top 10 FDI destinations among developing economies and fourth among Asian nations in attracting FDI.

Reserve Bank of India’s Report on Currency and Finance (2003-04) maintained, “Direct Investment (FDI) contributes directly and indirectly in building national capabilities. FDI is considered the best complement to domestic investment to bridge the gap between the investment needs of the Country and its savings. FDI has long term and substantial developmental impact on the country’s economy. FDI helps transfer and upgrade technology; improves skills and managerial capabilities; provides competitive edge to country’s exports; improves efficiency and quality of services and goods; and helps create additional jobs”.

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India has successfully completed a decade of economic reforms during which the economy has been progressively liberalized and globalised. The Approach Paper to the Tenth Five Year Plan (2002-07) examines the feasibility of doubling per capita income over the next ten years assuming population growth continues its decline to 1.6 per cent per annum over the period. The Planning Commission estimates that this requires a GDP growth rate of around 8.7 per cent over the period and propose an indicative target of 8 per cent for 2002-07. Assuming an incremental capital output ratio (ICOR) of 4 achieved over the previous decade, to achieve an average annual GDP growth rate of 8 per cent requires the investment rate to average 32 per cent of GDP. The McKinsey Report (2001) estimates that India to grow at the same rate as China – around 10 per cent per annum – requires an investment rate of about 35 per cent of GDP. As the Planning Commission’s FDI Report (2002, p.67) observes ‘quite obviously, this calls for sourcing foreign savings to bridge the (domestic savings) gap’ (Planning Commission, 2002) Now, what does it take to achieve an 8 per cent rate of economic growth? It can happen only by stepping up investment. There must be an investment rate (gross capital formation upon GDP) of at least 30 percent. FDI is just one means to step up Investment. Thus foreign investment is, very important part of India’s development process because the country is short of financial resources in comparison to the total requirements for its development and growth. Domestic savings alone cannot execute the unfinished agenda of providing reliable infrastructure for the economy and meeting social sector imperatives such as increasing employment. Foreign funds also bring foreign technology, a necessary catalyst for higher exports. (Sandeep Dikshit, 2001). India’s rising population, debt and fiscal deficit are sustainable only if the economy grows by at least 8 percent annually. So India needs FDI, and India needs it now. The Indian planners have set up a target of FDI flows into the country at US$ 8 billion over the next five years.

Attracting FDI requires an investor friendly environment. The present study has been undertaken to identify the main socio-economic and political variables that influence FDI flows into India and states in particular. Liberalisation has reduced the degree of control exercised by the Centre in many areas leaving much greater scope for state level initiatives. This is almost true as far as attracting both domestic and foreign
investment is concerned. (Montek Singh Ahluwalia 2000). Thus the recent reforms undertaken by the government since 1991 and its continued efforts towards integration of the economy with the global market in the last decade has led to resurgence of interest in FDI. All these issues are significant for India. This context motivates the aim of this study.

This chapter has the following sequences. In the next section, meaning and measurement of FDI is discussed. The third section deals with various theories of FDI. Review of literature is undertaken in the fourth section. Objectives, Hypothesis, Data Sources and Methodology and Data Limitations are presented in fifth section. The chapter scheme is presented in the last section.

1.2 Concept of FDI

Economic growth is every country’s concern today, India being no exception to this. Pre-conditions of economic growth- savings, investment and capital formation on a large scale, improvements in production techniques, education, skill formation, spirit of enterprise, power, transport are all lacking even though they are endowed with abundant natural resources and surplus labour supply. This in fact is center theme of most of the economic theories and strategies of development. Most of the theories of capital accumulation believe in stepping up the rate of capital formation in a short period of time. Prof. Rosenstein Rodan (1961) in his theory of 'Big Push' has also emphasized that the philosophy of gradualism will not work in starting economic growth; the economy needs to be given a big push in the form of investment. According to Ragner Nurkse(1973), the vicious circle of poverty in developing countries can be broken through capital formation. A country can obtain capital from two sources, Internal or Domestic and External sources. Internal sources include – increase in national income, savings drives, establishment of financial institutions fiscal and monetary measures etc., taxation, public borrowings. External sources include FDI, Indirect Investments, known as Portfolio Investment, where foreign concerns/individuals subscribe to shares and debentures; NRI Investments and Foreign Aid or External Assistance in the form of international loans and grants. Among external sources, FDI has been soaring in recent years. One of the greatest advantages of FDI is that, it is not borrowed money, which has
to be paid back with interest. This foreign capital does not create BOP difficulties. Foreigners themselves invest voluntarily at their own risk, creating productive capacity. FDI does not come with strings attached to it. FDI, as the name implies goes directly to increase capital formation, which in turn increases productive capacity. These investments are made directly into various productive activities. The chief carriers or vehicle of FDI are Multi-national Corporations (MNC’s). These MNC’s as the name suggests operate or conduct business activities in various countries.

Definitions and measurement problems

The concept of FDI has undergone several changes over time, and the available definitions are not uniform. Historically, a certain threshold of equity acquired and the idea that the investor plans to exert a controlling influence are closely connected to the notion of FDI. The most common definition of FDI is related to the compilation Balance on Payment accounts and has been originally provided by IMF (1993) It is based on the ideas of lasting interest and influence on management. It defines as follows:

"Foreign direct investment reflects the objective of obtaining a lasting interest by a resident entity in one economy ("direct investor") in an entity resident in an economy other than that of the investor ("direct investment enterprise"). The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence on the management of the enterprise.

OECD(1996) recommend that “a direct investment enterprise be defined as an incorporated or unincorporated enterprise in which a foreigner owns 10 per cent or more of the ordinary shares or voting power of an incorporated enterprise or the equivalent of an unincorporated enterprise. ... An effective voice in the management, as evidenced by an ownership of at least 10 per cent, implies that the direct investor is able to influence, or participate in the management of an enterprise; it does not require absolute control by the foreign investor”.

The United Nations System of National Accounts (UNSNNA)(1993), focuses on the concept of control. It defines as follows- "Foreign Controlled enterprises include subsidiaries with more than 50 percent owned by a foreign parent. Associates of which
foreign ownership is 10-50 percent may be included or excluded by individual countries according to their qualitative assessment of foreign control."

In the United States, the US Department of Commerce refers to the IMF definition and the criterion of 10 percent participation.

WTO (1996) defines FDI as “Foreign Direct Investment occurs when an investor based in one country (home country) acquires an asset in another country (host country) with the intent to manage the asset.”

The major features of FDI that can be drawn from the above definitions are as follows:

One important characteristic of FDI is that the ownership control and management of business is in the hands of the foreign investors. FDI is real investment in factories, capital goods, where both capital and management are involved and the investors retain control over the invested capital. It involves both transfer of capital and transfer of management and know-how. The host country government does not interfere in the management. The foreign investors are the owners of the assets and they also control the activities that generate the income flows in the recipient country. In short, production, distribution and control is entirely in their hands. They are the sole owners of their property. Foreigners themselves invest voluntarily at their own risk, creating productive capacity. FDI flows involve not only financial capital, but also technological, managerial and intellectual capital to developing countries. Indirect Investment or Portfolio investment is more volatile than FDI because portfolio investors are normally more interested in quick financial returns on their investments whereas MNC’s are interested in longer-term profits from the production of goods and services. FDI flows can provide a relatively stable source of finance for less developed countries.

Benefits of FDI:

(i) Foreign investment typically results in increased domestic investment. FDI inflows tend to raise domestic fixed capital formation in the developing countries, by bridging Investment -Saving gap. FDI increases the ratio of investment to GDP. Capital inflows help ensure that foreign exchange will be available to purchase imports for investment.
(ii) Foreign firms bring superior technology. It can facilitate technological progress through its spillover effects in the form of research, new knowledge and human capital accumulation (i.e. learning by doing). In turn, FDI induces competition that encourages local firms to increase their research and development (R&D), leading to new innovations and increasing factor productivity.

(iii) Export-oriented FDI could play an important role in the process of export-led industrialisation in the developing countries. Affiliates of multinational enterprises have marketing channels in place, possess experience and expertise in the many complex facets of product development and international marketing, and are well placed to take advantage of inter-country differences in the cost of production.

iv) FDI could increase competition in the host-country industry, and hence force local firms to become more productive by adopting more efficient methods or by investing in human and physical capital.

v) Foreign Investment can create employment in the modern sectors of developing countries.

vi) Profits generated by FDI contribute to corporate tax revenues in the host country.

**Drawbacks of FDI:**

When foreign investment is competitive with home investment, profits in domestic industries fall, leading to fall in domestic savings. Continual outflow of profits is too large in many cases, putting pressure on foreign exchange reserves. There is a fear of foreign firms influencing political decisions. In fact, in many instances, the TNCs essentially control the government's policies and workers, raking in huge profits at the expense of the workers and local resources. (Laura DePaola, Alex Zukas, 2001)

**Revised Data on Foreign Direct Investment in India:**

It must be pointed out at the outset that India's FDI figures are underestimated because of the exclusion of certain components that are included by other countries, which go by the IMF's definition. Some of the principle components that India excludes from the IMF definition while estimating actual FDI inflows are: Reinvested earnings by foreign companies, Proceeds of foreign equity listings and foreign subordinated loans to
domestic subsidiaries as part of inter-company and overseas commercial borrowings by foreign direct investors. In an effort to bring the reporting system of FDI data in India into alignment with international best practices, a committee was constituted by the Department of Industrial Policy and Promotion (DIPP). The Committee submitted its Report in October 2002 recommending that the FDI statistics should include, besides equity capital, 'reinvested earnings' (retained earnings of FDI companies) and other direct capital' (inter-corporate debt transactions between related entities) in accordance with the international best practices. Against this background, RBI and DIPP jointly decided to expand the coverage of data on FDI, both inflow and outflow for 2000-01 and 2001-02.

1.3 Theories of Foreign Direct Investment

A number of theories and perspectives have been developed to explain the level and pattern of FDI or MNE activity since the late 1950s, when the topic started to receive scholarly attention. No complete elaborated theory on FDI exists even today, and the numerous existing theories provide only a partial picture of FDI. Immediately following World War II, foreign direct investments among industrialized nations initiated a rise in the scale and scope of international production. The theoretical explanation offered at that time was the neoclassical capital arbitrage theory of portfolio flows. Based on assumptions of perfect competition, absence of transaction costs, and perfect information the neoclassical theory explained international capital flows as responding to interest rate differentials. The places that offered the highest rates of return would attract the most capital. Pre- World War II attempts to analyse the phenomenon of FDI by using international capital theory failed because of apparent differences between portfolio and direct flows of capital. The neoclassical approach neglected to recognize the role of the MNC and market imperfections. Stephen Hymer (1971) was the first to see that foreign direct investment could not be coupled with portfolio investments. Hymer's seminal dissertation in 1960 is considered the landmark piece of literature in the field of FDI. According to Hymer, MNC thrive on market imperfections. Foreign firms face greater risks in making investments than do domestic firms. Different or unfamiliar laws, different languages and cultures, and possible discrimination add to the costs of firms investing abroad. Therefore, MNCs must have some advantage over competitors or other
reasons to invest directly in a foreign country like Economies of scale, cost or knowledge advantages, product differentiation, and credit access. Kindleberger (1969) slightly modifies Hymer’s analysis. Instead of MNF behavior determining the market structure, it is the market structure—monopolistic competition—that will determine the conduct of the firm. He argues that for direct investment to thrive there must be some imperfections in markets for goods or factors, including among others, technology or some interference in competition by government or firms. He listed four possible imperfections—in the goods market (product differentiation), in the factor market (including access to patented knowledge), internal and external economies of scale and government intervention. Product differentiation breeds direct investment is indicated by its prevalence in branded products such as pharmaceuticals, cosmetics and soft drinks. Caves (1971) summarized Hymer’s thesis and then added other advantages that foreign affiliates have over domestic firms. The foreign firm that invests abroad would be able to avoid start-up costs that a new firm trying to establish itself could not and other intangible assets give multinational enterprises advantages that allow them to penetrate domestic markets. Another extension of Hymer’s reasoning is Frederick Knickerbocker’s (1973) intra-rivalry approach. Knickerbocker stated that firms invest overseas because of a perceived threat of market loss. If one firm in a competitive industry decided to invest abroad, others in that industry would feel compelled to do the same. If no one matched the investment, the new investor might get a leg up on the rest of the industry in the foreign market or find a cheaper supply source or develop a new technology to give advantages in the home market.

A more dynamic explanation of FDI is found in Vernon’s Product Cycle phenomenon. Vernon’s product life cycle hypothesis introduced a new reason why a firm would invest rather than export. (Vernon R.1966). Vernon argues that in the early stage of its life, the product is produced by the innovating company in its domestic market. In the second stage, the company exports to other industrialized countries. In the third stage the product is completely standardized, the rise of price competition leads the company to invest in developing countries looking for cheaper labour. For many products, there is a production cycle involving several stages, with new technology first being produced and used in the home country and, once standardized, shifted abroad because either
nearness to the final market or lower factor costs make this advantageous. However, even if one were to accept the characterization of technological stages in this theory, the theory does not explain why a firm has to establish its presence abroad rather than licence its technology or products.

Dunning. J.'s (1973 and 1980) Eclectic Theory is is the most popular one. John Dunning postulates that specific factors of both, firm and the country are necessary for firms foreign investment. The eclectic theory is also known as OLI paradigm. ‘O’ Ownership Advantages (Firm Specific Advantages): Ownership advantages address the ‘why go abroad’. The why question hypothesizes that the MNC has one or more firm specific advantages (ownership advantage, core competency) which allows it to overcome the costs of operating in a foreign country. This firm specific advantage is normally intangible and can be transferred within the multinational enterprise at low cost (e.g., brand name, benefits of economies of scale, technology. ‘L’ Location Advantages (Country Specific Advantages). Location advantages address the ‘where to locate’ question. The choice of investment location depends on complex factors of host country like economic policy, infrastructure and others. I- When a firm chooses to take these two advantages and make investment in another country, it is said to possess Internalisation advantages.

All these theories explained FDI, irrespective of the country of origin. Kojima (1975) argued that there is an inherent difference in FDI originating in the West and in Japan. In particular, he argued that FDI from Japan is explained more by macro economic factors than the micro economic models put forward to explain FDI originating in the West. Thus while market imperfections and micro economic models of monopolistic competition may explain western FDI, Japanese FDI is modeled in a general equilibrium framework without imperfections. Ozawa (1979) elaborates on Kojimas thesis and explains Japanese FDI in an ‘extended factor endowments’ approach. FDI from Japan started only after 1960 or so going first to Taiwan and then to other south east Asian countries like Hong Kong, South Korea, Malaysia, and Thailand. Ozawa argues that Japanese FDI in contrast to Western FDI was undertaken by industries, which were threatened by the labour cost advantages of the LDC’s. Since these industries had no firm specific advantages, the state and in particular the trading
houses played a major role in helping the small and marginal firms to set up production facilities overseas. Another line of study of FDI is based on the idea of transaction cost internalization. Buckley and Casson (1976) and (1981), and Buckley (1985) were the first to develop this hypothesis, starting with the idea that the intermediate product markets are imperfect, having higher transaction costs, when managed by different firms. When markets are integrated by MNCs, these costs would be minimized. MNCs have proprietary assets with regard to marketing, designs, patents, trademarks, innovative capacity, etc. Tharakan, (1984), emphasised the need of multinational enterprises (MNEs) for a better production location and eventually developed into international location decision-making theory, in which major factors influencing location decisions, for example, labour costs and the quality of infrastructure, were analysed and ranked. Markusen and Venables (1995) developed a model comparing the importance of multinational firms to foreign trade. The presence of multinational firms (with regard to trade) increases as countries become more similar in terms of income, and in terms of the relative allotment of factors and technology. The Scandinavian literature on FDI emphasizes the sequential nature of FDI. In other words, rather than simultaneously investing in a number of countries, investment is undertaken in a number of phases where in each phase some FDI is undertaken in one or more countries. Here organizational costs (or limits) prevent the simultaneous expansion of FDI in a number of countries. As in Kojima’s thesis, FDI originating from the West and in the East is distinguished by the different institutions and environment in which they operate. So these theories are often called as Institutional approach to FDI. The Western and the Eastern firms differ in a number of ways. First is, the culture and social values are different. Secondly, the infrastructure is often deficient in the East as seen by Western firms. Thirdly, the governments in the East are much more involved in the control of business than in the western countries. Cantwell (2000), considers the technological accumulation concept. The theory of sequential entry has obvious relevance to FDI in developing countries. The theory explains why in the first half of this century most FDI flows took place between similar countries, namely OCED countries, in the West and East and South East Asian countries from Japan. In the second half of this century while FDI from the west is penetrating Asian markets, Japanese FDI and many South East
Asian FDI has been heading West. India which is different from West and Japan offers significant market access advantage to foreign investors.

1.4 Review of Literature

A detailed review of literature is presented so as to understand how the questions raised above, have been theoretically and empirically analysed in the literature both in the context of India and international studies. Review of Literature is divided into – a) International studies and b) Indian studies.

International studies deals with study of determinants and impact of FDI in various other countries, other than India. Under both these studies, major theoretical, empirical (econometric and statistical) and descriptive approaches to analyse FDI determinants and impact on host economy are covered. The main purpose here is to identify researchable issues, or research gaps, to be focused in the study.

a) International Studies:

Friedrich Schneider et al, (1985), develops four models, explaining the flow of FDI in 80 less developed countries, and are econometrically estimated. Model (a) Concentrates exclusively on a political determinant (political instability) Model (b) Concentrates on economic determinants (growth of GNP, inflation, BOP, wage costs, skilled labour) Model (c) Which uses as the sole determinant an international risk indicator, an amalgamation of economic and political factors. (d) politico-economic model, which includes (a) and (b). With respect to the goodness of fit and quality of (export) forecasts, the politico-economic model performs significantly better than other models. Economic determinants include per capita GNP and BOP. The higher per capita income, and the lower the BOP deficits, more FDI is attracted. Among political determinants, aid from western countries has stimulating effect, while help from communist countries has a negative effect, political instability reduces FDI inflows.

Petros. E. Ioannatos (1993), uses a cross sectional data set for 73 countries for which US FDI was reported in 1982, and develops 3 models, Economic Model (Market size, direction of trade balance, efficiency of service sector); Social Model (host country’s investment climate and political. All these models are equally important for the host country to attract US FDI. But a demonstration that a comprehensive model, which
takes into account the simultaneous effect of economic, social and political characteristics, explains better the allocation of FDI than models which contain only economic, or exclusively social or solely political determinants.

Harinder Singh and Kwang W. Jun, (1995) found that Export orientation was found to be the most significant determinant of the inflow of FDI. The sample data covered 31 countries from 1970-1993. Countries with high exports, especially manufactures, received more FDI. Using a political risk index ranging from 0 to 100 as a proxy for socio-political instability, the relation with FDI inflow was found negative and significant. It was stronger for higher FDI receiving group of countries. An index of business risk ranging from 0 to 100 was used in order to reflect favorable business operating conditions. The index included such factors as political continuity, attitude towards foreign investors, balance of payment performance, economic growth, enforceability of contracts and good infrastructure. It was found that this variable is a significant explanatory variable for FDI inflows.

Loree and Guisinger, (1995), studied the determinants of foreign direct investment by the United States in 1977 and 1982 (both towards developed countries as well as toward developing countries), and concluded that variables related to host country policy were significant in developed countries only when infrastructure was an important determinant in all regions.

Borensztein et al (1995), finds that FDI, by itself, has a positive but insignificant effect on economic growth. Only when a country has a minimum threshold stock of human capital FDI acts as an important determinant of economic growth and particularly in that case, it actually contributes to growth more than domestic investment does. In addition, FDI had an indirect effect on growth by attracting supplementary activities. The sample covered 69 developing countries over two separate time periods 1970-79 and 1980-89.

Graham, Edward H. (1995) finds that FDI can have both positive and negative economic effects on host countries. Positive effects come about largely through the transfer of technology and other intangible assets, leading to productivity increase and improvements in the efficiency of resource allocation. Negative effects can arise from
the market power of large foreign firms (multinational corporations) and their associated ability to generate very high profits, or from domestic political interference by multinational corporations. Empirical research, however, suggests that the evidence of negative effects from FDI is inconclusive, while the evidence of positive effects is overwhelming.

Blomstrom, Magnus and Ari Kokko (1996), opines that Multinational companies play an important role for productivity & export growth in their host countries, but the exact nature of the impact of FDI varies between industries and countries. According to the authors, the characteristics of the host country's industry and policy environment are important determinants of the net benefits of FDI.

Biswaajit Dhar et al (1996) examines two dimensions of potential benefits of FDI with respect to 16 developing countries from 1975 to 1993. First is with regard to external debt management, particularly in arresting the increase in negative net transfers. It was found that FDI had given rise to negative net flows during the study period. Secondly, the growth potential of the sample countries have not been enhanced by FDI due to low or negative correlation between FDI and domestic investment. The negative coefficients, particularly in case of Singapore and Mexico is an indication of crowding out of domestic investment. The share of FDI in domestic investment is significant in Singapore. Thus instead of complementing domestic investment efforts, FDI is acting as a substitute to local efforts at promoting investment activity.

Kennedy K. Mbekeani (1997), in a study covered net FDI flows to six developing regions (Sub-Saharan Africa, East Asia and Pacific, South Asia, Europe and Central Asia, Middle-East and North Africa, and Latin America and Caribbean) and country specific flows to three countries (South Africa, Malaysia and Mexico) from 1971 to 1993. The results show that high growth regions (East Asia and Pacific, and Latin America and Caribbean) experienced more net FDI inflows. In Malaysia, for example, FDI raises domestic investment more than in Mexico. This may be due to the fact that in Malaysia FDI was not used to finance external debt or pre-existing current account deficit, therefore was in a situation to be used as a substitute for other types of capital inflows thereby increasing domestic capital formation. The study found that FDI does
not promote exports in the short run. However, in the long run for Malaysia, FDI promotes exports, while for Mexico and South Africa, it reduces exports. This can be explained by the different policy goals pursued by the respective countries. If a country's trade policy is aimed at export promotion, like Malaysia, FDI will be directed towards export-oriented industries, and will therefore promote exports in the long run. No statistical effect on employment both in the short run and long run was found in South Africa. However, government policy on FDI can be aimed at providing incentives for labour intensive projects which are employment creating.

Ashoka Mody et al., (1997), uses output data from 23 industrial sectors in seven coastal regions of China from 1985 -1989 to analyze the co-relates of growth. FDI is found to have a strong impact on growth, particularly in the short run, with a 10 percent increase in FDI able to raise the growth rate by 1 percent over the longer run. The study found a significant and positive co-relation between education levels and FDI suggesting a mutually reinforcing link whereby much of the power of foreign knowledge is transmitted through the local human capital base.

Abdelhamid A. Mahboub (1997) points out that as long as the Egyptian economy is seeking sustainable development and not merely a short-term flash growth on the macro level, attracting FDI should be dealt with as a part of a development policy package. Taking case studies from Mexico, the Asian newly Industrialized Countries (NICs), and second generation NICs(Hong Kong, Malaysia, Thailand, Singapore, Taiwan, South Korea), it was found that encouraging FDI does not necessarily require passive reliance on market forces. On the contrary, a positive role is attributed to careful and selective government intervention to permit careful selection of FDI activities so that they yield the greatest benefit to the economy in terms of job creation and effective development of manufacturing and export capabilities. Thus, it is not only the amount but also the quality of investments and their contribution to value added that matters.

Sun, Haishun. (1998), investigates the macroeconomic impact of FDI flows into China during the period 1979-96. FDI has significantly promoted economic growth in China by contributing to domestic capital formation, increasing exports, and creating new employment. However, FDI flows to China have had also some negative side effects
by (a) worsening of environmental pollution; (b) exacerbating inter-regional economic disparities as a result of the uneven distribution of FDI; (c) transfer pricing; and (d) encouraging round-tripping of the capital of Chinese domestic firms whereby firms sent money out of China in order to bring it back in as FDI and take advantage of the various fiscal and other incentives offered by the government.

Allessandrini and Resmini’s (1999) study of determinants of FDI inflows in Central and Eastern Europe and in the Mediterranean region over the period 1990-97 gave mixed results. For Central and Eastern Europe, the results indicate the significant effect of market size and openness in FDI decisions. Human capital and the degree of industrialization seem to be negatively related to FDI flows. For the Mediterranean region, the degree of industrialization and human capital positively affect FDI flows, whereas openness and risk factor affect them negatively and market size seems to play an insignificant role.

Thomsen, Stephen. (1999) reviews the role of FDI in the economic development of Indonesia, Malaysia, Philippines and Thailand. FDI has been, to varying degrees, a key factor driving export-led growth in the countries under review. Foreign firms have played a leading role in the sectors with the fastest growth such as electronics. In all four countries, however, development strategies have included a selective approach to investment promotion. Partial openness has allowed foreign firms to contribute to rapid export-led growth, but in many cases indigenous capabilities have not been developed sufficiently in those export sectors so as to allow a sustainable development. The study suggests a more balanced treatment of foreign investors, which would allow foreign firms to play a greater role in the domestic economies of the host countries.

Ammar Sianwalla (1999), identifies five factors that motivate FDI in Thailand from 1991 to 1998. They are: - 1) Exchange rate shift. 2) Promising growth of recipient economy. 3) Cheap and good quality inputs. 4) Special privileges granted by recipient government.5) Political stability and firm economic policies as well as fundamentals. The study tests statistically the influence of various factors on different FDI inflows. Export performance was the most significant explanatory variable. As for the exchange
rates, volatility of Baht per Yen was stronger because Japan accounted for 38 percent of all FDI in Thailand.

Dirk Willem te Velde (2001), in his descriptive study, focuses on what Sub-Saharan Africa (SSA) can do to influence FDI. SSA countries attract very low FDI. His paper suggests some areas which pose a challenge to policy makers in SSA, with regard to FDI like facilitating trade, understand international agreement, provide transparent and appropriate incentive and regulatory framework, provide appropriate infrastructure and skills, implement FDI policies, and last but not the least thinking in terms of quality rather than quantity.

Noorbakshsh Farhad et al’s (2001), contribution lies in highlighting the important role of human capital. Through econometric approach the paper confirms the importance of other determinants of FDI in developing countries like growth of domestic markets, stable macro-economic environment liberalization policies, the availability of energy and a supportive business environment. The paper argues that in the context of increasing competition for FDI, developing countries should formulate policies that improve local skills and build up their human resource capabilities, so as to not only raise the volume but also the quality and sophistication of the FDI.

Marcelo Braga et al’s, (2001) study throws light on the determinants of foreign direct investment (FDI) in developing countries, based on panel data analysis for 38 developing countries for the 1975-2000 period. The study found that FDI is correlated to level of schooling, economy’s degree of openness, risk and variables related to macroeconomic performance like inflation, risk and average rate of economic growth. The results also show that the FDI has been closely associated with stock market performance. Further, a causality test between FDI and GDP indicates the existence of causality in sense that GDP leading to FDI, but not vice versa.

Garibaldi et al., (2001), based on a dynamic panel of 26 transition economies between 1990 and 1999, analysed a large set of variables that were divided into macroeconomic factors, structural reforms, institutional and legal frameworks, initial conditions, and risk analyses. The results indicated that macroeconomic variables, such as market size, fiscal deficit, inflation and exchange regime, risk analysis, economic
reforms, trade openness, availability of natural resources, barriers to investment and bureaucracy all had the expected signs and were significant.

Karen Poniachik (2002), in her descriptive study, identifies Chile's business climate, which includes macro-economic environment, international integration, institutions and governance, social cohesion, and infrastructure to be the key determinants of FDI in Chile. She also suggests various measures to government like technological innovation, modernization of state, liberalization, upgrading infrastructure, finance for new companies, improving competitiveness at micro level and strengthening democracy to attract more FDI.

Nagesh Kumar (2002), analyzes the role of infrastructure availability in determining the attractiveness of countries for FDI in flows for export orientation of MNC production. The sample covers 66 developed as well as developing countries. INFRASTRUCTURE INDEX comes up with a predicted positive and statistically significant effect on the attractiveness of the country for both US and Japanese MNC's. Thus the investments by governments in providing efficient physical infrastructural facilities improve the investment climate for FDI by subsidizing the cost of total investment by foreign investors and thus raising the rate of return. Furthermore, the export – orientation of production of MNC affiliates, especially when the production is meant for third country markets was significantly related to infrastructure availability.

Prakash Loungani et al., (2002) tries to answer the question as to what drives FDI, using panel Tobit regression estimates. The paper examines the determinants of FDI using a large data set of 45 countries from 12 sources countries in the study include several emerging markets (Brazil & Malaysia) developing countries (Columbia, Ecuador and oil producing countries (Kuwait & Nigeria). The main explanatory variables used to answer the raised question are gravity variables like real GDP, telephone density; credit risk (quality of host country’s institution); intangible capital like skills and specialization and degree of development of financial markets. The result is positively significant for GDP. Higher telephone densities enhanced FDI flows, and countries with sounder institutions attract high FDI.
Nunnenkamp and Spatz (2002), find significant Spearman correlations between FDI flows and per capita GNP, risk factors, years of schooling, foreign trade restrictions, complementary production factors like administrative bottlenecks and cost factors from a sample of 28 developing countries during 3 time periods viz., (1987-1992), (1993-96) and (1997-2000). Population, GNP growth, firm entry restrictions, post-entry restrictions, and technology regulation all proved to be non-significant. However, when regressions were performed separately for the non-traditional factors, in which traditional factors were (population and per capita GNP), only factor costs produced significant results and, even so, only for the 1997-2000 period. His co-relation results, suggests that the availability of local skills has become a relevant pull factor of FDI in the process of globalisation. This strengthens the case for human capital formation. Efforts to provide better education and training would not only enhance the economic growth effects of FDI in developing countries but also likely to induce higher FDI flows. So there is need for governments in developing countries to raise expenditure on health and education.

Anthony Bende (2002) finds out through co-integration analysis that the most dominant long-run determination of FDI in SSA are market growth, export-orientation policy and FDI liberalization, followed by real exchange rates and market size, based on a sample of 19 countries of Sub-Saharan Africa from 1970 to 2000. However, the results for real wages and human capital are inconclusive due to data limitation. UNCTAD (1999) attributed the poor FDI performance in SSA to the negative image the region holds among many foreign investors due to political turmoil, economic instability, diseases and natural disasters. He suggests SSA countries to sort out their country specific problems and focus on factors that can enhance economic, social & political stability. He calls for total eradication of corruption.

Stein and Daude (2002) used a large sample of countries during 1990’s to study the determinants of FDI and found a positive co-relation between direct incentives and FDI. However, an even stronger co-relation between FDI and a country’s fundamentals, and particularly the quality of institutions was found. Other variables like infrastructure and education are also significant that has impact on the type of FDI that a country receives.
Abdur Chowdhry et al (2003), attempts to answer the question – FDI & growth what causes them? from a sample of 3 developing countries (Chile, Malaysia and Thailand), covering the period 1969-2000. The paper adopts a different methodological approach namely Toda-Yamamota test for causality, which allows to derive more robust conclusion regarding FDI and economic growth relationship. The empirical findings suggest that it is GDP that causes FDI in Chile and not vice versa. In the case of both Malaysia and Thailand, there is a strong evidence of bi-directional causality between GDP and FDI. These findings have important policy implications, especially in the aftermath of the Asian crisis of 1997-98. Though the result are country specific, stress is laid on overall role of growth (quality of growth) as a crucial determinant of FDI along with the quality of human quality infrastructure, institutions governance, legal framework tax system and others.

Campos and Kinoshita (2003) use panel data to analyse the determinants of FDI for 25 transition economies between 1990 and 1998. The study found that FDI is influenced by economy clusters, market size, the low cost of labor, and abundant natural resources. Besides all these factors, sound institutions, trade openness, and lower restrictions to FDI inflows presented significant results.

Steve Onyeiwu (2004) explains with the help of fired effects panel regression from 1991 to 1997 that some of the determinants of FDI flows to developing countries are not significant for FDI flows to Middle East and North African (MENA) countries. These include rate of return of investment infrastructure and economic fundamentals. The paper attributes this lower flow of FDI to MENA region to corruption, red tape and protection. Trade protection is highest in the world in MENA region. So MENA countries should implement two major measures in order to attract FDI. First is to reduce the size of government by implementing far-reaching privatization program. Second is liberalization of trade. Then, improvement in macro-economic performance is essential for economic growth and stability.
b) Indian Studies:

There are very few studies on Foreign Direct Investment in India. The Indian studies here mainly relate to determinants, impact and policy implications of FDI for Indian economy. Some comparative studies of FDI in India with that of China and some other countries too has been presented in this section.

Nagesh Kumar (2003), suggests that liberalization of FDI policy may be necessary but not sufficient for expanding FDI inflows. The overall macroeconomic performance continues to exercise a major influence on the magnitude of FDI inflows by acting as a signaling device for foreign investors about the growth prospects for the potential host economy. Hence, paying attention to macroeconomic performance indicators such as growth rates of industry through public investments, socio-economic infrastructure and other supportive policies and creating a stable and enabling environment would crowd-in FDI inflows.

D.R. Agarwal (1998) compares FDI position of India, China and Mexico, which have undergone economic reforms. The paper points out that MNC’s in India are mainly concentrated in consumer goods sector. The story of China is more successful, both in respect of the amount of FDI in building infrastructural facilities and in the overall economic development. The Mexican economy is a story of ups and downs despite its rich oil resources and good neighbourhood of USA. The Indian example is a mixture of sweet and sour. The study has a lesson for India. India can copy the Chinese experience in decentralization of economic powers and transparent policies on FDI and improve infrastructure (roads, power, and telecommunications). According to the author, China has been able to keep politics away from economics, but in India, it is politics that dominates economics.

K.S.C Rao.; Murthy, M.R.(1999), surveys the characteristics of FDI since 1991 in terms of size, location and industrial sector, in order to draw some conclusions about the likely effects of liberalisation on India’s regional distribution of industry. The main findings of the paper were that Maharashtra, Delhi, Karnataka, Tamil Nadu, Andhra Pradesh and Gujarat attracted more FDI. In each of the top ten states except Delhi, power and fuels industries were the largest contributors, often accounting for more than half the
The actual inflow of capital was only one fifth of the amount approved, possibly because investment does not start flowing in immediately after the approval of a project. Low level of inflows could also be due to the non-implementation of a few large projects such as the Parmar Refinery project in Gujarat. Disadvantaged states such as Bihar were not able to attract FDI. Because the actual inflow was quite low compared to the amount approved, new projects may not so far have had much impact on the regional distribution of industry.

Milan Brahmbhatt, et al.,(1999) points out that India is still not attracting attention from foreign investors commensurate with its size and economic potential, nor is its engagement in world trade keeping pace with that of the more dynamic developing countries especially South East Asian countries According to the authors, the four chief areas of weakness seems to be: 1) Inadequate macroeconomic policies - notably a large fiscal deficit that crowds out private investment essential for export success and reduces the confidence of foreign investors. 2) Higher levels of protection than in other developing countries. 3) Inefficient transportation and communications infrastructure. 4) Poorly equipped sections of the labor force and inflexible labor markets. In the presence of these policy weaknesses, India’s large domestic market, which could be strength, discourages Indian firms and foreign direct investors from focusing enough on export markets. The authors suggest that reforms should contribute to increasing FDI and its benefits. FDI can help raise the private investment rate without incurring additional debt and can help relax key infrastructure constraints. But its greatest long-run benefit may come from its direct and indirect effects in improving productivity.

Jeffrey D. Sachs and Nirupam Bajpai(2000) attempts to answer the question as to how can $10 Billion of Annual FDI Inflows be Realized since the government has set for itself an ambitious target of achieving $10 billion actual FDI inflows per year. In order for this target to be met, it is essential to undertake some hard reform. Their study provides some recommendations like, removal of unnecessary restrictions on equity participation by foreign companies, increase areas for automatic approval, devolve more authority in selected areas to the States to negotiate FDI projects, focus immediately on the infrastructure of airports, telecommunications, ports, and roads in selected areas to
make the country more attractive to foreign investors, and expand export processing zones to provide modern infrastructure for export-oriented projects.

Kishor Sharma (2000), points out that despite increasing inflows of FDI especially in recent years there has not been any attempt to assess its contribution to India's export performance, one of the channels through which FDI influences growth. Using annual data for 1970-98 the study investigates the determinants of export performance in India in a simultaneous equation framework. Results suggest that foreign investment appears to have statistically no significant impact on export performance although the coefficient of FDI has a positive sign.

Sivakumar Venkataramany's (2001) attempts to explain the determinants of FDI in India, covering eight-year period from 1992 to 1999. The panel data includes investments from source countries of UK, USA, Japan, Germany, Switzerland and Sweden towards target industries of engineering (motors, electrical machinery, machinery and machines), ferrous and non-ferrous sectors, chemicals (industrial chemicals), medical cum pharmaceuticals, tea trading, textiles and rubber. Change in GDP turns out highly significant with a positive sign. High significance and negative sign of the change in inflation shows the adverse effect it can have on the inflow of direct investment. Other variables like term deposit and commercial interest rates, terms of trade, change in exports and change in imports proved to be highly significant.

Ram Mohan R. Yallapragada, Madhu R. Paruchuri (2002), is of the opinion that India seems to have lost a golden opportunity for attracting a sizable amount of FDI at least commensurate with that of China and the reasons for India's poor performance in the area of FDI are: political instability, poor infrastructure, confusing tax and tariff policies, draconian labor laws, well entrenched corruption and governmental regulations. According to the authors, India is a country with enormous potential for development and India has to bring in sweeping reforms to completely liberalize its economy, abandon the inefficient protectionist policies regarding its inefficient domestic industry, curb the cancer of corruption and offer the appropriate tax incentives to the foreign investors. If the Indian government hesitates to bring in the much-needed economic reforms soon, India may face a tale of lost opportunity.
Nirvikar Singh and T. N. Srinivasan (2002) notes that part of the Indian economic reform agenda has been to attract FDI, especially that which will bring in new technology and improve infrastructure. The simple correlation of the per capita FDI approvals with the infrastructure index is quite low, ranging from 0.03 to 0.07. To some extent, this reflects the unreliability of FDI approvals as an indicator of actual investment, but more importantly, this is a consequence of the particular infrastructure index used, in which, for example, a state such as Karnataka is measured as having very low infrastructure development, despite its concentration of workers with high levels of technical skills. Thus the study concludes that FDI seeks a few favored locations, with a concentration even more than would be dictated by broad infrastructure measures like specific policy initiatives of the states. There is scope for state governments to compete more effectively for FDI that might have a longer-term impact on infrastructure. For example, Punjab, with the highest index of infrastructure, lags substantially in FDI, but might conceivably correct this with policy adjustments.

Jaya Prakash Pradhan and Vinoj Abraham (2002) tries to answer question as to whether India can win the Race in Attracting Export-Oriented FDI, by examining the attractiveness of India as a host to export-oriented FDI (EFDI) in terms of a host of location-specific factors such as labour cost, skill, infrastructure, natural resources, openness and BITs (Bilateral Investment Treaties). The study found that low level of general skills, infrastructure bottlenecks, and failures to use as a tool for attracting EFDI are main factors lowering the attractiveness of India as compared to others.

Dukhabandhu Sahoo, and Maathai K. Mathiyazhagan (2003), examines the role of FDI in promoting the growth of the economy via export promotion by using the annual data from 1979–80 to 2000–01. This study uses the Johansen co-integration test and the results demonstrate that there is a long run relationship between Gross Domestic Product, FDI and Export. The same relationship is also established when the Index of Industrial Production replaces GDP. It implies that FDI does influence in the growth of the economy and also contributes towards the export in India. It implies that India’s progress towards “market oriented economy” through major policy reform in the 1980s and the early 90s with greater emphasis on individual incentives and market forces, has worked
properly. In this context, it can be suggested that India should encourage the FDI inflows in a way to improve the BOP position and for the overall growth of the economy.

Chanchal Chopra (2003) finds out that FDI inflows in India from 1980-81 to 1999-2000 are determined by market size (GDP) and openness. According to the author, liberalized policies towards FDI alone are not sufficient to attract large inflows. The economic parameters have to be set in order as well. Since FDI was found to be more elastic with respect to openness of trade, Trade-GDP ratio has to be increased. The study also finds out that FDI as a means of bridging the BOP gap is inconclusive in India. Therefore, it is suggested that a policy targeting export-oriented FDI or high technology FDI may be favourable for the country's BOP rather than attempting to maximize the magnitude of FDI irrespective of its composition.

Morris Sebastian (2004), argues it is the regions with metropolitan cities, that have the advantage in ‘headquartering’ the country operations of MNCs in India that therefore attract the bulk of FDI. Gujarat has been particularly handicapped in not having a large and metropolitan city unlike the southern states, which have Bangalore, and Hyderabad besides the older metropolis of Chennai. The area around Delhi, and Maharashtra its two metropolitan cities - Mumbai and Pune, have large advantage. FDI into Gujarat was large enough over the period when the state had grown rapidly in the first six years following the reform of 1991-92. Since then the slow down of the growth has been a retardant to FDI since the kind of FDI that Gujarat can hope for are largely industrially oriented. Similarly regulatory uncertainty especially with regard to gas, but also electric power and more generally in the physical infrastructure sectors had hurt Gujarat more than other states. The study concludes by suggesting that there are vast gains to be made by attracting FDI, especially in services, high technology, and skilled labour seeking industries.

Hari Sud (2005), considers FDI, to be the Life Blood of future progress. He opines that India needs FDI, to boost the economic growth. A bigger economic revival is possible if, money, technology and human expertise arrive from abroad on a much larger scale than it has been coming in last few years. As the eighties progressed, commercial bank lending, to fund economic growth in the third world countries, declined. Instead the
donors in the West promoted FDI. Asian countries (with the exception of India) understood this change and devised rules and regulations to attract it. China and Asian Tigers (Thailand, Singapore, Malaysia, South Korea etc.) were the net beneficiaries. The West did not care, whether the recipients were a former enemy or a friend. Money saw no enemies or friend, instead it moved in the direction of minimum rules, pro-active government help, lower wages. That’s how China attracted about $20 Billion a year from 1984 to 1997 and thereafter $40 Billion till 2003. But India failed at the same time. However during last few years, the West has been developing a bit of a fascination to India’s brainpower, powered by IT and BPO. India can take maximum advantage.

Research Gaps:

The various studies covering the determinants of FDI shows that other than economic factors, various non-economic factors too play an important role in influencing FDI Inflows. Wide ranges of studies are available at international level. But the same is not true for India. Most of the studies relating to FDI in India, analyses trends and patterns of FDI at national level but rarely focuses on states. States, being the partners in the economic reforms undertaken by India, too have begun to aggressively seek out private foreign investment. Hardly any study exists on determinants of FDI across states using a comprehensive set of indicators. The same holds true for national level too. Most of the studies emphasise on strong economic fundamentals for example, large market size and stable macro economic environment. However, with the growing integration of the world markets and increased competition amongst the countries to attract FDI, mere economic fundamentals may not be sufficient. Therefore it now becomes important to study afresh what determines inflow of FDI. In this regard, there is a need to focus on other factors like availability of quality of human capital, technical manpower, technological development, Information Technology (IT) development, and export orientation. Further, the set of determinants vary for different types of FDI. In particular, the factors determining manufacturing FDI and export-oriented type of FDI need to be analyzed for India. Further, FDI determinants as manifested in FDI approvals are not always influenced by the same factors that influence actual FDI inflows. Although many studies have examined the effect of FDI on growth and investment, no study in India has shown that the benefits of FDI vary across sectors. This study analyses the effect of
manufacturing and high technology intensive FDI and service sector FDI on growth and investment separately during post liberalization.

1.5 Objectives:
The specific objectives of the present study are as follows

1) To examine the Government of India’s policy towards FDI during Pre-Liberalisation and Post Liberalisation.

2) To examine the pattern, and trends of FDI Approvals and Inflows in India during the two policy periods.

3) To examine the state-wise trends in FDI and also measure the extent of inter-state disparities among states.

4) To examine the various factors that determines FDI approvals across states for post liberalization and for India during two policy periods. Apart from the determinants of total FDI inflows, another objective of the study is to examine the determinants of sector specific FDI in India like manufacturing FDI and export-oriented type of FDI.

5) To examine the FDI determinants as manifested in FDI approvals and actual FDI inflows.

6) To examine the impact of FDI on various macroeconomic parameters of Indian economy like economic growth, domestic investment, industrial development, foreign exchange reserves, exports, Balance of Payments, trade deficit, import cover of reserves, technological development and.

7) To examine whether FDI in manufacturing, high technology intensive sectors and services sector exerts different effects on India’s growth and domestic investment during post liberalization.

8) To draw policy implications based on observations and findings of the study.
Hypothesis:

H1. There are large inter-state variations in attracting FDI.

H2. Differences in Industrial development, availability of infrastructure, development of science and technology, development of Information Technology, availability of skilled human capital and technical manpower, good governance and market size explains the inter-state variations in attracting FDI during post liberalization.

H3. The impact of FDI on economic growth, domestic investment, industrial development, technological development and exports is positive.

Data Sources and Methodology:

Appropriate choice of methodology affects the direction, structure and whole process of research. Throughout, the study is based on available & published secondary data. The data on FDI and other socio-economic variables has been collected from various International and national sources. The International sources include, UNCTAD's World Investment Reports and Global Development Finance. Various national sources includes, SIA – Secretariat of Industrial Assistance Annual Issues (2000, and 2002) and various SIA Monthly Newsletters, Economic Survey (GOI), RBI Handbook of statistics on Indian economy, CMIE publications, Statistical Abstract of India, Department of Science and Technology (DST) reports, India Infrastructure Report, National Accounts Statistics, Annual Survey of Industries and Annual reports, Ministry of Industry GOI and Manpower Planning Profile of India.

The reference period of the present study chosen is from 1980-81 to 2002-03. This particular period of 1980's and 1990's has been chosen because of unprecedented changes in the eighties and nineties. It was only during this period that capital flows in the form of FDI soared in India. FDI inflows were not significant during 1980’s and after 1991, the role of FDI in Indian economy is increasing due to a number of measures undertaken to liberalise FDI policy and expand many economic areas to FDI, which were earlier closed. The states chosen for the study are Andhra Pradesh, Assam, Bihar, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala,
Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. The 19 states chosen for the study have a combined population of 1050 million, accounting for approximately 95 per cent of India's population, and 3094032 square kilometers, accounting for 94 per cent of India's total land area.

Relevant econometric models have been used to test the determinants of FDI at across state levels and also at all India level. Statistical techniques like Regression and Co-relation have been used. Since the size and population of states vary, absolute figures are therefore normalized by dividing by population/area.

Some of the statistical methods used in the present study are as follows:

1) **Coefficient of Variation (CV)** is used to study the extent of inter-state disparities in FDI. Coefficient of variation (C.V) is given as

\[
C.V. = \frac{\sigma}{\bar{X}} \times 100
\]

Where \(\sigma\) = standard deviation, \(\bar{X}\) = Mean.

2) **Least Square Growth Rate:**

Least Square Growth Rate has been used to workout FDI approvals growth rates and growth rates in per capita FDI approvals for 19 states for a sufficiently long time series from 1991 to 2003. The same method is used to work out Net State Domestic Product (NSDP) and per capita NSDP growth rates at current prices for 19 states during the study period. The least squares growth rate is estimated by fitting a linear regression trendline to the logarithmic annual values of the variable in the relevant period. The regression equation takes the form \((X_t = a + b_t)\). If \(b^*\) is the least squares of \(b\), the average annual growth rate is obtained as \((\text{Exp}(b^*)-1)\) and is multiplied by 100 to express it as a percentage.

3) **Infrastructure Index:**

CMIE and Statistical Abstract of India are the major data sources for infrastructure related variables. Infrastructure Index has been constructed for three time periods viz. 1991-92, 1995-96 and 2001-2002 for 19 states. Using this index, states are ranked and this index is used as one of the explanatory variable for factor determining
FDI across states. Principal Component Analysis has been used to generate the weights. This method is as follows:

1) Divide the original variable by their means.
2) Obtain simple co-relation coefficient matrix of original variables.
3) Sum each column of the co-relation coefficient matrix table and obtain the sum of this sum. And obtain the square root of this sum.
4) Divide each column by the square root of the grand total.
5) Multiply the values obtained with standardized values.

The same methodology is used to construct Industrial Development Index for three time periods viz, 1991-92, 1995-96 and 2001-2002 for 19 states.

4) Human Development Index: The UNDP methodology for constructing the HDI and minimum and maximum values fixed for each of these indicators as follows:

1) Life Expectancy at Birth (25 years and 85 years)

\[
LE \text{ Index} = \frac{\text{Actual value} - \text{Minimum Value}}{\text{Maximum} - \text{Minimum}}
\]

2) Adult Literacy rate (0 percent and 100 percent) (Two third weightage is given to adult literacy. So multiply the Index with 2.

\[
AL \text{ Index} = \frac{\text{Actual value} - \text{Minimum Value}}{\text{Maximum} - \text{Minimum}}
\]

Combined Gross Enrolment Ration (0 percent and 100 percent) and Index is same as that for adult literacy except the weight age.

Final Education Index is

\[
ED\text{INDEX} = 2(\text{Adult Literacy Index}) + 1(\text{Enrolment Index})/3
\]

3) Real GSDP per capita (PPP$) ($100 and $40000)

Convert the per capita incomes of states in terms of $(PPP) Purchasing power parity.

\[
\text{(PCI of state/PCI of India) } \times \text{(PPP$)}
\]

PPP$ is fixed by UNDP for all countries in Human Development Reports.

Then take the log of these values of PCI of all states, converted in terms of PPP.
\[
\text{Income Index} = \frac{\log(\text{PCNSDP of state, PPP}) - \log(100)}{\log(40,000) - \log(100)}
\]

The PPP fixed by UNHDR for India during 1991 is $1220 and for 2000-01 is $2840.

5) **Inward FDI Performance Index:** World Investment Report (2001) introduced an Inward FDI Index, which is the ratio of a country's share in global FDI flows to its share in global GDP. The FDI Inward Performance Index used in the present study is the ratio of a state's share in FDI approvals to India's FDI approvals divided by a states share in NDP to its share in NSDP. The FDI Inward Performance Index is calculated as follows:

\[
\text{Index} = \frac{\text{FDI}_s / \text{FDI}_i}{\text{NSDP}_s / \text{NDP}_i}
\]

Where,
- \( \text{INDEX} \) = The FDI Inward Performance Index
- \( \text{FDI}_s \) = FDI approvals in the state
- \( \text{FDI}_i \) = FDI approvals in India
- \( \text{NSDP}_s \) = NSDP of the state
- \( \text{NDP}_i \) = NDP of India

6) **FDI Potential Index:** Based on the World Investment Report (2001) pattern of Inward FDI Potential Index, FDI Potential Index for states has been constructed for 19 Indian states. Mathematically, the FDI Potential Index is expressed as

\[
\text{FDI Potential Index} = \frac{V_i - V_{\text{min}}}{V_{\text{max}} - V_{\text{min}}}
\]

Where, \( V_i \) = the value of a variable for the state.
- \( V_{\text{min}} \) = the lowest value of the variable among states.
- \( V_{\text{max}} \) = the highest value of the variable among states.

The variables chosen to construct FDI Potential Index across states are PCNSDP, Per Power consumption, Communications, Tertiary Enrolment, Stock of Engineers, Export Oriented Units, Research and Development Institutions, Level of Industrialisation and Urbanisation

7) **Testing for Granger Causality:** The procedure for testing statistical causality between FDI and factors determining FDI and also FDI and its impact on various macro-
economic parameters is the direct "Granger-causality" test proposed by C. J. Granger in 1969. Granger causality may have more to do with precedence, or prediction, than with causation in the usual sense. It suggests that while the past can cause/predict the future, the future cannot cause/predict the past. According to Granger, X causes Y if the past values of X can be used to predict Y more accurately than simply using the past values of Y. In other words, if past values of X statistically improve the prediction of Y, then we can conclude that X "Granger-causes" Y. It should be pointed out that given the controversy surrounding the Granger causality method, our empirical results and conclusions drawn from them should be considered as suggestive rather than absolute. Our first step in testing for "Granger causality" is to determine whether there is a trend in our sample data. An important assumption in any time-series analysis is that the variables being tested are stationary. For this a detrending procedure is followed as follows:

1) Estimate the regression with time trend and dummy. If time trend in the equation is significant, detrending is done as follows:

\[ Y^* = \alpha + \beta_1 T + \beta_2 DU + \mu \]

Where, \( Y^* \) = estimated value of the variable

\( T \) = time trend

\( DU \) = dummy (0 for pre-liberalization and 1 for post liberalization)

\( \mu \) = Error term

Obtain the residuals from the regression i.e., \( \mu = Y - Y^* \) (Y is the actual values) \( (Y + \mu) \) gives the de-trended values.

\[
\text{GDP}_t = \sum_{i=1}^n \alpha_i \text{FDI}_{t-1} + \sum_{j=1}^n \beta_j \text{GDP}_{t-j} + u_{1t}
\]

\[
\text{FDI}_t = \sum_{i=1}^n \lambda_i \text{FDI}_{t-1} + \sum_{j=1}^n \delta_j \text{GDP}_{t-j} + u_{2t}
\]

First, we regress GDP on past values of GDP but do not include the lagged FDI. This is the restricted regression. After we run the regression, we obtain the restricted sum of squares, \( \text{RSS}_r \). Second, we run the regression and include the lagged FDI and GDP. This is the unrestricted regression. After we run this regression, we obtain the
unrestricted residual sum of squares, RSS_{ur}. To test this hypothesis, the F-test is applied, as shown below:

\[
F = \frac{(RSS_r - RSS_{ur})/m}{(RSS_{ur})/(n-k)}.
\]

Where, \(m\) is equal to number of lagged terms and \(k\) is the number of parameters estimated in Unrestricted regression. If the F-value exceeds the critical F-value at the chosen level of significance, the null hypothesis is rejected. GDP belongs in the regression or causes FDI. We then use the same steps to test whether FDI causes GDP.

8) Chow Test: In a regression model involving time series data, it may happen that there may be structural change in the relationship. By structural change, the values of the parameters of the model do not remain the same through the entire time period. To find out the structural change in the impact of FDI during pre and post liberalisation, Chow Test is applied. The steps are as follows:

1) First estimate the regression for overall period (1980-81 to 2002-03) and obtain RSS_r with df=(n1+n2-k), where \(k\) is the number of parameters estimated.

2) Estimate the regression for Pre-liberalisation period and obtain RSS_1 with df=(n_1 -k).

3) Similarly estimate the regression for post-liberalisation period and obtain RSS_2 with df=(n_2 -k).

Now add RSS_1 + RSS_2 and obtain Unrestricted Residual sum of Squares (RSS_{ur})

\[
RSS_{ur} = RSS_1 + RSS_2 \text{ with df=(n}_1 + n_2 -2k). \text{ Now estimate the F value as follows}
\]

\[
F = \frac{(RSS_r - RSS_{ur})/k}{(RSS_{ur})/(n_1 + n_2 -2k)}.
\]

If the computed F value does not exceed the critical value at the chosen level of significance, we do not reject the structural change. (Damodar N.Gujarati, 2004)
10) Co-integration Test (ADF Augmented Dickey Fuller’s Test):

Two variables will be co-integrated if they have long-term or equilibrium relationship between them. The regression of a nonstationary time series on another nonstationary time series may produce a spurious regression. If variable X and Y is nonstationary I(1) and if we check residuals from regression and find it stationary I(0), the traditional regression methodology is applicable to data involving nonstationary time series. In simple words, run the regression and obtain the residuals. Apply ADF test to the residuals as follows

\[ \Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \mu \]

Where \( \Delta Y_t \equiv (Y_t - Y_{t-1}) \), i.e first difference operator. Divide the estimated co-efficient of \( Y_{t-1} \) by its standard error to compute the \( \tau \) tau statistic and refer to the DF tables. (Damodar N. Gujarati, 2004)

If the computed ADF, also know Engel-Granger Test is more than the Critical values at the chosen level of significance, we conclude that the residuals from regression are I(0), i.e, they are stationary and hence the it is a co-integrating regression and is not spurious. An alternative and simpler method to find out whether two series are co-integrated or not is (Co integrating Regression Durbin-Watson Test) (CRDW). Check it with the computed \( d \) value of the regression.

Limitations of study:

The limitation of the study arises due to restricting the nature and scope of the study as well as for data constraints. The limitations of the present study are as follows:

1) The first limitation is the non-availability of FDI Inflows data to various sectors of Indian economy & country-wise inflows during 1980’s,
2) There is no comprehensive record of Indian FDI stocks or flows at state level throughout 1980’s and 1990’s. Although, the state-wise FDI approvals data is available for post reform period, not much analysis can be done, as the amount of actual inflows better reflects the exact level of investment.
3) The state-level sectoral FDI Approvals data is available only from 1991 to 2002
4) The number of states selected for the study of determinants of FDI, is limited to 19. Other union Territories and smaller states have been left out because of very small amount of FDI approvals or almost nil to some of these regions.
1.6. Chapter: Scheme

The whole Thesis has been divided into nine chapters as follows: The first Chapter is an introductory one that attempts to explain the importance of study, meaning and theories of FDI, followed by Review of literature, research gaps, Objectives, data and Methodology and various Limitations. The purpose of Second Chapter is to review the policy framework in India, dealing with FDI during two-policy periods- Pre Liberalisation period (1980-81 to 1990-91) and Post Liberalisation period (1991-92 to 2002-03). Chapter third, examines in detail the trends and patterns of FDI during two policy periods. Chapter fourth deals with the Sectoral Distribution of FDI flows during two policy periods. Chapter fifth, analyses the State-wise trends in FDI approvals during Post Liberalisation period. The aim of Sixth chapter is to see the sectoral composition of FDI in states. The aim of Seventh chapter is to conduct a test of determinants of FDI across 19 states and for India. The impact of FDI on Indian economy is examined empirically in the eighth chapter. The last chapter summarises the important findings of the study and suggests policy recommendations.
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