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FOREIGN DIRECT INVESTMENT IN INDIA: MACROECONOMIC DETERMINANTS AND ECONOMIC GROWTH

NIMARJIT SINGH
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Reviewed and approved* by the following:

Stephen Yeaple
Associate Professor of Economics
Thesis Supervisor

David Shapiro
Professor of Economics
Honors Adviser

* Signatures are on file in the Schreyer Honors College.

ABSTRACT

This thesis seeks to examine Foreign Direct Investment (FDI) in India. I aim to present an understanding of the concept of FDI, the various theories of FDI, and analyze the trends of FDI in India along with the historical evolution of FDI policy from independence till the present day. I will examine the sectoral composition of FDI in India, regional distribution of FDI within India and the source countries of FDI. Through empirical analysis I seek to study the macroeconomic determinants of FDI inflows in India. The macroeconomic variables used in the analysis are: the exchange rate, external debt as a percentage of Gross Domestic Product (GDP), foreign exchange reserves as a percentage of GDP, annual inflation, and trade openness. I will also seek to examine the relationship between economic growth (GDP) and FDI, and exports and FDI.

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Chapter 1

Introduction

FDI has gained importance in India since 1991, when the macroeconomic reforms introduced in the New Economic Policy (NEP) effectively started the process of India's liberalization and integration into the global economy. FDI inflows have swelled from a meager $0.1 billion in 1991-1992, to $2.4 billion in 2000-2001, and to $35 billion in 2011-2012. The government of India has realized that foreign investment flows are crucial for the economic development of the country and has been enacting legislation to open up more sectors to foreign investment to further liberalize the economy. Multinational Corporations (MNC's) on their part have been very keen on investing in India. MNC's abroad see the huge market potential, with nearly 1.3 billion consumers as very attractive. In September 2012, the government of India removed restrictions on multi-brand retailing, and approved retail giant Wal-Mart's entry into the country. The Foreign Investment Proposal Board (FIPB), the nodal agency that clears FDI proposals, approved Swedish furniture giant IKEA's $20 billion investment in November 2012, which is the largest investment in single-brand retailing ever since the government has allowed foreign investment in this sector.

The past couple of decades have witnessed a rise in the cross-border activities of Multinational Corporations (MNC's). According to the UNCTAD[1], in recent years most countries have been eliminating restrictions on foreign MNC's, and are actively

[1] United Nations Conference on Trade and Development.

competing to attract foreign investment through various incentives (UNCTAD, 1997). Most of the Asian nations such as Singapore, Malaysia, and China have been extremely successful in attracting foreign direct investment, and the former two are a shining example of export led growth. The opening up of economies to FDI inflows can contribute directly towards increasing the contestability of — or potential competition in — host country markets. Sellers participating in these markets can now include not only domestic producers and (in the case of goods and tradable services) exporters from other countries, but also MNC's from other countries that establish affiliates (as well as contractual arrangements with other firms) to produce in and for local markets. Furthermore, MNC's, with their ownership-specific or competitive advantages, are often better able than domestic firms to overcome some of the cost-related barriers to entry that limit the number of firms in an industry and the market for its products. This potential for increasing competition by allowing FDI entry is particularly important for many service markets, in which competition through arm's length international trade is not possible or is limited (UNCTAD 1997). In the background of surging FDI inflows, India liberalized her FDI policy with the aim of accelerating economic growth.

This thesis is divided into three major sections: Theoretical Background, Foreign Direct Investment in India, and Empirical Analysis. In "Theoretical Background," I will explain the concept of FDI using definitions from the International Monetary Fund (IMF) and the Organization for Economic Co-operation and Development (OECD), and I will distinguish it from Foreign Portfolio Investment (FPI). The various components of FDI and the forms of FDI - Greenfield investment and Mergers and Acquisitions (M&A's) -

are also explained. I also present seven major theories of FDI based on three approaches: a) theories based on perfect competition, b) theories based on imperfect competition, and c) theories based on other specific factors.

In the chapter "Foreign Direct Investment in India," the various investment routes are explained, along with the officially recognized components of FDI. I will provide a historical background of the FDI policy in India from independence in 1947 up till the present day, and explain the reforms of 1991 that reduced restrictions on MNC's in India. I will then analyze the trends in FDI inflows from 1991-1992 to 2011-2012, and talk about the source countries of FDI. FDI inflows at a sectoral level are also analyzed, with a focus on the following sectors: services sector, construction activities sector, telecommunications sector, the automobile industry, and computer hardware and software sector. I will also examine the regional distribution of FDI in India with respect to various cities and states.

In the "Empirical Analysis" section, I explain the three models used in my analysis - model one tests the macroeconomic determinants of FDI, model two tests the relationship between FDI and GDP, and model three tests the relationship between exports and FDI. The purpose of this section to see if any major macroeconomic variables have a significant impact on attracting FDI inflows and if FDI, GDP and exports in India are positively correlated. I present my analysis in the "Results" section, and then use various research papers by prominent economists to explain and interpret the results.

Chapter 2

Theoretical Background

Foreign Direct Investment: Definitions and Components

Foreign Direct Investment (FDI) occurs when a firm invests directly in facilities to produce and/or market a product in a foreign country (Hill and Jain, 2009). According to the fifth edition of the Balance of Payments Manual of the International Monetary Fund (IMF), FDI refers to an investment made to acquire a *lasting interest* in enterprises operating outside of the economy of the investor. The foreign entity that makes the investment is the "direct investor". The unincorporated or incorporated enterprise, branch or subsidiary in which direct investment is made is called the "direct investment enterprise". The direct investor's purpose is to gain an effective voice in the management of the direct investment enterprise. The fifth edition of the Balance of Payments Manual of the IMF suggests a threshold of 10 percent of equity ownership to qualify an investor as a foreign direct investor (Tamuli, 2006).

According to the Organization for Economic Co-operation and Development (OECD), a direct investment enterprise is an incorporated or unincorporated enterprise in which a single foreign investor either owns 10 percent or more of the ordinary shares or voting power of an enterprise, or owns less than 10 percent of the ordinary shares or voting power of the enterprise yet still maintains an effective voice in the management (Tamuli, 2006). While it has been emphasized by the IMF that investors could exercise significant influence even with less than a 10 percent share in equity and that there can be

situations where even a higher share in equity need not be accompanied by control, yet a strict adherence to the 10 percent criterion is advocated for the sake of statistical consistency at the international level (Dhar and Rao, 2011). The European Commission (EC) has suggested that to ascertain a direct investment relationship when the foreign investor holds less than 10 percent of the equity, the following criteria should be taken into account to determine whether a direct investment relationship exists:

1) Representation on the Board of Directors.
2) Participation in policymaking processes.
3) Intercompany transactions.
4) Interchange of managerial personnel.
5) Provision of technical information.
6) Provision of long term loans of lower than existing market rates (Tamuli, 2006.)

The key here is on **exercising control over management of the enterprise**, which may or may not translate to absolute control. According to the World Investment Report 1997 (WIR) published by the United Nations Conference on Trade and Development (UNCTAD), this is what distinguishes FDI from Foreign Portfolio Investment (FPI). Portfolio equity investors usually provide only financial capital by purchasing shares of a company without any involvement in the company's management. FPI typically has a shorter investment horizon than FDI, sometimes just a few weeks or months, although this horizon can extend to ten years or more. The type of investor is also different: while FDI investors are firms engaged in the production of goods and

services, portfolio equity investors are either financial institutions, institutional investors (such as pension funds, insurance companies or investment trusts), or individuals, and are typically interested only in the financial returns on their investments (UNCTAD, 1997).

Generally, the following are considered as components of FDI:

Equity Capital

The foreign direct investors' net purchase of the shares and loans of an enterprise in a country other than its own.

Reinvested Earnings

The part of an affiliate's earnings accruing to the foreign investor that is reinvested in that enterprise.

Other Capital

Short or long term loans from parent firms to affiliate enterprises or vice versa. Also included are trade credits, bonds and money market instruments, financial leases and financial derivatives. In the case of banks, deposits, bills and short term loans are excluded (Tamuli, 2006).

Forms of FDI

FDI is generally of two forms: Greenfield Investments, which involve the establishment of a new operation in a foreign country, and Mergers and Acquisitions (M&A's), which involve acquiring or merging with an existing firm in the foreign country. M&A's can be a *minority* (where the foreign investor takes a 10 to 49 percent interest in the firm's voting stock), *majority* (where the foreign interest is between 50 to 99 percent in the form's voting stock) or *full outright stake* (foreign interest of 100 percent). The majority of cross border investment is now in the form of M&A's. The UN

has estimated that between 1998 and 2003 about 40 to 80 percent of all FDI inflows were in the form of M&A's. For example, in 2001 M&A's accounted for 78 percent of all FDI in flows whereas in 2003 the figure was 48 percent (Hill and Jain, 2011). According to the World Investment Report 2012 (WIR) published by the UNCTAD, Cross-border M&As and greenfield investments have shown diverging trends over the past three years, with M&As rising and greenfield projects in slow decline (Fig. 2.1), although the total value of greenfield investments is still significantly higher (UNCTAD, 2012). Cross-border M&A's rose by 53 percent in 2011 to $526 billion. Rising M&A activity, especially in the form of megadeals in both developed countries and transition economies, served as the major driver for this increase (UNCTAD, 2012).

In contrast, Greenfield investment projects remained flat in value terms, at $904 billion despite a strong performance in the first quarter of 2011. Because these projects are registered on an announcement basis their performance coincides with investor sentiment during a given period. Thus, their fall in value terms beginning in the second quarter of 2011 was strongly linked with rising concerns about the direction of the global economy and events in Europe. Greenfield investment projects in developing and transition economies rose slightly in 2011, accounting for more than two thirds of the total value of such projects (UNCTAD, 2012).

Figure 2.1: Value of cross-border M&A's and Greenfield FDI projects worldwide (2007-2011)[2]

Source: World Investment Report 2012, UNCTAD

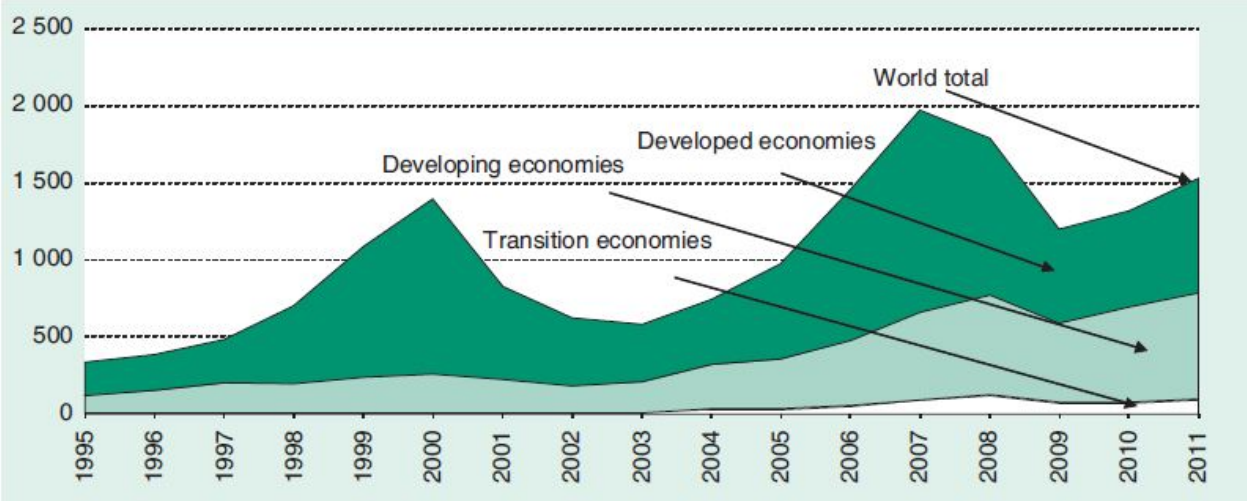
When contemplating FDI, why do firms apparently prefer M&A's? M&A's are quicker to execute than greenfield investments, which is a very important consideration in the modern global business environment where markets evolve rapidly. Many firms may believe that if they do not acquire a desirable foreign firm, their rivals will do so. Foreign firms are acquired because those forms have **valuable strategic assets**, such as brand loyalty, customer relationships, trademarks or patents, distribution systems and production systems. It is easier and less risky for the investing firm to acquire these assets that have a known revenue and profit stream rather than build them from the ground up through greenfield investment whose revenue and profit stream is quite uncertain (Hill and Jain, 2011). However, the big advantage of establishing a greenfield venture in a foreign country is that it gives the investing firm a greater ability to build the kind of subsidiary company that it wants. It is much easier to build a new organization culture

[2] Billions of dollars.

from scratch than it is to change the culture of an acquired unit. It is also easier to establish a set of operating routes in a new subsidiary than it is to convert the operating routes of an acquired unit. This is an important advantage for many international businesses where transferring products, competencies, skills and know-how from the established operations of the firm to the new subsidiary are principal ways of creating value (Hill and Jain, 2011).

Greenfield investment and M&A differ in their impacts on host economies, especially in the initial stages of investment. In the short run, M&As clearly do not bring the same development benefits as greenfield investment projects, in terms of the creation of new productive capacity, additional value added, employment and so forth. The effect of M&As on host country employment can even be negative in cases of restructuring to achieve synergies. In special circumstances M&As can bring short-term benefits not dissimilar to greenfield investments; for example, where the alternative for acquired assets would be closure. Privatization is another special case, where openness of the bidding process to foreign acquirers will enlarge the pool of bidders and increase the value of privatized assets to the state. In any case, over a longer period, M&As are often followed by sequential investments yielding benefits similar to greenfield investments. Also, in other investment impact areas, such as employment and technology dissemination**, the differentiated impact of the two modes fades away over time** (UNCTAD, 2012).

Figure 2.2: FDI Inflows, global and by group of economies, 1995-2011 (Billions of dollars)



Source: World Investment Report 2012, UNCTAD

Theories of FDI

Engaging in FDI is risky and costly; the investing entity has to bear the costs of establishing production facilities or acquiring firms in a foreign country. Relative to a firm in a native culture, the foreign firm may not understand the "rules of the game" in the foreign country and may end up making costly mistakes. If the foreign firm possesses some compensating advantage over the indigenous firm, it may have an incentive to undertake FDI, but it can also license the advantage (technology) to an indigenous producer or simply export the product which would be less costly and less risky. Clearly certain conditions need to be fulfilled to make FDI more attractive rather than exporting or licensing:

1) The advantage is internally transferrable and can be exploited by a subsidiary of the parent firm without any additional cost to the parent firm or to the subsidiaries already exploiting it

2) It is more profitable for the investing firm to exploit the advantage itself than to license it to an indigenous producer. This may happen due to market imperfections and high firm to firm transfer costs.
3) Trade restrictions and transport costs hinder exports to the foreign market (Tamuli, 2006).

Theoretically there are 3 major approaches to the determinants of FDI flows. These are: (i) theories based on assumption of perfect competition (ii) theories based on assumption of imperfect competition (iii) theories based on other specific factors. I will briefly touch upon the first and the third approach but examine the second in greater detail because approaches on imperfect competition are more widely used.

Theories based on Perfect Competition

The **differential rate of return theory argues** that FDI is the result of capital flowing from countries with low rates of return to countries with high rates of return. This is based on the hypothesis that firms equate expected marginal returns with the marginal cost of capital. If the expected rate of return abroad is higher, assuming equal marginal cost in both countries, there will be an incentive to invest abroad. The **portfolio diversification theory** incorporates the possibility of reducing risk, apart from maximizing expected returns. According to this theory, since the returns are likely to vary across different countries, a firm could reduce its overall risk by investing in more than one country. This theory states that multinational investment opportunities offer individual equity holders a superior vehicle for **diversifying their investment**. As a result, Multinational Corporations (MNC'S) will provide greater benefits to their shareholders than companies which do not have foreign operations (Tamuli, 2006).

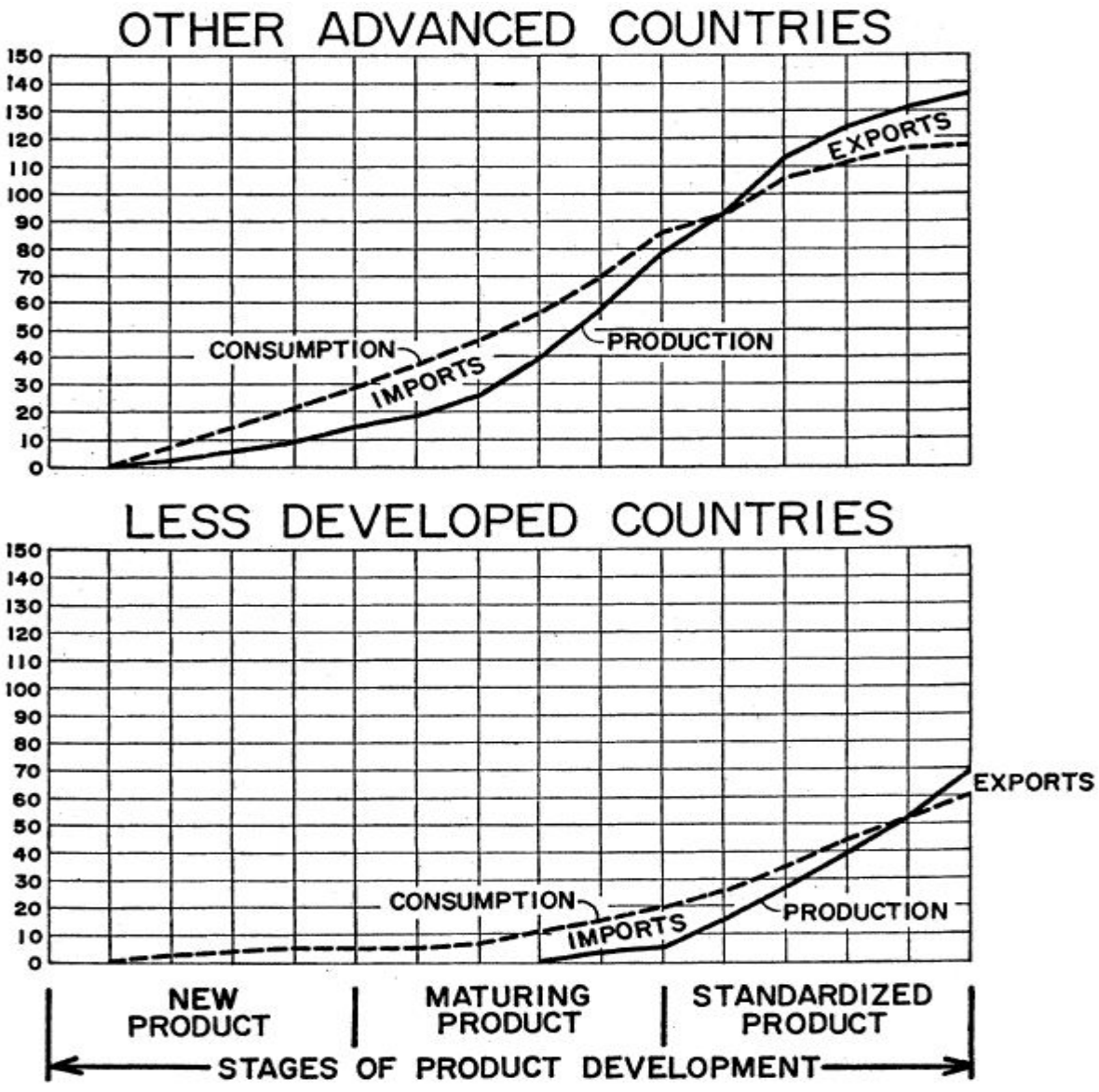
Theories based on Imperfect Competition

Stephen Hymer argued that once risk and uncertainty, volatile exchange rates, and the cost of acquiring information and making transactions are incorporated into classical portfolio theory, many of its predictions with regard to cross-border flows become invalid. In his view FDI involved the transfer of resources such as technology and management skills, not just financial capital. Firms are motivated to produce abroad due to the expectation of earning an economic rent on the totality of their resources. Thus, applying the industrial organization approach to the theory of foreign production, Hymer argued that for firms to undertake FDI, they should possess some kind of cost/financial/marketing advantages specific to their ownership which are sufficient to outweigh disadvantages these companies may have in competing with indigenous firms in the country of production. These advantages are assumed to be exclusive to the firm owning them, implying the existence of some kind of market imperfection or monopolistic advantage. Hymer therefore considered MNC's as **a source of monopoly power** rather than a facilitator in reducing costs (Tamuli, 2006).

Raymond Vernon (1966) used the **product life cycle theory** to explain FDI. Vernon argued that often the same firms that pioneer a product in their home markets undertake FDI at particular stages in the life cycle of the product. In his theory Vernon explained that in the early stages of introduction of a new product its unstandardized nature carries with it locational implications that would lead to production being established first in the home country. As the demand for the product expands, a certain degree of standardization takes place and firms invest in other advanced countries when local demand in those countries grows large enough to support local production, then

subsequently shift production to developing countries when product standardization and market saturation give rise to price competition and cost pressures. From **Figure 2.3** we can see that as a product gets more mature and standardized, the company has an incentive to shift production overseas.

Figure 2.3: Explaining FDI using Vernon's Product Life Cycle Theory



Source: Vernon, 1966

The British economist John Dunning (1988) came up with the eclectic theory of FDI, also known as the OLI theory of FDI. Here, OLI refers to Ownership, Location, and Internalization. It is one of the most well known theories of FDI. The principal hypothesis on which the eclectic theory of FDI is based is that a firm will engage in foreign value adding activities if and when three conditions are satisfied. These are:

1) The firm possesses net ownership (O) advantages vis-à-vis firms of other nationalities in serving particular markets. These O advantages largely take the form of possession of intangible assets or of the advantages of common governance which are, at least for a period of time, exclusive or specific to the firm possessing them.
2) Assuming condition (1) is satisfied, it must be more beneficial to the enterprise possessing these advantages to use them (or their output) itself rather than sell or lease them to foreign firms; this it does through an extension of its existing value added chains or the adding of new ones. These advantages are called internalization[3] (I) advantages.
3) Assuming conditions (1) and (2) are satisfied, it must be in the global interests of the enterprise to utilize these advantages in conjunction with at least some factor inputs (including natural resources) outside its home country; otherwise foreign markets would be served entirely by exports and domestic markets by domestic production. These advantages are termed as locational advantages (L). Locational

[3] Control through self handling of operations (internal to the organization) is called internalization. According to transactions cost theory, companies should seek the lower cost between handling something internally and contracting another party to handle it for them (Hill and Jain, 2011).

advantages are those which can only be used by enterprises in the locations in which they are situated. (Dunning, 1988).

What distinguishes the eclectic theory from other theories? The eclectic theory argues that it is not the possession of technology *per se* which gives an enterprise selling goods embodying that technology to foreign markets an edge over its competitors, but the advantage of *internalizing* the use of that technology rather than selling it to a foreign producer for the production of those goods. It is not the type of monopoly advantages *per se* which give an enterprise an edge over its rivals, but the *ability to internalize them*, for example through transfer price manipulation and control over use of intermediate goods. It is not surplus entrepreneurial resources (O advantages) *per se* which lead to FDI, but the ability of enterprises to *combine these resources with others* to take advantage of the economies of production of joint products.

In other words, without the ability to internalize the markets for and production of technology, FDI in technology based industries would give way to licensing agreements and/or the outright sale of knowledge on a contractual basis. Without the incentive to internalize markets there would be much less reason to engage in vertical or horizontal integration and again transactions would take place between independent firms. So the eclectic theory points out that O-L-I advantages interact among each other to stimulate FDI to various countries; the firm must have ownership and internalization advantages and the foreign country must have locational advantages over the firm's home country (Dunning, 1988). **Fig. 2.4** summarizes OLI advantages while **Fig. 2.5** illustrates OLI Characteristics

Figure 2.4: OLI advantages

1. *Ownership-Specific Advantages* (of enterprises of one nationality (or affiliates of same) over those of another)
   a. Property right and/or intangible asset advantages
      Product innovations, production management, organizational and marketing systems, innovatory capacity; non-codifiable knowledge; 'bank' of human capital experience; marketing, finance, know-how, etc.
   b. Advantages of common governance
      i. Which those branch plants of established enterprises may enjoy over *de novo* firms. Those due mainly to size and established position of enterprise, e.g. economies of scope and specialization; monopoly power, better resource capacity and usage. Exclusive or favoured access to inputs, e.g. labour, natural resources, finance, information. Ability to obtain inputs on favoured terms (due e.g. to size or monopsonistic influence). Exclusive or favoured access to product markets. Access to resources of parent company at marginal cost. Economies of joint supply (not only in production, but in purchasing, marketing, finance, etc., arrangements).
      ii. Which specifically arise because of multinationality. Multinationality enhances above advantages by offering wider opportunities. More favoured access to and/or better knowledge about international markets, e.g. for information, finance, labour, etc. Ability to take advantage of geographic differences in factor endowments, markets. Ability to diversify or reduce risks, e.g. in different currency areas, and/or political scenarios.

2. *Internalization-Incentive Advantages* (i.e. to protect against or exploit market failure)
   Avoidance of search and negotiating costs.
   To avoid costs of enforcing property rights.
   Buyer uncertainty (about nature and value of inputs (e.g. technology) being sold).
   Where market does not permit price discrimination.
   Need of seller to protect quality of intermediate or final products.
   To capture economies of interdependent activities (see b. above).
   To compensate for absence of future markets.
   To avoid or exploit government intervention (e.g. quotas, tariffs, price controls, tax differences, etc.).
   To control supplies and conditions of sale of inputs (including technology).
   To control market outlets (including those which might be used by competitors).
   To be able to engage in practices, e.g. cross-subsidization, predatory pricing, leads and lags, transfer pricing, as a competitive (or anti-competitive) strategy.

3. *Location-Specific Variables* (these may favour home or host countries)
   Spacial distribution of natural and created resource endowments and markets.
   Input prices, quality and productivity, e.g. labour, energy, materials, components, semi-finished goods.
   International transport and communications costs.
   Investment incentives and disincentives (including performance requirements, etc.)
   Artificial barriers (e.g. import controls) to trade in goods.
   Infrastructure provisions (commercial, legal, educational, transport and communication).
   Psychic distance (language, cultural, business, customs, etc., differences).
   Economies of centralization of R & D production and marketing.
   Economic system and policies of government; the institutional framework for resource allocation.

Source: Dunning, 1988

Figure 2.5: Some illustrations of how OLI Characteristics may vary according to Country, Industry, and Firm specific considerations

	Country (home-host)	*Industry*	*Firm*
Ownership	Factor endowments (e.g., resources and skilled labour) and market size and character. Government policy towards innovation, protection of proprietary rights, competition and industrial structure, government controls on inward direct investment	Degree of product or process technological intensity; nature of innovations; extent of product differentiation; production economies (e.g., if there are economies of scale); importance of favoured access to inputs and/or markets	Size, extent of production, process or market diversification; extent to which enterprise is innovative, or marketing-oriented, or values security and/or stability, e.g., in sources of inputs, markets etc.; extent to which there are economies of joint production
Internalization	Government intervention and extent to which policies encourage MNEs to internalize transactions, e.g., transfer pricing; government policy towards mergers; differences in market structures between countries, e.g., with respect to transaction costs, enforcement of contracts, buyer uncertainty etc.; adequacy of technological, educational, communications etc., infrastructure in host countries and ability to absorb contractual resource transfers	Extent to which vertical or horizontal integration is possible/desirable, e.g., need to control sourcing of inputs or markets; extent to which internalizing advantages can be captured in contractual agreements (cf. early and later stages of product cycle); use made of ownership advantages; cf. IBM with Unilever-type operation; extent to which local firms have complementary advantage to those of foreign firms; extent to which opportunities for output specialisation and international division of labour exist	Organisational and control procedures of enterprise; attitudes to growth and diversification (e.g., the boundaries of a firm's activities); attitudes toward subcontracting ventures, e.g., licensing, franchising, technical assistance agreements etc.; extent to which control procedures can be built into contractual agreements
Location	Physical and psychic distance between countries; government intervention (tariffs, quotas, taxes, assistance to foreign investors or to own MNEs, e.g., Japanese government's financial aid to Japanese firms investing in South East Asian labour intensive industries)	Origin and distribution of immobile resources; transport costs of intermediate and final goods products; industry specific tariff and non-tariff barriers; nature of competition between firms in industry; can functions of activities of industry be split? Significance of 'sensitive' locational variables, e.g., tax incentives, energy and labour costs	Management strategy towards foreign involvement; age and experience of foreign involvement; (position of enterprise in product cycle etc.); psychic distance variables (culture, language, legal and commercial framework); attitudes towards centralization of certain functions, e.g., R & D; regional office and market allocation etc.; geographical structure of asset portfolio and attitude to risk diversification

Source: Dunning, 1988

Theories based on other factors

These theories are based on factors such as liquidity, currency areas, barriers to international trade, etc. Aliber (1970) attempted to introduce foreign exchange risk into the theory of FDI. According to him the pattern of FDI could be explained by differences in the cost of capital which are created by exchange risk premiums. Firms located in preferred currency areas could borrow at lower interest rates, or issue equity at higher capitalization ratios because these liabilities are denominated in a currency with lower

expected exchange rate risk. Aliber argued that structural imperfections in the foreign exchange market allow firms to make foreign exchange gains through purchase and sale of assets in an undervalued or overvalued currency (Tamuli, 2006).

Kojima's (1973) **macroeconomic theory of FDI** is essentially an extension of the neoclassical theory of factor endowments to explain trade in intermediate products, notably technology and management skills. Kojima distinguishes "Japanese type FDI" from "American type FDI." He states that the former complements and supports trade (it is trade-oriented) as it transfers a package of capital, technology and managerial skill from an industry which has a comparative disadvantage (in the home country) to the recipient country in which it develops a comparative advantage, helping the reorganization of the international division of labor and trade between them and upgrading the industrial structure of both countries. The point is that FDI here works in a complementary fashion and with changes in the pattern of comparative advantage.

However, the latter type of FDI moves outward from an industry where there is comparative advantage (in the home country) and it prevents mutual upgrading of the industrial structure and blocks the reorganization of international trade. Therefore this is "anti-trade-reorganization-oriented" type, and *substitutes* for international trade rather than complementing it. According to this theory, FDI should act as an efficient channel for trading intermediate products. Therefore, according to Kojima, firms that produce intermediate products requiring resources in which the home country is disadvantaged should undertake *outbound* FDI, while in contrast *inward* FDI should be in those industries requiring resources and capabilities in which the host country has a comparative advantage (Kojima, 1973).

Chapter 3

Foreign Direct Investment in India

Investment Routes

According to the latest consolidated FDI policy published by the Department of Industrial Policy and Promotion (2012), the following are the major direct investment routes in India:

1. Automatic Route: FDI under the automatic route does not require prior approval either by the government of India or the Reserve Bank of India (RBI). Investors are only required to notify the concerned regional office of the RBI within 30 days of receipt of inward remittances and file required documents with that office within 30 days of issue of shares to foreign investors. The RBI accords automatic approval within a period of two weeks (provided all the parameters are met) to all proposals involving: foreign equity participation up to 50 percent in 3 categories relating to mining activities; foreign equity up to 51 per cent in 48 specified industries; foreign equity up to 74 per cent in 9 categories. This route is sometimes referred to as the "RBI route."
2. Government Route: FDI in activities not covered under the automatic route requires prior approval of the government, which is provided by the Foreign Investment Promotion Board (FIPB) under the Ministry of Finance. Under this route, investment proposals dealing with a foreign equity inflow of or below 12 billion Rupees are considered by the FIPB. This is the "FIPB route." However for

proposals exceeding a total foreign equity of 12 billion Rupees, the recommendations of the FIPB are placed for the consideration of the Cabinet Committee on Economic affairs (CCEA).

The earlier Indian definition of FDI differed from that of the IMF as well as that of the UNCTAD's World Investment Reports. The IMF 's definition includes external commercial borrowings, reinvested earnings and subordinate debt while the World Investment Report's definition excludes external commercial borrowings. Since 2000, India has adopted a new method of compilation of FDI statistics to make it comparable with international best practices. The Technical Monitoring Group on FDI formed by the RBI in its First Action Taken report in June 2003 identifies the following 14 items which are required to be included in the FDI statistics in order to make the data internationally comparable:

1. Equity Capital:

   a) Equity in unincorporated entities.

   b) Non-cash acquisition against technology transfer, plant and machinery, goodwill, business development and similar considerations.

   c) Control Premium.

   d) Non-Competition Fee.

2. Reinvested Earnings:

   e) Reinvested Earnings of incorporated entities.

   f) Reinvested Earnings of unincorporated entities.

   g) Reinvested Earnings of indirectly held direct investment enterprises.

3. Other Capital:

h) Short term and long term borrowings.

i) Trade Credit.

j) Suppliers' Credit

k) Financial leasing.

l) Financial Derivatives.

m) Debt securities.

n) Land and buildings (Tamuli, 2006).

Who can Invest in India?

Any non-resident entity other than a citizen of Pakistan or an entity incorporated in Pakistan can invest in India subject to the FDI policy. A citizen of Bangladesh or an entity incorporated in Bangladesh can only invest under the government route. Non Resident Indians (NRI's) resident in Nepal and Bhutan as well as citizens of Nepal and Bhutan are permitted to invest in the capital of Indian companies on a repatriation basis subject to the consideration that such investment shall be paid only by way of inward remittance in free foreign exchange through normal banking channels. Overseas Corporate Bodies[4] (OCB's) have been derecognized as a class of investors in India with effect from September 16, 2003. Erstwhile OCB's which are not under the notice of the RBI can make fresh investments under the FDI policy as incorporated non-resident entities, with the prior approval of the government of India if the investment is through

[4] An OCB is a company, partnership, firm, society or any other corporate body owned directly or indirectly to the extent of 60 per cent by NRI's and includes overseas trusts in which not less than 60 per cent beneficial interest is held by NRI's directly or indirectly (DIPP, 2012).

the government route; and with prior approval of the RBI if the investment is through the automatic route (DIPP, 2012). Additionally, a foreign company planning to set up business operations in India may:

- Incorporate a company under the Companies Act, 1956, as a Joint Venture (JV) or a wholly owned subsidiary.
- Set up a Liaison Office / Representative Office, Project Office or a Branch Office of the foreign company which can undertake activities permitted under the Foreign Exchange Management (FEMA) (Establishment in India of Branch Office or Other Place of Business) Regulations, 2000.

Prohibited Sectors

FDI is prohibited in the following activities/sectors:

a) Lottery Business including Government /private lottery, online lotteries, etc.
b) Gambling and Betting including casinos, etc.
c) Chit funds.
d) Nidhi Company[5].
e) Trading in Transferable Development Rights (TDRs).
f) Real Estate Business or Construction of Farm Houses.
g) Manufacturing of Cigars, cheroots, cigarillos and cigarettes, of tobacco or of tobacco substitutes.

[5] It is a non-banking finance company involved in the business of lending and borrowing with its members or shareholders.

h) Activities / sectors not opened to private sector investment including Atomic Energy and Railway Transport (other than Mass Rapid Transport Systems). Besides foreign investment in any form, foreign technology collaboration in any form including licensing for franchise, trademark, brand name, management contract is also completely prohibited for lottery business and gambling and betting activities.

Additionally, there exist sectoral caps that limit the percentage of foreign investment in the equity of a company and certain entry conditions for specific sectors under which FDI can be made. Such conditions include norms for minimum capitalization, local sourcing clauses, lock-in periods, etc. Besides these entry conditions, investors are required to comply with all relevant sectoral laws, regulations, rules, security conditions and state/local laws and regulations.

The Evolution of FDI policy in India

India achieved Independence in 1947 and for the first four decades after achieving independence from the British colonial rule, India's economic policies were mainly characterized by control, regulation and planning. There were periodic attempts at market oriented reform, usually following balance of payments pressures. These pressures induced policy responses that combined exchange rate depreciation and an easing of restrictions on foreign capital flows. However, such partial liberalizations were relatively narrow in scope and had little impact on actual FDI inflows, which remained small. There existed foreign shareholdings in many companies, some of which had pre-independence origins. There were also certain "high priority" sectors so designated by the

government where domestic firms were allowed to enter into technology licensing arrangements with foreign companies, which often involved an equity stake. But, there was a general sense of discomfort with foreign presence in industry, particularly in "non-essential" sectors like consumer goods (Bhaumik et al., 2004).

Early Post-Independence Period (1948-67): Import Protection and Receptive Attitude to FDI

In the years right after independence, Indian economic policy reflected a strategy of import substituting industrialization with a focus on development of local capability in heavy industries including the machinery manufacturing sector. This import substitution extended to almost everything that could be manufactured in India. Besides this, there were high tariffs and quantitative restrictions on imports to protect domestic industry. As the domestic base of "created" assets (such as technology and skills) was limited, the attitude towards FDI became increasingly receptive. FDI was sought on mutually advantageous terms, although majority local ownership was preferred. Foreign investors were wooed by the government, and were assured no restrictions on remittances of profits and dividends, fair compensation in the event of acquisition, and "national treatment."

The foreign exchange crisis of 1957-58 led to further liberalization in the government's attitude towards FDI. The number of incentives and concessions was extended to attract foreign investment needed to finance foreign exchange components of projects. Moreover, what really attracted foreign investors to India during the late 1950's and early 1960's was the fact that there was a lot of protection accorded to local manufacture, which was seen as a locational advantage. This was really the period when western Multinational Enterprises (MNE's) started showing interest in investing in India,

and a large number of foreign enterprises serving the Indian market through exports started to establish their presence through manufacturing affiliates (Kumar, 1998).

From 1968 to 1979: Restrictive Attitude to Protect the Domestic Base of "Created" Assets

Liberalization in the previous period stemmed from the fact that there was a shortage of "created" assets in the economy. The investments made in machinery fabrication facilities, manpower development, scientific and technological infrastructure led to the establishment of these "created" assets. For instance, a considerable plant fabrication capability had been built up in the country by the late 1960's. The share of imported machinery and equipment as a proportion of gross domestic capital formation had dropped from 69% in 1950 to under 25% by 1968-69. At the same time, a number of local design engineering and project management consultants had accumulated considerable expertise while acting as sub-contractors for Western prime consultants, so the pool of skilled workforce was positively affected by FDI inflows. However, by now, outflows on account of remittances of dividends, profits, royalties and technical fees abroad had grown considerably from the previous period. These outflows negatively impacted India's foreign exchange account, and prompted the government to adopt a more restrictive attitude toward FDI (Kumar, 1998).

Restrictions were put on FDI proposals unaccompanied by technology transfer, and on proposals seeking more than 40 percent of ownership. Industries where FDI was not considered desirable were listed explicitly by the government. Renewals of foreign collaboration agreements were restricted, and from 1973 onwards further activities of foreign companies (along with those of local large industrial houses) were restricted to a

select group of core or high priority industries. In the same year a new Foreign Exchange Regulation Act (FERA) came into force which required all foreign companies operating in India to register under Indian corporate legislation and reduce the foreign equity to 40 per cent or below. Exceptions were made only for companies in the high priority or high technology sectors, tea plantations, or those producing predominantly for exports (Kumar, 1998). At the same time foreign firms were also subject to “local content” and “foreign exchange balancing” rules that curbed their freedom of operation.

The FERA of 1973 was Prime Minister Indira Gandhi's response to the economic crisis that bedeviled most years of her premiership. Her economic policy initiatives were mostly driven by political exigencies rather than an objective strategy with specific goals. Hostility to private enterprise, especially private foreign enterprise, headline grabbing initiatives such as the nationalization of banks along with increased state control of economic activity were all part of a strategy to please the electorate. In response to the FERA regulation that required foreign firms to dilute their equity holdings to less than 40 per cent, many major multinationals such as IBM and Coca-Cola chose to close down their operations in India (Balasubramanyam and Mahambare, 2003). During the period 1967-1979 the total number of collaboration agreements reached an all time low of 242, and the proportion of agreements with foreign equity participation fell from 36 per cent during the years 1959-1966 to 16 per cent over the years 1967-1979. During the thirteen year period 1966-1979 the total amount of foreign capital approved by the government amounted only to $70 million and the net inflow (net of dividends and repatriation of capital) was negative (Balasubramanyam and Mahambare, 2003).

The 1980's: Cautious Deregulation

Towards the end of the 1970's India's failure to significantly step up the volume and proportion of manufactured exports in the aftermath of the second oil price shock began to worry policy makers. It led to the realization that international competitiveness of Indian goods had been hurt by growing technological obsolescence and inferior product quality, limited range and high cost, which in turn were due to the highly protected local market. The government decided to deal with the situation by emphasizing the modernization of industry with liberalized imports of capital goods and technology, exposing the Indian industry to foreign competition by gradually liberalizing the trade regime and assigning a greater role to MNE's in the promotion of manufactured exports. This was reflected in the policy pronouncements made in the 1980's, which included liberalization of industrial licensing (approval) rules and exemption from foreign equity restrictions under FERA to 100 per cent export oriented units. Four more export processing zones were created to attract MNE's to set up export oriented units. Tariffs on imports of capital goods were also slashed (Kumar, 1998).

Liberalization of industrial and trade policies was accompanied by an increasingly receptive attitude towards FDI and foreign licensing collaborations. Approval systems were streamlined, and a degree of flexibility was introduced in the policy concerning foreign ownership. The rules and procedures concerning payments of royalties and lump sum technical fees were relaxed and withholding taxes were reduced. The approvals for opening liaison offices by foreign companies in India were also liberalized, and new procedures were introduced enabling a direct application by a foreign investor even before choosing an Indian partner. Furthermore, a "fast channel" was set up in 1988 for

expediting clearances of FDI proposals from major investing countries such as Japan, Germany, the US and the UK (Kumar, 1998). Prime Minister Rajiv Gandhi, with his penchant for science and technology, mirroring that of his grandfather Nehru, appears to have been more sanguine about foreign enterprise participation in the economy than his predecessor. As a result of the relaxation of the strict policies of the 1970's, the total number of collaboration agreements approved per year increased from 242 during the period 1967-1979 to 744 during the period 1980-1988 (Balasubramanyam and Mahambare, 2003).

One of the major consequences of the policy regime during the pre-1991 phase was a significant change in the pattern of foreign investment in India, away from plantations, minerals and petroleum towards the manufacturing sector. By the end of the decade of the 1980's manufacturing accounted for nearly 85 per cent out of a total FDI stock of $28 billion Rupees. Within the manufacturing sector the high technology intensive industries such as machinery and machine tools, transport equipment and chemicals including pharmaceuticals accounted for the bulk of foreign capital (Balasubramanyam and Mahambare, 2003). The precise nature of the extent of foreign presence in a specific locale is a matter of debate. The proportion of total sales of a sector accounted for by foreign firms, their share in total assets, and their share in value added generated by a sector are some of the indicators used to measure foreign presence.

Kumar (1994) estimates that at the end of the decade of the eighties, foreign share in assets or sales of the organized private corporate sector in India was around 23 per cent. The share of foreign forms in individual industries within the manufacturing sector varies widely from a high of 98 per cent in leather products to a low of 7 per cent in

textile machinery. In the case of 11 industries including processed foods, cigarettes, leather goods, pharmaceuticals and automotive components, foreign shares exceeded 66 per cent of total sales in individual industries; in 15 others including electrical lamps, electric machinery, paints and varnishes foreign share in total sales ranged between 34 to 66 per cent. More recent estimates suggest that over the period 1970-1994 foreign controlled firms accounted for between a third and a quarter of gross sales of India's manufacturing sector (Athreye and Kapur, 2001).

As both Kumar (1994) and Athreye and Kapur (2001) comment, the 1973 FERA appears to have failed in its objective of limiting foreign control. The required dilution of equity in favor of Indian nationals was achieved through fresh equity issues and control over operations was retained through wide dispersal of shares amongst local shareholders. In any case these estimates, especially those relating to individual industries suggest that foreign control over Indian industry during the pre-1991 phase was not low; in fact it was significant in a number of consumer goods and technologically intensive industries. While the regulatory phase may have limited the absolute volume of foreign capital in India relative to that in some of the Latin American and East Asian countries, it may not have limited the extent of control exercised by foreign firms in individual industries and the manufacturing sector in general.

This discussion of FDI in the pre-1991 phase suggests that the size of markets in India especially for consumer goods with well known brand names, India's industrialization policies with emphasis on science and technologically oriented industries, the generally stable macroeconomic environment (though punctured with episodes of inflation and balance of payments crises), and her endowment of human

capital have all been factors in attracting the volume and pattern of FDI and technology licensing agreements in the economy during the period 1950-1990, and foreign presence seems to have been sizeable despite the complex regulations (Balasubramanyam and Mahambare, 2003).

1990's: Full Scale Liberalization and Integration with the World Economy

The reforms of 1991 were part of the first sustained effort at restructuring the Indian economy. They came in response to another balance of payments crisis, where India was left with only two weeks' import cover (Bhaumik et al., 2003). In June 1991, the Indian government initiated a program of macroeconomic stabilization and structural adjustment supported by the IMF and the World Bank. As a part of this program a New Industrial Policy (NIP) was announced on 24th July 1991 in the parliament which started the process of full scale liberalization and intensified the process of integration of India with the global economy. The NIP and subsequent policy amendments completely revamped the FDI policy, and significantly opened up the country.

The industrial approval system in all industries was abolished, except for 18 strategic or environmentally sensitive industries. As against the previous policy of considering all foreign investment on a case by case basis, and that too within a normal ceiling of 40% of total equity investment, the new policy provided for automatic approval of FDI up to 51% of equity in a specified list of 34 high priority, capital intensive, high technology industries (Bajpai and Sachs, 2000). To attract MNE's in the energy sector 100% FDI was permitted in power generation. A new package for 100% export oriented projects and companies in export processing zones was announced.

Moreover, a Foreign Investment Promotion Board (FIPB) was created and authorized to provide a single window clearance for approvals of investment. The FIPB came directly under the Prime Minister's office, signaling to foreign investors that efficiency and transparency were being enhanced. The Foreign Exchange Regulation Act of 1973 (FERA) was amended and restrictions on foreign companies were lifted. Companies with more than 40% foreign equity were now treated on par with fully Indian owned companies. New sectors such as mining, banking, telecommunications, highways, construction and management were thrown open to private (and foreign owned) companies. The rupee was made convertible first on the trade, then finally on the current account (Kumar, 1998). In short, more sectors were opened up, sectoral caps were lifted, and more freedom and flexibility was granted to foreign companies, and the whole process of investing in India was made less burdensome.

To summarize the impact of pre-1990 policies, the Indian industrial structure was weak, both financially and technologically. There were a number of laws to control foreign investment, and the sentiment on foreign direct investment was discouraging, as compared to after the reforms of 1991. Foreign companies found it cumbersome to invest in India, with strict licensing constraints, entry barriers as well as heavy state intervention in the economy. For example, under the Industries Development and Regulation Act (1951) it was mandatory for all companies to get government approval to set up new production units or expand their capacity. Approval was also required if the manufacturer wanted to change the line of production, and even when permission was granted, it was very specific about product, capacity, and location.

The decision to award a license involved many stages and became a highly bureaucratic process. This and other policies led to a very high degree of bureaucratization of the economy. The government also controlled the exit option for a company, and manufacturers were not allowed to close operations or reduce their work force without government approval. The intention was to try and avoid unemployment but it ended up promoting inefficiency. The restrictions on FDI resulted in the economy being deprived of foreign capital and foreign technology and internationally efficient scales and quality of production could not be achieved (Bhaumik et al., 2004).

The reforms launched in 1991 addressed the problems of inefficiency, high costs, poor management, non-competitiveness, import controls, lack of export orientation, and disincentives to foreign producers. The NIP led to de-licensing of industry. The policy environment was changed from being protective to competitive. De-licensing gave companies the freedom to make decisions about investment, expansion and plant locations. Bureaucratic practices involved in the investment procedures were reduced significantly. The lowering of entry barriers resulted in greater foreign investment. The approval process for FDI was made easier and in many industries the Reserve Bank of India was authorized to give automatic approval. Technology transfers were also made easier by removing many mandatory approval requirements, and there was a reduction of controls on technology and royalty payments (Bhaumik et al., 2004).

Trends and Patterns of FDI flows in India Post-Liberalization

As the restrictions on foreign investments were reduced or removed, there was a sudden spurt in foreign net inflows. The number of approvals of foreign technical collaborations registered a dramatic increase in the new policy regime, and the number of

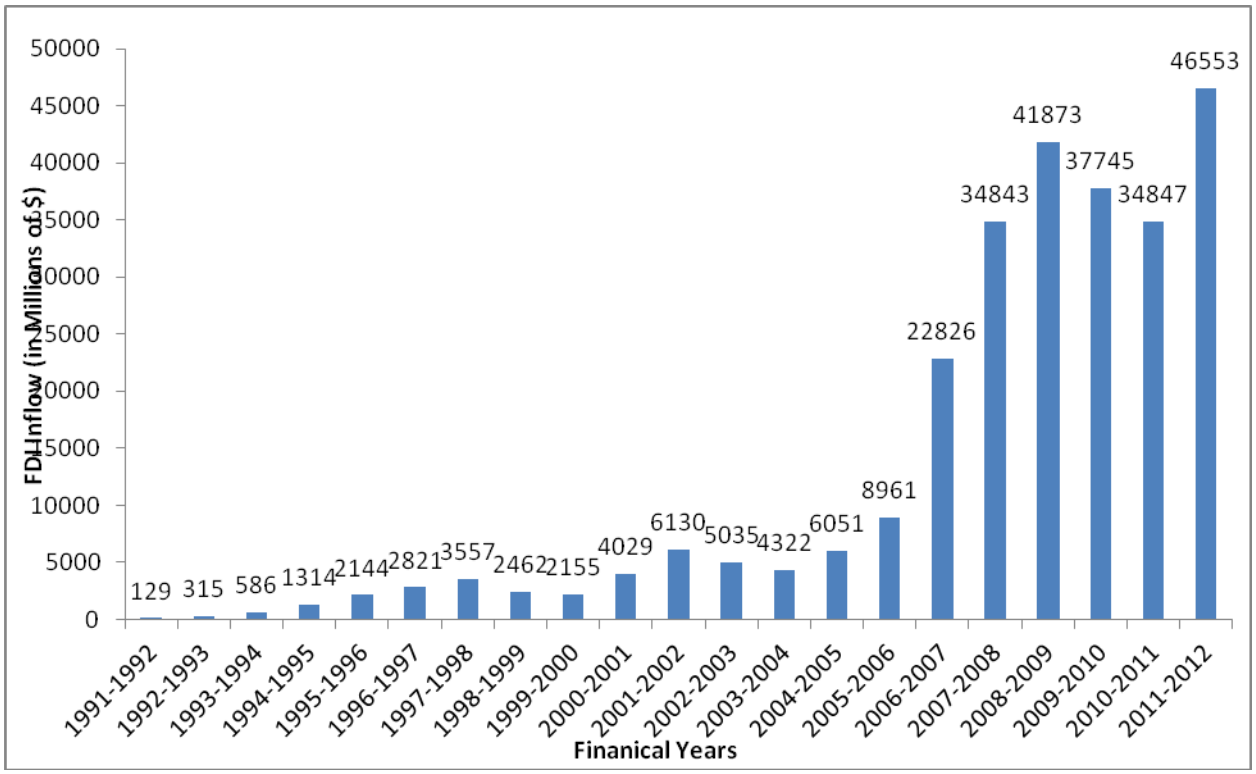
foreign technology approvals went up. The value of FDI approvals increased significantly in the post reform period. The annual inflow of FDI rose from a paltry $0.1 billion in the financial year 1991-1992 to $4.02 billion in 2001-2002 (Bhaumik et al., 2003). The inflow has witnessed fluctuations; from **Table 3.1** and **Figure 3.1** we can see that it increased from $129 million in 1991-1992 to $3,557 million in 1997-1998 and then declined to $2,462 million the following financial year and to $2,155 million in 1999-2000. It then increased to a peak of $6,130 million in 2001-2002 before declining again in the subsequent years in 2002-2003 and 2003-2004. The inflow again increased to $6,051 million in 2004-2005. In terms of annual growth, FDI inflows to India declined from 144.2 percent in 1992-1993 to 26.1 percent in 1997-98. During this period the growth rate was positive though it varied from year to year. During the time period 1991-1992 to 2004-2005, growth rate of FDI inflow to India was negative for four years (1998-1999, 1999-2000, 2002-2003 and 2003-2004) (Dutta and Sarma, 2008).

Table 3.1: Actual FDI inflows and Annual Growth Rate of FDI inflows to India

Financial Years	FDI Inflows ($ Millions)	Annual Growth (%)
1991-1992	129	-
1992-1993	315	144.1860465
1993-1994	586	86.03174603
1994-1995	1314	124.2320819
1995-1996	2144	63.16590563
1996-1997	2821	31.57649254
1997-1998	3557	26.09003899
1998-1999	2462	-30.78436885
1999-2000	2155	-12.46953696
2000-2001	4029	86.96055684
2001-2002	6130	52.14693472
2002-2003	5035	-17.862969
2003-2004	4322	-14.16087388
2004-2005	6051	40.00462749
2005-2006	8961	48.09122459
2006-2007	22826	154.726035
2007-2008	34843	52.64610532
2008-2009	41873	20.17621904
2009-2010	37745	-9.858381296
2010-2011	34847	-7.677838124
2011-2012	46553	33.59256177

Source: Handbook of Statistics on the Indian Economy 2011-2012, The Reserve Bank of India.

Figure 3.1: FDI inflows for the period 1991-1992 to 2011-2012



Source: Handbook of Statistics on the Indian Economy 2011-2012, The Reserve Bank of India

FDI Inflows have been on the rise since 2004-2005. From $6,051 million in 2004-2005 they reached a peak of $41,873 million in 2008-2009 then declined in the following years in 2009-2010 and 2010-2011 before reaching a peak of $46,553 million in 2011-2012 (Meshram and Meshram, 2012). From **Figure 3.2** it is clear that in recent years, equity capital as a component of FDI has increased substantially, from$2.3 billion in 2000-2001 to $5.5 billion in 2005-2006, and finally to $34.8 billion in 2011-2012. At the same time, reinvested earnings, after being generally stable for the first 5 years after the millennium, have increased from $1.3 billion in 2000-2001 to $5.8 billion in 2006-2007, and finally to almost $12 billion in 2010-2011. The "other capital" component of FDI has

been volatile; it amounted to $279 million in 2000-2001, rose to $633 million in 2003-2004 and then fell to $226 million in 2005-2006 before finally reaching a peak of $2,494 million in 2011-2012.

Figure 3.2: FDI inflows from 2000-2001 to 2012-2013 broken down into components ($ Millions)

S. No.	Financial Year (April-March)	FOREIGN DIRECT INVESTMENT (FDI)						Investment by FII's Foreign Institutional Investors Fund (net)
		Equity		Re-invested earnings +	Other capital +	FDI FLOWS INTO INDIA		
		FIPB Route/ RBI's Automatic Route/ Acquisition Route	Equity capital of unincorporated bodies #			Total FDI Flows	%age growth over previous year (in US$ terms)	
FINANCIAL YEARS 2000-01 to 2012-13 (up to December, 2012)								
1.	2000-01	2,339	61	1,350	279	4,029	-	1,847
2.	2001-02	3,904	191	1,645	390	6,130	(+) 52 %	1,505
3.	2002-03	2,574	190	1,833	438	5,035	(-) 18 %	377
4.	2003-04	2,197	32	1,460	633	4,322	(-) 14 %	10,918
5.	2004-05	3,250	528	1,904	369	6,051	(+) 40 %	8,686
6.	2005-06	5,540	435	2,760	226	8,961	(+) 48 %	9,926
7.	2006-07	15,585	896	5,828	517	22,826	(+) 146 %	3,225
8.	2007-08	24,573	2,291	7,679	300	34,843	(+) 53 %	20,328
9.	2008-09	31,364	702	9,030	777	41,873	(+) 20 %	(-) 15,017
10.	2009-10 (P) (+)	25,606	1,540	8,668	1,931	37,745	(-) 10 %	29,048
11.	2010-11 (P) (+)	21,376	874	11,939	658	34,847	(-) 08 %	29,422
12.	2011-12 (P)	34,833	1,021	8,205	2,494	46,553	(+) 34 %	16,813
13.	2012-13 (P) (up to December, 2012)	16,348	786	8,217	1,846	27,197	-	16,043
CUMULATIVE TOTAL (from April, 2000 to December, 2012)		189,489	9,547	70,518	10,858	280,412	-	133,121

Source: (i) RBI's Bulletin February, 2013 dt. 11.02.2013 (Table No. 34 – FOREIGN INVESTMENT INFLOWS).
(ii) Inflows under the acquisition of shares in March, 2011, August, 2011 & October, 2011, include net FDI on account of transfer of participating interest from Reliance Industries Ltd. to BP Exploration (Alpha).
(iii) RBI had included Swap of Shares of US$ 3.1 billion under equity components during December 2006.
(iv) Monthly data on components of FDI as per expended coverage are not available. These data, therefore, are not comparable with FDI data for previous years.
(v) Figures updated by RBI up to December, 2012.

'#' Figures for equity capital of unincorporated bodies for 2010-11 are estimates.
(P) All figures are provisional
"+" Data in respect of 'Re-invested earnings' & 'Other capital' for the years 2009- 10, 2010-11 & 2012-13 are estimated as average of previous two years.

Source**:** Fact Sheet on Foreign Direct Investment, DIPP, December 2012.

Source Countries of FDI

India has broadened the sources of FDI in the period of reforms. There were 120 countries investing in India in 2008 as compared to 15 countries in 1991. Thus, the number of countries investing in India increased substantially after the reforms of 1991 (Sahni, 2012). European countries had been the major sources of FDI inflows in India

prior to 1990. However their relative importance has steadily declined in the post-liberalization period, with the share of major European source countries (which include the UK, Germany, France, Switzerland, Sweden, Italy and Netherlands) coming down from 69 and 66 percent of FDI stock in 1980 and 1990 to just 31 percent by 1997. This decline in the relative importance of European countries as sources of FDI to India has been made more prominent by diversification of sources of FDI by the country over the 1990s. The US emerged as the most important source of FDI over the early 1990's with a share of nearly 19 percent of stock in 1992 (Kumar, 2005).

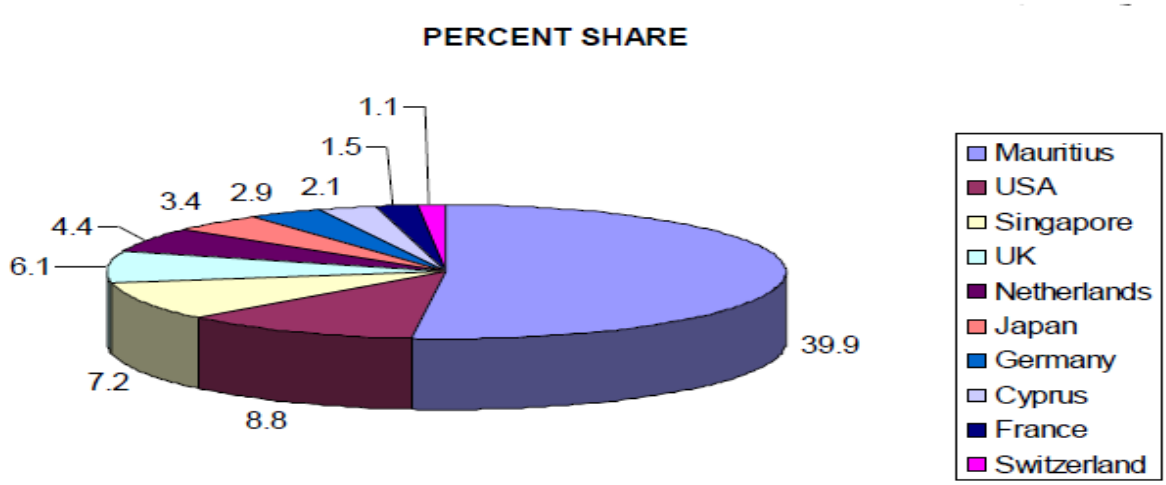
The traditional sources of FDI such as countries in Europe, the United States, and Japan have contributed to 50 percent of FDI inflows over the 1990's as compared to 90 percent in the earlier periods (Kumar, 1998). Mauritius has emerged as the leading source country for FDI inflows since the late 1990's. From the period 1991-2008, Mauritius accounted for 39.9 percent of the total FDI in India, thus emerging as the top source country since 1995. This dominance of Mauritius is because of a Double Taxation Treaty (DTAA), which favors routing of investment through Mauritius. The US, over this period has become the second largest source country with 8.8 percent share of inflows. The analysis of this period shows that the top 5 countries account for over 66 percent of the total FDI inflows.

Table 3.2: Top 10 Source Countries of FDI in India (1991-2008)

Country	Percent Share
Mauritius	39.9
United States	8.8
Singapore	7.2
United Kingdom	6.1
Netherlands	4.4
Japan	3.4
Germany	2.9
Cyprus	2.1
France	1.5
Switzerland	1.1

Source: Sahni, 2012. Original source: Economic Survey of India, various issues.

Figure 3.3: Source Countries of FDI in India (1991-2008)



Source: Sahni, 2012.

Figure 3.4: Source Countries of FDI in India (2010-2011 to 2012-2013, Cumulative from April 2000 - December 2012)[6]

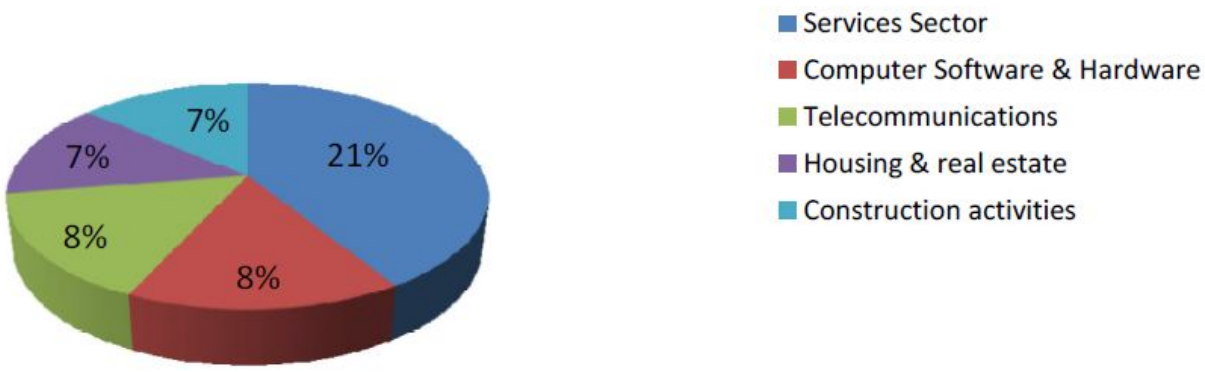
Ranks	Country	2010-11 (April - March)	2011-12 (April - March)	2012-13 (April – Dec.)	Cumulative Inflows (April '00 - Dec. '12)	%age to total Inflows (in terms of US $)
1.	MAURITIUS	31,855 (6,987)	46,710 (9,942)	40,586 (7,452)	330,057 (71,621)	38 %
2.	SINGAPORE	7,730 (1,705)	24,712 (5,257)	8,967 (1,639)	86,555 (18,791)	10 %
3.	U.K.	12,235 (2,711)	36,428 (7,874)	3,309 (622)	77,970 (17,090)	9 %
4.	JAPAN	7,063 (1,562)	14,089 (2,972)	8,945 (1,626)	66,796 (13,939)	7 %
5.	U.S.A.	5,353 (1,170)	5,347 (1,115)	2,226 (408)	50,115 (10,972)	6 %
6.	NETHERLANDS	5,501 (1,213)	6,698 (1,409)	7,253 (1,339)	39,577 (8,448)	5 %
7.	CYPRUS	4,171 (913)	7,722 (1,587)	2,171 (400)	31,842 (6,800)	4 %
8.	GERMANY	908 (200)	7,452 (1,622)	2,744 (502)	23,572 (5,123)	3 %
9	FRANCE	3,349 (734)	3,110 (663)	2,541 (471)	15,919 (3,398)	2 %
10.	U.A.E.	1,569 (341)	1,728 (353)	655 (119)	10,976 (2,361)	1 %
TOTAL FDI INFLOWS *		97,320 (21,383)	165,146 (35,121)	92,237 (16,946)	867,243 (187,925)	-

Source: Fact Sheet on Foreign Direct Investment, DIPP, December 2012.

[6] Amounts in brackets are in US dollar millions, while those not in brackets are in crores of Rupees

Foreign Direct Investment Flows at a Sectoral Level

Figure 3.5: Sector-wise distribution of FDI inflows in India (April 2000-February 2011)



Source: Department of Industrial Policy and Promotion, 2012.

Services Sector

The services sector has been a major and vital force steadily driving growth in the Indian economy for more than a decade. The economy has successfully navigated the turbulent years of the recent global economic crisis due to the vitality of this sector in the domestic economy and its prominent role in India's external economic interactions. The share of the services sector in India's GDP has been rising; it went from 33.5 percent in 2010-2011 to 56.3 percent in 2011-2012 (Economic Survey of India, 2011-2012). Foreign direct investment plays a major role in the dynamic growth of the services sector, and there is a continuously increasing trend of FDI inflows with a steep rise in the inflows from 2005 onwards. However, the ambiguity in classifying various activities under the services sector poses difficulty in the measurement of FDI flows into this sector. The combined FDI share of financial and non-financial services, computer hardware and software, telecommunications, and housing and real estate is 41.9 percent

of the cumulative FDI equity inflows during the period April 2000-December 2011 (Economic Survey of India, 2011-2012).

With the inclusion of the construction sector (6.5 percent), the share of services in FDI inflows increases to 48.4 percent. If the share of some other service or service related sectors like hotels and tourism (2.02 percent), trading (1.94 percent), information and broadcasting (1.6 percent), consultancy services (1.21 percent), ports (1.04 percent), agricultural services (0.91 percent), hospital and diagnostic centers (0.72 percent), education (0.30 percent), air transport including air freight (0.27 percent), and retail trading (0.03 percent) are included then the total share of cumulative FDI inflows to the services sector would be 58.4 percent (Economic Survey of India, 2011-2012).

FDI inflows in the service sector are heavily concentrated around two major cities: Mumbai (33.7 percent) and Delhi (16.14 percent). The top five source countries for FDI inflows ***into*** India in the financial and non-financial services sector for the period April 2000-December 2011 are:

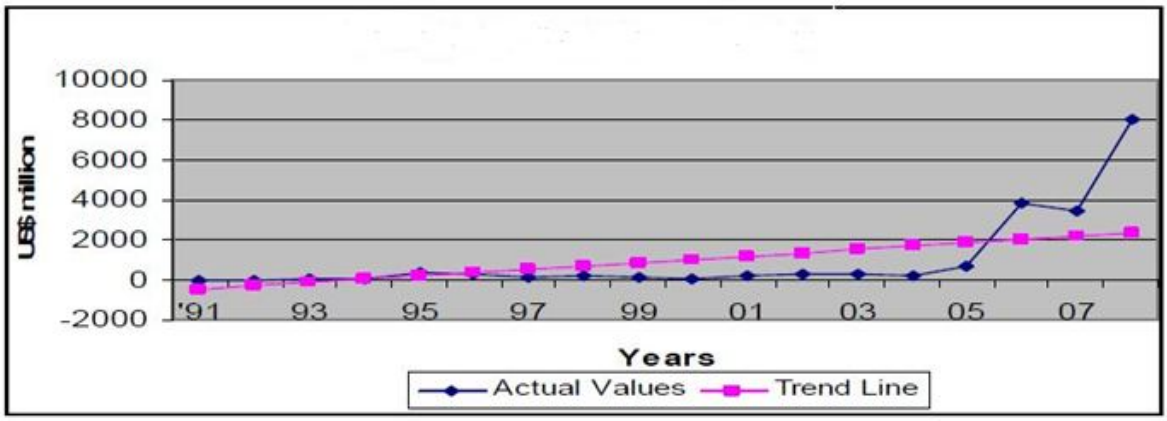
1. Mauritius (39.7 percent)
2. Singapore (15.4 percent)
3. The United Kingdom (8.6 percent)
4. The United States of America (7.1 percent)
5. Japan (4.5 percent)

This is more or less similar to the general sourcing pattern of total FDI with the top five countries remaining the same in their order of ranking. The shares of the

financial and non-financial services sector in total FDI inflows ***from*** these sourcing countries are:

1. Mauritius (20.1 percent)
2. Singapore (30.6 percent)
3. The United Kingdom (29.5 percent)
4. The United States of America (21.9 percent)
5. Japan (11.9 percent) (Economic Survey of India, 2011-2012)

Figure 3.6: FDI inflows into the Services Sector (1991- 2007)



Source: Hooda, 2011

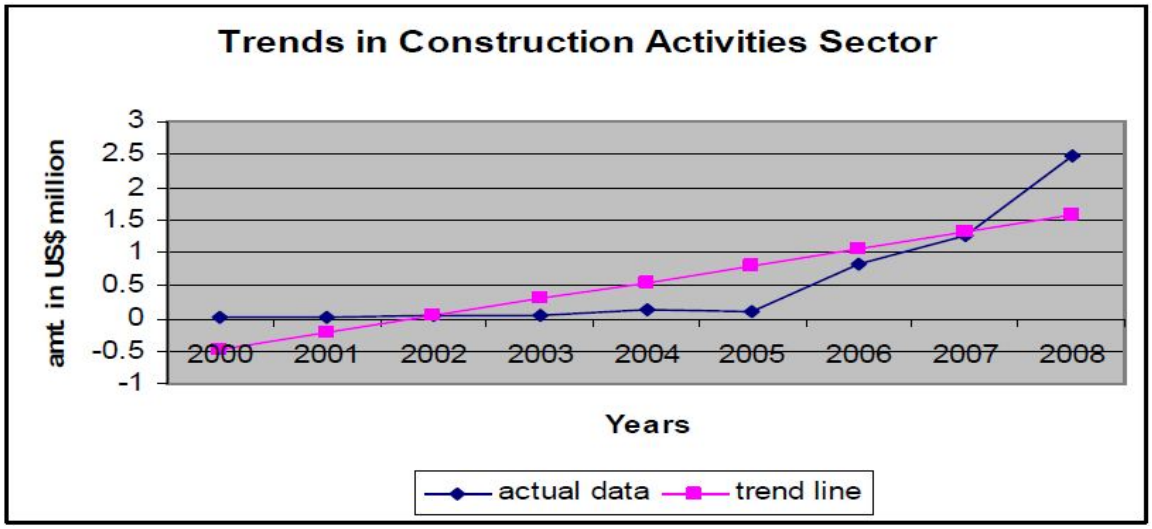
Construction Activities Sector

The construction industry in India is an important indicator of growth and development as it creates investment opportunities and increases production capacity across various related sectors. The share of this sector in GDP at factor cost is 8.2 percent. This sector is critical for enhancing the productive capacity of the overall economy, as it accounts for more than half of the investment required for setting up critical infrastructure like power projects, ports, railways, roads and bridges. FDI up to 100 percent under the automatic route is allowed in townships, housing, built up

infrastructure and construction of developmental projects (which include commercial premises, educational institutions and recreational facilities) (Economic Survey of India, 2011-2012).

The amount of FDI in the construction activities sector for the period January 2000 - December 2008 was $4.9 billion, which is 6.15 percent of the total inflows received through the Foreign Investment Proposal Board route, acquisition of existing shares, and the Reserve Bank of India's automatic route (Hooda, 2011). The FDI inflow in the cement industry in India has increased, with some of the major cement giants merging with major global cement manufacturers such as Holcim, Heidelberg, Italcementi, and Lafarge (Reshi, 2012). Most of the investment in this sector comes from Mauritius (58.6 percent for the period 2000-2008). Delhi, Mumbai, and Hyderabad are the cities that receive the maximum amount of FDI in this sector (Hooda, 2011).

Figure 3.7: FDI Inflows into the Construction Activities Sector (2000-2008)



Source: Hooda (2011)

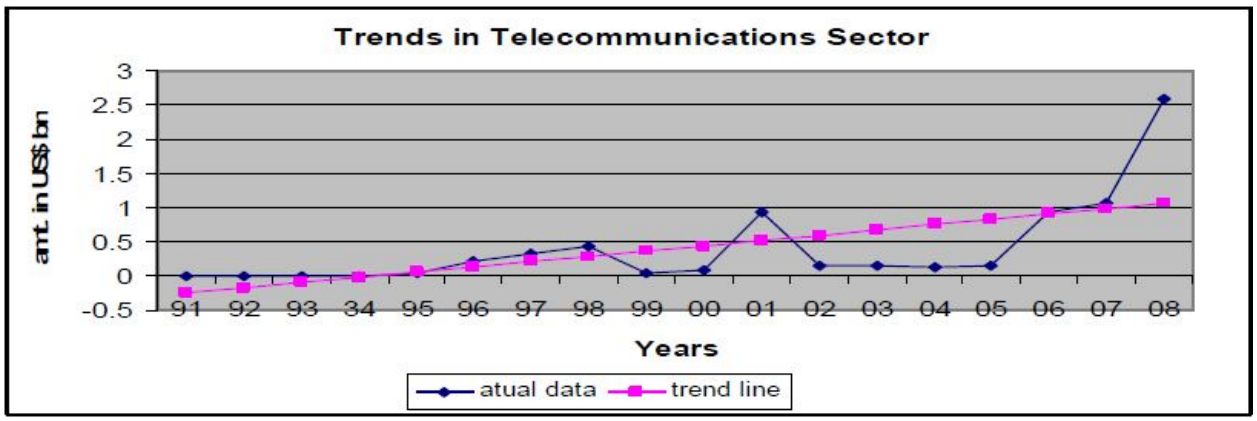
Telecommunications Sector

The Indian telecom sector has witnessed tremendous growth over the past decade, and is now the world's second largest network after China (Economic Survey of India 2011-2012). The annual growth rate of this sector is almost 45 percent, one of the highest in the world (Agarwal and Kapadi, 2011). Increased efficiency and reach provided by this sector has been instrumental in improving the operation of other sectors and industries such as the information technology sector, banking sector, and the media and advertising industry. The telecom sector has received 8.4 percent of the total FDI inflows for the period August 1991-December 2008 (Hooda, 2011).

The Indian government has relaxed the limits on FDI into this sector considerably, which has led to an increase in foreign capital inflows. FDI in this sector has helped in larger accumulation of capital and it has facilitated the transfer of advanced technology. The investment cap is 74 percent of equity, of which 49 percent is allowed through the automatic route. FDI into this sector has also increased market competition which has enhanced the service provided to customers (ASSOCHAM[7], 2012). Mauritius accounts for 82.22 percent of FDI into this sector. Other investor countries in the telecom sector are Russia (5.41 percent) and the United States of America (2 percent). New Delhi attracted the highest percentage (32.58 percent) of FDI inflows for the period January 2000-December 2008 (Hooda, 2011).

[7] The Associated Chambers of Commerce and Industry of India.

Figure 3.8: FDI Inflows into the Telecommunications Sector (1991-2008)



Source: Hooda, 2011

Figure 3.9: Telecom Sector FDI Equity Inflows ($US Million)

Sector	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 (upto Sep. 2011)
Telecom	624	478	1261	2558	2554	1665	1901

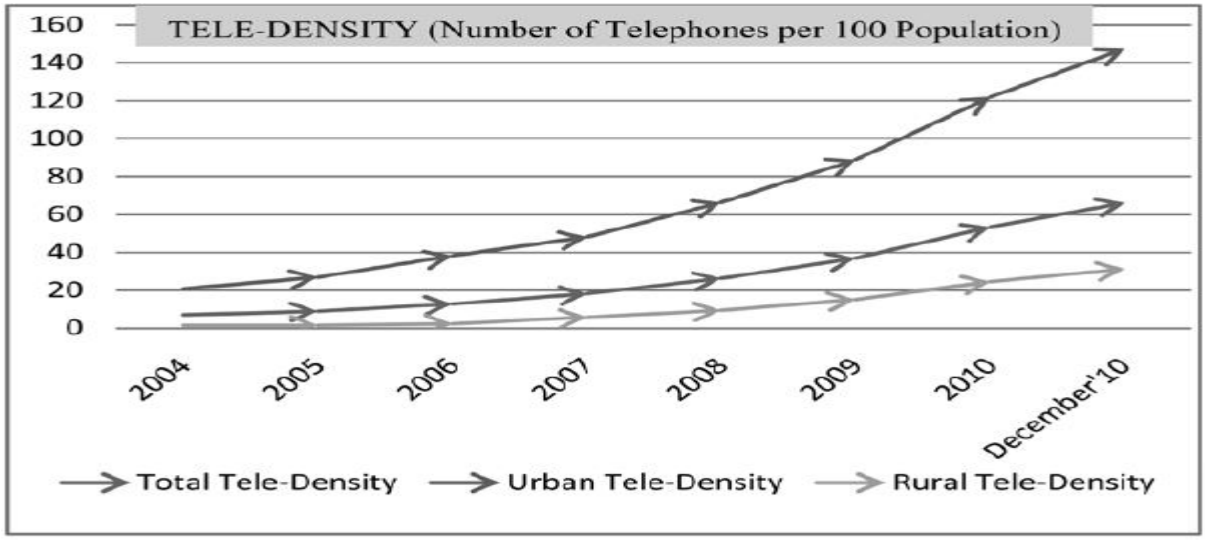
Source: ASSOCHAM, 2012

Tele-density[8] is an important indicator of telecom penetration in the country. From the two graphs on the next page, it is clear that with time, tarrif rates have fallen dramatically due to increased competition and tele-density has increased. Liberalization of this sector has attracted FDI that has been instrumental in increasing the penetration of communication services in the rural economy. Mobile phones are no longer a luxury. FDI has provided this sector with financial assistance to set up the infrastructure required to distribute the benefits of the telecom revolution. Consumers now have more choice in

[8] *tele-density* is the number of telephone connections for every hundred individuals living within an area.

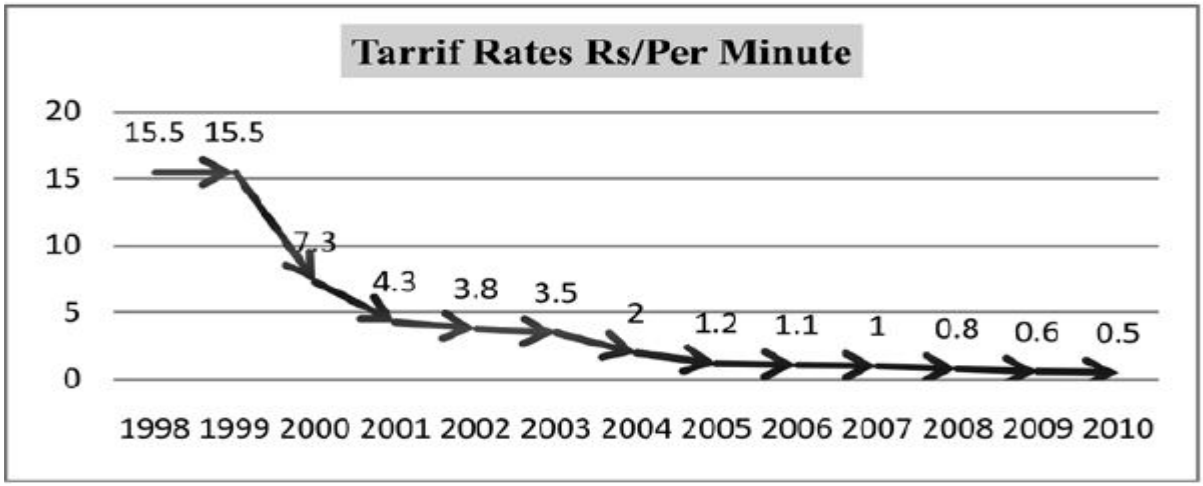
terms of service providers, and the subscriber base has been growing rapidly (ASSOCHAM, 2012).

Figure 3.10: Rural, Urban, and Total Tele-Density in India (2004 - 2010)



Source: ASSOCHAM, 2012

Figure 3.11: Tarrif Rates in India (1998-2010)



Source: ASSOCHAM, 2012

Automobile Industry

Although the de-licensing of the passenger car sector was initiated in 1993, quantitative restrictions on vehicle imports still prevailed. Most of the foreign firms had

to enter into joint ventures during the 1990's. In 2001, quantitative import restrictions were removed, and in 2002 the equity caps for FDI in this sector were lifted, allowing 100 percent foreign ownership. The automobile industry has witnessed a healthy growth in FDI inflows. The FDI inflows in 2005-2006 were approximately $143 million, which swelled to $1331 million in 2010-2011 (ASSOCHAM, 2012). Major investor countries in this sector are Japan (27.58 percent), Italy (14.66 percent), The United States of America (13.88 percent), Mauritius (7.7 percent) and the Netherlands (6.91 percent). Geographically, most of the investment flows to Mumbai (36.98 percent), New Delhi (26.63 percent) and Ahmedabad (9.47 percent) (Hooda, 2011).

Figure 3.12: Automobile Sector FDI Equity Inflows ($US Million)

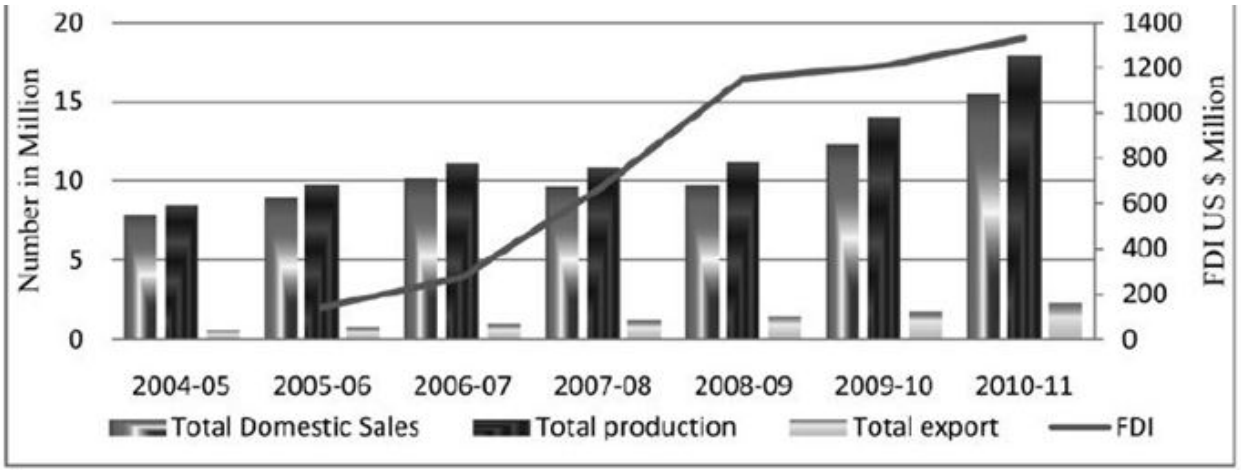
Sector	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Automobile Industry	143	276	675	1152	1208	1331

Source: ASSOCHAM, 2012

India is considered to be one of the fastest growing auto markets in the world owing to its huge market size, expanding middle class, availability of finance, and a "younger" population. Low cost production facilities, a growing talent pool of technical personnel, and a growing and competent auto components market have attracted foreign manufacturers to set up units in India. FDI has increased the competitiveness of domestic players due to increased competition, and the growth of the sector has assisted the development of the auto component industry which has led to an increase in employment. Exposure to foreign firms has increased productivity levels within the sector. Most firms have adopted globally recognized models of manufacturing, and technology transfers

have led to an increase in efficiency. FDI has brought in adequate capital which has helped firms scale up their supply (ASSOCHAM, 2012).

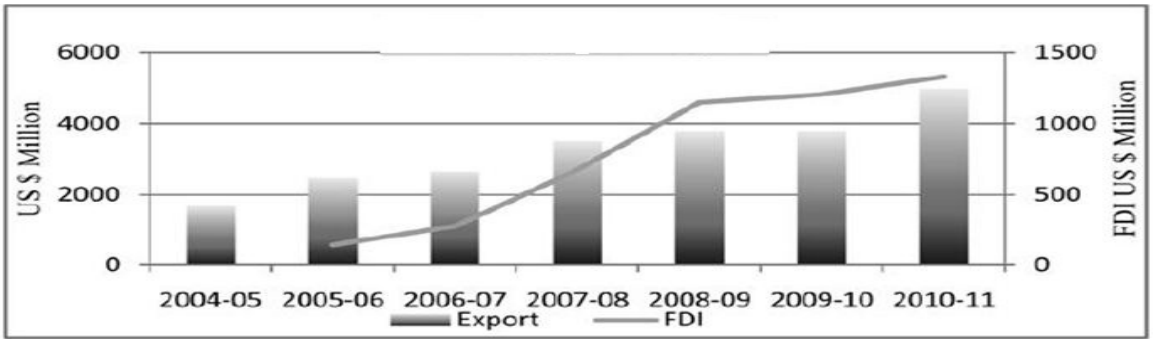
Figure 3.13: Automobile Production, Sales, Exports, and FDI (2004-2011)



Source: ASSOCHAM, 2012

From **Figure 3.13** above we can see that in the past few years FDI has been growing in this sector, and exports as well as domestic production have also been rising. Production increased from 8,467,853 vehicles in 2004-2005 to 17,916,035 vehicles in 2010-2011. With the rise in FDI, the auto component market has also benefitted, and exports in auto components have grown substantially.

Figure 3.14: Automobile Component Exports and FDI into the Automobile Sector (2004-2011)



Source: ASSOCHAM, 2012

Computer Software and Hardware Sector

This sector has received 11.43 percent of the total FDI inflows for the period January 2000-December 2007 (Hooda, 2011). Industrial licensing has been virtually abolished in the electronics and information technology sector except for manufacturing electronic aerospace and defense equipment. One hundred percent FDI is permitted in the electronic hardware and software development sector under the automatic approval route. Mauritius is the top investor country in this sector, along with the United States of America (12.88 percent) and Singapore (10.07 percent). Location wise, Mumbai has received 22.4 percent of FDI in this sector, followed by Bangalore (10.8 percent) and Chennai (9.9 percent) (Hooda, 2011).

In order to promote domestic and foreign investment, transfer of technology and know- how, technical collaborations and joint ventures, and exports of information technology software products and services from India to the global market, the government of India in collaboration with various state governments has offered a series of incentives such as tax breaks and import duty concessions. Although these incentives have attracted foreign firms, FDI inflows have slowed down in the past couple of years. It has been suggested that this fall could be due to the economic recession in most of the developed nations that are a huge market for this sector (ASSOCHAM, 2012).

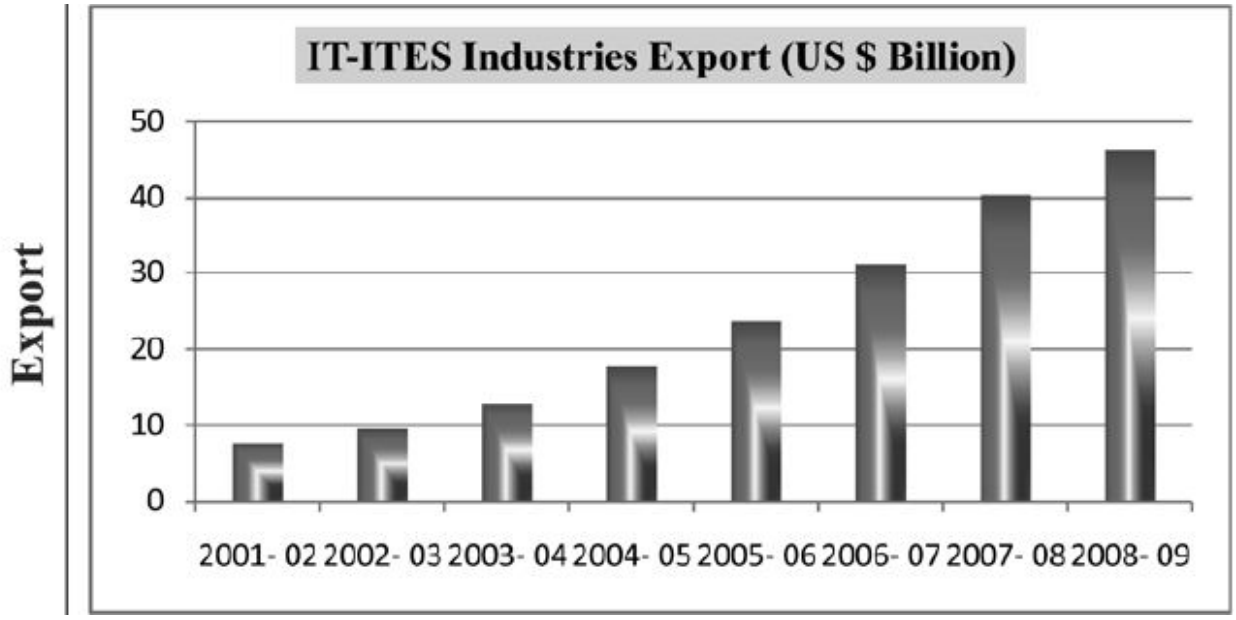
Figure 3.15: Computer Software and Hardware Sector FDI Equity inflows ($US Million)

Sector	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Computer Software & Hardware	1375	2614	1410	1677	919	784

Source: ASSOCHAM, 2012

This sector is one of the "sunshine" sectors of the Indian economy and it has been growing rapidly. The demand for IT services has been driven by the growth in allied sectors such as telecommunications, banking, insurance, retail, healthcare, and automobiles. This sector has attracted considerable interest from foreign investors not only as a vast potential market, but also as a potential production base. The trend over the last few years indicates a healthy rate of growth both in terms of production and exports. India is now a leading exporter of software services in the world (ASSOCHAM, 2012).

Figure 3.16: IT-ITES Industrial Exports (2001-2009)



Source: ASSOCHAM, 2012

Figure 3.17: Sector-wise FDI inflows (for the top 25 sectors) (April 2000-December 2012)

S.No	Sector	Amount of FDI Inflows		%age with total FDI Inflows (+)
		(In Rs crore)	(In US$ million)	
1	SERVICES SECTOR (Fin., Banking, Insurance, Non Fin/Business, Outsourcing, R&D, Courier, Tech. Testing and Analysis, Other)	168,013.79	36,449.49	19.41
2	CONSTRUCTION DEVELOPMENT Townships, housing, built-up infrastructure and construction-development projects	99,716.67	21,834.47	11.63
3	TELECOMMUNICATIONS	57,464.47	12,622.83	6.72
4	COMPUTER SOFTWARE & HARDWARE	52,377.08	11,617.74	6.19
5	DRUGS & PHARMACEUTICALS	45,980.03	9,783.31	5.21
6	CHEMICALS (OTHER THAN FERTILIZERS)	39,832.86	8,758.81	4.66
7	POWER	36,081.53	7,824.01	4.17
8	AUTOMOBILE INDUSTRY	35,203.86	7,560.97	4.03
9	METALLURGICAL INDUSTRIES	33,916.40	7,341.84	3.91
10	HOTEL & TOURISM	32,693.73	6,526.78	3.48
11	PETROLEUM & NATURAL GAS	24,786.41	5,377.42	2.86
12	TRADING	17,084.54	3,671.42	1.95
13	ELECTRICAL EQUIPMENTS	14,180.91	3,092.37	1.65
14	INFORMATION & BROADCASTING (INCLUDING PRINT MEDIA)	14,442.08	3,090.51	1.65
15	CEMENT AND GYPSUM PRODUCTS	11,776.18	2,625.90	1.40
16	MISCELLANEOUS MECHANICAL & ENGINEERING INDUSTRIES	10,355.34	2,287.89	1.22
17	INDUSTRIAL MACHINERY	10,632.16	2,231.09	1.19
18	CONSULTANCY SERVICES	9,549.31	2,068.72	1.10
19	CONSTRUCTION (INFRASTRUCTURE) ACTIVITIES	9,179.34	1,986.17	1.06
20	NON-CONVENTIONAL ENERGY	9,457.58	1,951.77	1.04
21	FOOD PROCESSING INDUSTRIES	7,980.10	1,681.97	0.90
22	PORTS	6,717.38	1,635.08	0.87
23	HOSPITAL & DIAGNOSTIC CENTRES	7,139.42	1,542.35	0.82
24	AGRICULTURE SERVICES	7,149.63	1,488.57	0.79
25	TEXTILES (INCLUDING DYED,PRINTED)	5,657.26	1,220.02	0.65

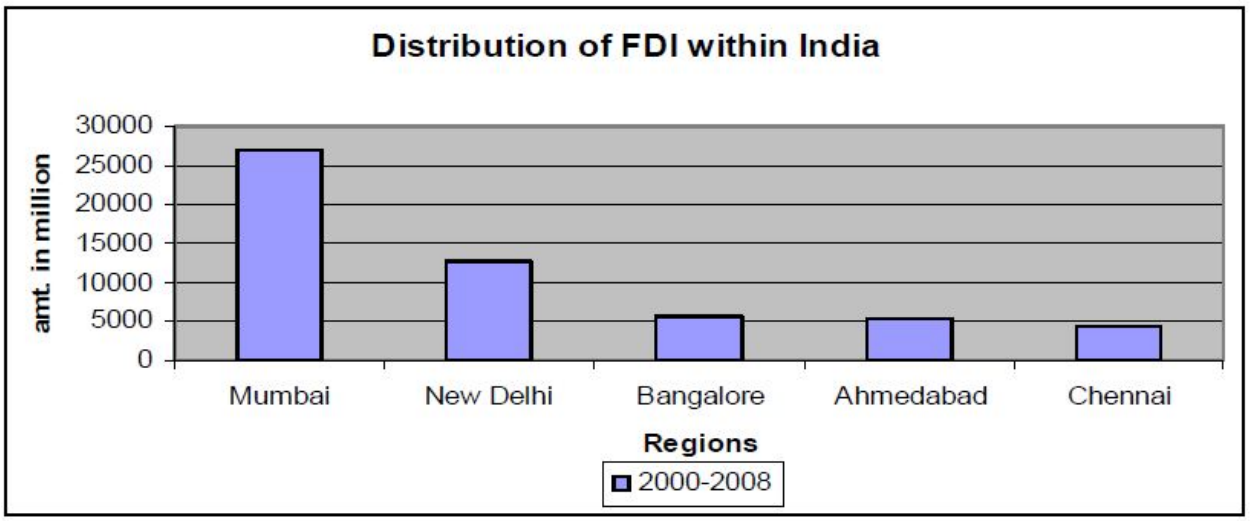
Source: Fact sheet on Foreign Direct Investment, DIPP, December 2012

Regional Distribution of FDI within India

FDI inflows in India are heavily concentrated around two cities: Mumbai ($26.8 billion) and Delhi ($12.6 billion). Bangalore, Ahmedabad and Chennai have also received significant FDI inflows. These five cities (Figure) together account for 69 percent of the

FDI inflows between 2000 and 2008. Mumbai and Delhi together received 50 percent of the total FDI inflows to India during 2000-2008 (Hooda, 2011).

Figure 3.18: Top 5 Cities attracting FDI in India (2000-2008)



Source: Hooda, 2011

Mumbai (in the state of Maharasthra) received most of the investment from Mauritius (29%), the United Kingdom (17%), the United States of America (10%), Singapore (9%) and Germany (4%). The key sectors within Mumbai that attract FDI inflows are services (30%), computer software and hardware (12%), power (7%), metallurgical industry (5%), and the automobile industry (4%). Mumbai received 1371 technical collaborations during 1991-2008 (Hooda, 2011).

Delhi received maximum investment from Mauritius (58%) apart from Japan (10%), the Netherlands (9%), and the United Kingdom (3%). The key sectors and industries within Delhi attracting FDI inflows are: telecommunications (19%), services (18%), housing and real estate (11%), the automobile industry (8%) and computer

hardware and software (6%). Delhi received 315 technical collaborations during 1991-2008 (Hooda, 2011)

Heavy investment in Bangalore (in the state of Karnataka) came from Mauritius (40%), and from the USA (15%), the Netherlands (10%), Germany (6%) and the UK (5%). The sectors within Bangalore attracting most of the FDI inflows are: computer hardware and software (22%), services (11%), housing and real estate (10%), telecommunications (5%) and fermentation industries (4%). Bangalore received 516 technical collaborations during 1991-2008. (Hooda, 2011).

Chennai (in the state of Tamil Nadu) received FDI inflows from Mauritius (37%), Bermuda (14%), the USA (13%), Singapore (9%) and Germany (4%). The key sectors within Chennai attracting FDI inflows are construction activities (21%), telecommunications (10%), services (10%), computer and hardware (7%), and the automobile industry (7%). As far as technical collaborations are concerned, Chennai received 660 during 1991-2008 (Hooda, 2011).

According to a study conducted by Tamuli (2006), Maharashtra (at 14.8%) was the state that received maximum FDI inflows between August 1991 and August 2004. Maharashtra is followed by Delhi with 12.2% followed by Tamil Nadu (9.2%), Karnataka (7.6%), and Andhra Pradesh (4.69%). Tamuli (2006) reports that most of the FDI inflows went to the economically richer states of Maharashtra, Delhi, Karnataka and Tamil Nadu. This is consistent with the general observation that FDI flows to economically richer areas within nations. From **Figure 3.19** we can observe that according to official statistics published by the DIPP, this trend is fairly consistent from

April 2000 - December 2012; the data here has been obtained by the DIPP from the regional offices of the RBI.

Figure 3.19: State-wise FDI equity inflows

Amount Rupees in crores (US$ in million)

S. No.	RBI's - Regional Office[2]	State covered	2010-11 (April - March)	2011-12 (April - March)	2012-13 (April – Dec.)	Cumulative Inflows (April '00 - Dec. '12)	%age to total Inflows (in terms of US$)
1	MUMBAI	MAHARASHTRA, DADRA & NAGAR HAVELI, DAMAN & DIU	27,669 (6,097)	44,664 (9,553)	36,045 (6,628)	282,179 (61,248)	33
2	NEW DELHI	DELHI, PART OF UP AND HARYANA	12,184 (2,677)	37,403 (7,983)	15,969 (2,942)	167,061 (36,013)	19
3	BANGALORE	KARNATAKA	6,133 (1,332)	7,235 (1,533)	3,994 (735)	47,886 (10,497)	6
4	CHENNAI	TAMIL NADU, PONDICHERRY	6,115 (1,352)	6,711 (1,422)	9,448 (1,734)	47,007 (10,007)	5
5	AHMEDABAD	GUJARAT	3,294 (724)	4,730 (1,001)	2,444 (450)	38,867 (8,607)	5
6	HYDERABAD	ANDHRA PRADESH	5,753 (1,262)	4,039 (848)	4,655 (857)	35,256 (7,665)	4
7	KOLKATA	WEST BENGAL, SIKKIM, ANDAMAN & NICOBAR ISLANDS	426 (95)	1,817 (394)	1,499 (273)	9,684 (2,145)	1
8	CHANDIGARH'	CHANDIGARH, PUNJAB, HARYANA, HIMACHAL PRADESH	1,892 (416)	624 (130)	182 (33)	5,492 (1,188)	1
9	BHOPAL	MADHYA PRADESH, CHATTISGARH	2,093 (451)	569 (123)	857 (155)	4,435 (932)	1
10.	KOCHI	KERALA, LAKSHADWEEP	167 (37)	2,274 (471)	327 (61)	4,259 (900)	1
11	PANAJI	GOA	1,376 (302)	181 (38)	38 (7)	3,544 (769)	0.4
12	JAIPUR	RAJASTHAN	230 (51)	161 (33)	511 (95)	3,122 (648)	0.4
13	BHUBANESHWAR	ORISSA	68 (15)	125 (28)	285 (52)	1,617 (341)	0.2
14	KANPUR	UTTAR PRADESH, UTTRANCHAL	514 (112)	635 (140)	125 (23)	1,572 (340)	0.2
15	GUWAHATI	ASSAM, ARUNACHAL PRADESH, MANIPUR, MEGHALAYA, MIZORAM, NAGALAND, TRIPURA	37 (8)	5 (1)	27 (5)	348 (78)	0
16	PATNA	BIHAR, JHARKHAND	25 (5)	123 (24)	21 (4)	170 (34)	0
17	REGION NOT INDICATED[3]		29,344 (6,447)	53,851 (11,399)	15,811 (2,893)	214,211 (46,383)	24.7
SUB. TOTAL			97,320 (21,383)	165,146 (35,121)	92,237 (16,946)	866,710 (187,804)	100.00
18	RBI'S-NRI SCHEMES (from 2000 to 2002)		0	0	0	533 (121)	-
GRAND TOTAL			97,320 (21,383)	165,146 (35,121)	92,237 (16,946)	867,243 (187,925)	-

Source: Fact sheet on Foreign Direct Investment, DIPP, December 2012

Chapter 4

Empirical Analysis

Section 1: Methodology

Through this section I intend to study the macroeconomic determinants of FDI in India, the relationship between FDI and GDP, and the relationship between FDI and exports. I have created 3 empirical models to test these relationships, and I employ time series Ordinary Least Squares (OLS) regression to find the coefficients that are significant in explaining these relationships. I used the statistical analysis software "Stata" for each model. In this section I shall talk about the variables used in the analysis and their relationship and significance with the models.

Model 1: Macroeconomic Determinants of FDI in India

$$\ln (FDI)_t = \alpha + \beta_1 (ForexResGDP)_{t-1} + \beta_2 (Inflation)_{t-1} + \beta_3 [\ln(ExchRate)]_{t-1} + \beta_4 (Trade\ Openness)_{t-1} + \beta_5 (ExternalDebtGDP)_{t-1}$$

In this model, "ln (FDI)" is the dependent variable. It is the natural log of the value of FDI inflows from 1991-2011. The natural log of the variable is used because here I am concerned with percentage changes rather than changes in absolute value. From the above model we can see that FDI in time "t" depends upon each variable in time (t - 1). I have the lagged variables here because I assume that companies investing in India would look at the macroeconomic indicators of the previous period before investing. "α" is the constant term, while each "β" coefficient measures the strength of the relationship between the independent variables and dependent variables.

Foreign Exchange Reserves

The first independent variable, "ForexResGDP" represents foreign exchange reserves of India as a percentage of gross domestic product (GDP). India's foreign exchange reserves are comprised of foreign currency assets (FCA), gold, special drawing rights (SDR) and reserve tranche position at the International Monetary Fund (IMF) (Hooda, 2011). The foreign exchange reserves of a country are an important macroeconomic variable; a higher level of foreign exchange reserves in terms of import cover reflects the strength of the external payment position and it helps to improve the confidence of prospective investors (Lokesha and Leelavathy, 2012). From **Table 4.1** we can see that from 1991 when the economy was liberalized, India has been accumulating a lot of reserves. The reserve stock increased four and a half times from $9.2 billion (3.3% of GDP) in 1991-1992 to $42 billion (8.9% of GDP) in 2000-2001, then reaching a peak of $309 billion (25 percent of GDP) in 2007-2008.

Foreign Exchange Reserves are an important buffer that help the government in maintaining and manipulating exchange rates and commodity prices. Whenever there is an excess supply of the local currency in the international market, its "price" falls, i.e., the exchange rate depreciates. The government or monetary authority then "buys" the excess units of local currency using foreign exchange reserves to stabilize the exchange rate. There has been a steady growth in the reserve stocks, especially from the point of view of the 1997 East Asian financial crisis which really hit the fast growing economies of East Asia such as Malaysia, Thailand and Indonesia. This crisis was caused by speculative attacks on the exchange rates of the countries, and since these countries did not have enough foreign exchange reserves their currencies underwent a sharp depreciation that

inflated the value of their foreign debt relative to domestic assets. Adequate foreign exchange reserves are an important indicator of the soundness of the macroeconomic fundamentals of the economy. I predict that this variable will be positively correlated with FDI inflows.

Table 4.1: Foreign Exchange Reserves in India

Financial Year	Foreign Exchange Reserves ($ Million)	Foreign Exchange Reserves (as a percentage of GDP)
1991-1992	9220	3.354650425
1992-1993	9832	3.352629453
1993-1994	19254	6.774956259
1994-1995	25186	7.563034873
1995-1996	21687	5.915717666
1996-1997	26423	6.609271279
1997-1998	29367	6.939921281
1998-1999	32490	7.578001104
1999-2000	38036	8.191333924
2000-2001	42281	8.907045655
2001-2002	54106	10.98869899
2002-2003	76100	14.5562786
2003-2004	112959	18.29080564
2004-2005	141514	19.6115416
2005-2006	151622	18.17541012
2006-2007	199179	20.98572129
2007-2008	309723	25.00387108
2008-2009	251985	20.58540712
2009-2010	279057	20.50296686
2010-2011	304818	18.09744206
2011-2012	294398	15.93082815

Source: Handbook of Statistics on the Indian Economy 2011-2012, The Reserve Bank of India

Inflation

The second independent variable is the inflation rate. I have used the GDP deflator as a broad measure of overall inflation in the economy, and obtained data from the World Development Indicators (WDI) in World Bank database online. Inflation is

used as a representation of prudent macroeconomic policy. Inflation is harmful to the economic stability of the host country and is a sign of internal economic tension. During times of high inflation the monetary authorities tend to raise interest rates, raising the cost of capital for firms (Lokesha and Leelavathy, 2012). From **Table 4.2** we can see that during most of the 1990's India had high inflation. From 1999-2000 to 2005-2006 inflation was low, but since then it has picked up reaching almost 8 percent in 2011-2012. I predict that this variable will be negatively correlated with FDI inflows.

Table 4.2: Annual Inflation Rate in India

Financial Year	Inflation (Annual %)
1991-1992	13.75181894
1992-1993	8.96515236
1993-1994	9.861782853
1994-1995	9.980044775
1995-1996	9.062702221
1996-1997	7.575018288
1997-1998	6.476271263
1998-1999	8.010167523
1999-2000	2.873158566
2000-2001	3.654974165
2001-2002	3.183581869
2002-2003	3.711782741
2003-2004	3.887769116
2004-2005	5.932333025
2005-2006	4.236931677
2006-2007	6.422584365
2007-2008	5.756243476
2008-2009	8.664665318
2009-2010	5.964528897
2010-2011	8.48056816
2011-2012	7.993817734

Source: World Development Indicators, The World Bank[9]

[9] http://databank.worldbank.org/ddp/home.do?Step=3&id=4

Exchange Rate

The third independent variable is the natural log of the exchange rate. I have used the natural log here because we are interested in percent changes rather than absolute changes. Exchange rate is an important variable in international finance. Volatility in exchange rates can affect the earnings of a company. Sharp adverse movements in the exchange rate can wipe away company profits denominated in the local currency. From Table 5 we can see that since the reforms of 1991, the Rupee has been depreciating. From 24.5 Rupees to a Dollar in 1991-1992, the exchange rate depreciated to almost 48 Rupees to a Dollar in 2011-2012. FDI is a long term investment, so volatile exchange rates would deter companies from investing in a country. Therefore, I expect this variable to be negatively correlated with FDI inflows.

Table 4.3: Rupee to Dollar Exchange Rate

Financial Year	Exchange Rate (Rupee-US Dollar)
1991-1992	24.4737
1992-1993	30.6488
1993-1994	31.3655
1994-1995	31.3986
1995-1996	33.4498
1996-1997	35.4999
1997-1998	37.1648
1998-1999	42.0706
1999-2000	43.3327
2000-2001	45.6844
2001-2002	47.6919
2002-2003	48.3953
2003-2004	45.9516
2004-2005	44.9315
2005-2006	44.2735
2006-2007	45.2849
2007-2008	40.241
2008-2009	45.917
2009-2010	47.4166
2010-2011	45.5768

2011-2012	47.9229

Source: Handbook of Statistics on the Indian Economy 2011-2012, The Reserve Bank of India

Trade Openness

The fourth independent variable is total trade (sum of exports and imports) as a percentage of GDP. This variable shows us how "open" the country is in terms of trade. Trade and FDI often complement each other; countries more open to trade are likely to attract a higher inflow of FDI. Foreign investors often bring in machinery, equipment and technology from abroad that result in higher exports. From **Table 4.4** we can see that total trade increased almost threefold in a decade from $37 billion in 1991-1992 to $95 billion in 2000-2001. Trade as a percentage of GDP increased from 13.5 percent to 20 percent during the same period. Trade has picked exponentially since 2005-2006, increasing from $252 billion to $794 billion in 2011-2012, which is almost 43 percent of GDP. India has become increasingly open to trade so I would expect this variable to be positively correlated with FDI inflows.

Table 4.4: Total Trade and Trade as a percentage of GDP

Year	Total Trade ($ Billions)	Trade Openness (Trade as a percentage of GDP)
1991-1992	37.2759	13.56265
1992-1993	40.4188	13.78247
1993-1994	45.5445	16.02586
1994-1995	54.9849	16.51126
1995-1996	68.4702	18.6771
1996-1997	72.6021	18.1602
1997-1998	76.4909	18.0761
1998-1999	75.6074	17.63475
1999-2000	86.4931	18.62693
2000-2001	95.0968	20.03338
2001-2002	95.24	19.34284
2002-2003	114.1315	21.83088
2003-2004	141.9917	22.9919
2004-2005	195.0533	27.03122
2005-2006	252.2562	30.23875
2006-2007	312.1493	32.8884
2007-2008	414.3434	33.44985
2008-2009	488.9913	39.94716
2009-2010	467.1243	34.32071
2010-2011	620.9053	36.86396
2011-2012	794.0409	42.96812

Source: Handbook of Statistics on the Indian Economy 2011-2012, The Reserve Bank of India

External Debt

The last independent variable is the total external debt as percentage of GDP. It represents the indebtedness of the country, and the international financial position of a country. From **Table 4.5** we can see that India's external debt stock more than doubled from $86 billion in 1991-1992 to $204 billion in 2007-2008, and reached a peak of $334 billion in 2011-2012. However during this same time external debt as a percentage of GDP declined from 31 percent in 1991-1992 to 18 percent in 2011 -2012. India's GDP has been expanding, so it is able to take upon more external debt. I would expect a higher

level of indebtedness to be negatively correlated with FDI inflows.

Table 4.5: External Debt Stocks

Year	External debt stocks, ($ Billions)	External Debt (% of GDP)
1991-1992	86.864	31.6050276
1992-1993	89.662	30.57398922
1993-1994	93.055	32.74351068
1994-1995	99.608	29.91101317
1995-1996	95.174	25.96129078
1996-1997	94.91	23.74014825
1997-1998	94.701	22.37945603
1998-1999	98.774	23.03814962
1999-2000	100.063	21.54930714
2000-2001	101.13	21.30435721
2001-2002	99.499	20.20782465
2002-2003	105.742	20.22614995
2003-2004	118.885	19.25036897
2004-2005	123.644	17.13504989
2005-2006	121.195	14.52802911
2006-2007	159.526	16.80783704
2007-2008	204.005	16.46927971
2008-2009	227.043	18.54782066
2009-2010	256.229	18.8257406
2010-2011	290.351	17.23851741
2011-2012	334.331	18.09173196

Source: World Development Indicators, The World Bank

Model 2: FDI and Economic Growth

$$\ln (GDP)_t = \alpha + \beta_1 \ln (FDI)_{t-1}$$

Gross Domestic Product

Ln GDP is the dependent variable here. GDP is the market value of all final goods and services produced in a country during a period of time (Hubbard and O'Brien, 2007). In this model I am interested in seeing if FDI and GDP have a positive relationship. Causation cannot necessarily be implied due to the limited scope of the model, as GDP depends on many other factors, and causality can run the other way too (i.e. a higher

GDP attracts more FDI) However this model can tell us on a broad level if these variables share a positive relationship. The GDP data has been obtained from the WDI of the World Bank database, and is measured in terms of current prices. From **Table 4.6** we can see that India's GDP increased from $ 274.8 billion in 1991-1992 to $474.68 billion in 2000-2001. It crossed the trillion dollar mark in 2007-2008, and reached $1.8 trillion in 2011-2012.

Table 4.6: Gross Domestic Product of India at current prices

Financial Year	GDP (Current prices, $ Billions)
1991-1992	274.8423
1992-1993	293.2624
1993-1994	284.1937
1994-1995	333.0145
1995-1996	366.5996
1996-1997	399.7869
1997-1998	423.1604
1998-1999	428.741
1999-2000	464.3444
2000-2001	474.6916
2001-2002	492.3786
2002-2003	522.7985
2003-2004	617.5726
2004-2005	721.5853
2005-2006	834.215
2006-2007	949.1168
2007-2008	1238.7
2008-2009	1224.095
2009-2010	1361.057
2010-2011	1684.315
2011-2012	1847.977

Source: World Development Indicators, The World Bank

Model 3: FDI and Exports

$\ln (\text{Exports})_t = \alpha + \beta_1 \ln (\text{FDI})_{t-1}$

Exports

This model is designed to test the relationship between exports and FDI. Increased FDI often leads to rising exports, so I would expect to see a strong positive correlation between exports and FDI. As with Model 2, causation cannot be implied because exports depend upon many other factors. From Table 4.7 we can see that exports have been consistently increasing. They increased from $17.8 billion in 1991-1992 to $103 billion in 2005-2006, and were at $304 billion in 2011-2012.

Table 4.7: Exports of India

Financial Year	Exports ($ Billions)
1991-1992	17.8654
1992-1993	18.5372
1993-1994	22.2383
1994-1995	26.3305
1995-1996	31.7949
1996-1997	33.4697
1997-1998	35.0064
1998-1999	33.2187
1999-2000	36.8224
2000-2001	44.5603
2001-2002	43.8267
2002-2003	52.7194
2003-2004	63.8426
2004-2005	83.5359
2005-2006	103.0905
2006-2007	126.4141
2007-2008	162.9042
2008-2009	185.295
2009-2010	178.7514
2010-2011	251.1362
2011-2012	304.6235

Source: Handbook of Statistics on the Indian Economy 2011-2012, The Reserve Bank of India

Section 2: Results

Model 1: Macroeconomic Determinants of FDI in India

$$\ln (FDI)_t = \alpha + \beta_1 (ForexResGDP)_{t-1} + \beta_2 (Inflation)_{t-1} + \beta_3 [\ln(ExchRate)]_{t-1} + \beta_4 (Trade\ Openness)_{t-1} + \beta_5 (ExternalDebtGDP)_{t-1}$$

Using the statistical analysis software Stata, I ran a robust regression (to control for heteroskedasticity) for the above model. The results are displayed in **Figure 4.1**. From the analysis it is clear that only two variables are found to be statistically significant - the inflation rate and trade openness. Foreign exchange reserves, the exchange rate, and external debt are found to be statistically insignificant. The R-squared value is quite high, at .9561. An R squared value closer to 1 indicates that a regression line fits the data well.

Figure 4.1: Model 1 OLS Regression Results

Linear regression

Number of obs	20
F(5, 14)	53.15
Prob > F	0.0000
R-squared	0.9561
Root MSE	.15365

log_fdi_rbi	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
forex_res_gdp L1.	-.0062151	.012782	-0.49	0.634	-.0336296	.0211995
infl_gdp_def L1.	-.0627182	.0256784	-2.44**	0.028	-.1177928	-.0076435
log_exch_rate L1.	-.5302212	.9766232	-0.54	0.596	-2.62487	1.564427
trade_open L1.	.072059	.0133451	5.40**	0.000	.0434366	.1006814
extdebt_gdp L1.	-.007612	.0181669	-0.42	0.682	-.0465762	.0313522
_cons	3.590644	1.806974	1.99	0.067	-.2849291	7.466218

It is seen that the inflation rate is negatively correlated with FDI inflows, which was expected. The results suggest that a 1 percentage point increase in inflation causes FDI inflows to fall by .06 percent. It is found that trade openness is highly positively correlated with FDI inflows; its t-statistic is very significant. An increase in trade

openness by 1 percentage point causes FDI inflows to rise by .07 percent. This positive relationship corresponds to what was expected. Overall, the actual signs of the coefficients of the variables corresponded with the expected signs.

Table 4.8: Expected and actual signs of the coefficients of variables in Model 1

Variable	**Expected sign of coefficient**	**Actual sign of coefficient**
Foreign Exchange reserves (% of GDP)	+	+
Inflation**	-	-
Exchange Rate	-	-
Trade Openness**	+	+
External Debt (% of GDP)	-	-

**statistically significant

Model 2: FDI and Economic Growth

$\ln (GDP)_t = \alpha + \beta_1 \ln (FDI)_{t-1}$

I used Stata to run a robust regression of the above model, and obtained the results displayed in **Figure 4.2.** It is clear from the model that FDI is a highly statistically significant variable. The model shows a positive correlation between GDP and FDI, which was expected. The R-squared value is .8679. The results suggest that as FDI inflows increase in time period (t-1) by 1 percent, GDP rises by .34 percent in time period "t". Strictly speaking, GDP does not have a single determinant, but the results of this model suggest that FDI and GDP share an important relationship.

Figure 4.2: Model 2 OLS Regression results

```
Linear regression                               Number of obs =        20
                                                F(  1,    18) =     71.84
                                                Prob > F      =    0.0000
                                                R-squared     =    0.8679
                                                Root MSE      =    .09547

------------------------------------------------------------------------------
             |               Robust
     loggdp |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
log_fdi_rbi  |
         L1. |   .3441126   .0405994     8.48** 0.000     .2588165    .4294086
             |
       _cons |   4.548723   .1533086    29.67   0.000     4.226634    4.870812
------------------------------------------------------------------------------
```

Model 3: FDI and Exports

$\ln (\text{Exports})_t = \alpha + \beta_1 \ln (\text{FDI})_{t-1}$

Finally I ran a robust regression of the third model to test the relationship between FDI and exports. The results are presented in **Figure 4.3.** FDI is found to be statistically significant, and positively correlated with exports, which was predicted. The high R-squared value tells us that the line of fit is good. The regression suggests that as FDI rises by 1 percent in time period (t-1), exports rise by .5 percent in time period "t".

Figure 4.3: Model 3 OLS Regression results

```
Linear regression                               Number of obs =        20
                                                F(  1,    18) =     96.82
                                                Prob > F      =    0.0000
                                                R-squared     =    0.8650
                                                Root MSE      =    .14017

------------------------------------------------------------------------------
             |               Robust
  logexports |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
log_fdi_rbi  |
         L1. |   .4989491   .0507072     9.84** 0.000     .3924172    .6054809
             |
       _cons |   2.995578   .1908471    15.70   0.000     2.594623    3.396533
------------------------------------------------------------------------------
```

Section 3: Discussion

From model 1, it is seen that foreign exchange reserves, the exchange rate, and the external debt are insignificant variables, while inflation is significant and negatively correlated with FDI, and trade as a percentage of GDP is highly significant and positively correlated with FDI inflows. These results are in line with a number of contemporary and past research papers. Singhania and Gupta (2011) conducted an empirical study to determine the macroeconomic determinants of FDI; using autoregressive integrated moving average (ARIMA) on time series data from 1991-2008 they found that Inflation, GDP, and the number of patents were important in affecting FDI inflows. They suggested that the inflation rate can be taken as measure of financial instability of the host country, and high inflation would deter investors.

Studies such as those conducted by Rogoff and Reinhart (2002) distinguish between "high inflation" (above 40 percent) and "low inflation," and suggest that a country with a higher inflation rate, even if it is below 40 percent is still worse off than a country with lower inflation. A few other studies have suggested that high inflation can cause various problems to reduce its attractiveness to foreign investors. Coskun (2001) and De Wet (2003) suggest that lower inflation and interest rates coupled with other factors such as "full membership with the European Union," and high economic growth can attract foreign investors and increase FDI inflows into Turkey. Wint and Williams (2002) show that a stable economy attracts more FDI, thus a low inflation environment is desired in countries that promote FDI as a source of capital inflow.

Akinboade et al. (2006) state that lower inflation is taken to be a sign of internal economic stability in the host country, and is often used as an indicator of economic and

political conditions. High inflation indicates the inability of a government to balance its budget, and a failure of the central bank to conduct appropriate monetary policy. From Table 4.2 it can be seen that inflation has been rising in India in recent years, and was last at almost 8 percent in 2011-2012. Facing an economic slowdown, business owners were urging the RBI to lower the cost of borrowing but the RBI refused to budge for most of 2012, until January 2013 after inflation had eased to a 3 year low (BBC News, 2013). According to Deloitte's Q4 Global CFO[10] Signals survey more than 54 per cent of CFOs in India consider inflation and its subsequent pressure on commodity prices as key economic concerns (*The Economic Times*, 2013). Therefore, inflation can be seen as a key macroeconomic variable that adversely affects FDI inflows.

Trade openness was found to be significantly positively correlated with FDI inflows. Goel et al. (2012) use time series data (from 1991-2010) to assess the determinants of FDI into India, and the GDP-FDI relationship. Through regression analysis they suggested that trade openness was significant in attracting higher FDI inflows, and that FDI growth was positively correlated with GDP growth. The trade-GDP-FDI relation has been investigated in a number of papers. Agrawal and Khan (2011) using multiple OLS regression investigate the effect of FDI on GDP growth, and find that for both India and China, FDI has a positive impact on GDP. Boreinsztein et al. (1998) use a cross-country regression framework, utilizing data on FDI flows from 69 developing countries over two decades, and conclude that FDI is an important vehicle for the transfer of technology, and contributes to growth in a larger measure than domestic investment. However, their empirical results imply that FDI is more productive than

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domestic investment only when the host country has a minimum threshold stock of human capital. Thus they argue that FDI contributes to growth only when the host country has sufficient absorptive capability of advanced technologies.

Using co-integration tests, Sahoo and Mathiyazhagan (2003) find a long run relationship between FDI, GDP and exports. They claim that the higher growth rate of FDI in India has resulted in a positive trend in GDP and exports, and both have risen since the initiation of the economic reforms of the late 1980's and early 1990's. They attribute part of the spurt in exports to the rise in export-oriented FDI (Sahoo and Mathiyazhagan, 2003). Miankhel et al. (2009) talk about the FDI-GDP-export relationship extensively. They explain that the relationship between these variables is extremely complex, with each variable having a plausible theoretical foundation to affect other variables. They use Vector Error Correction Models (VECM) to study the dynamic relationship between these three variables for six emerging economies - Chile, India, Mexico, Malaysia, Pakistan, and Thailand. They find that for India in the short run, an export led growth in the economy attracts FDI via channeling through GDP growth (EXP→GDP→FDI). However, in the long run, it is the growth in GDP that attracts FDI (Miankhel et al., 2009). Similar results are found by Chakraborty and Basu (2001) who study the two way link between FDI and GDP in India using a structural co-integration model with vector error correction mechanisms. Their results suggest that GDP in India is not Granger caused by FDI, and the causality actually runs more from GDP to FDI. These results seem to suggest that GDP causes FDI, but in my analysis I have used FDI as the independent variable. The Indian government liberalized the policy regime to attract foreign capital to aid in growth; India's growth rate has done well in previous

years, and FDI inflows have also increased. Data from various research papers suggests that in any case, FDI and GDP share a strong positive relationship, and that FDI is generally beneficial for India.

Chapter 5

Conclusion

Multinational Corporations have been actively seeking to invest in India, and the government of India has been keen to attract FDI. In the early decades post independence, the FDI policy alternated between one that was receptive to FDI to one that restricted it. With the reforms of 1991 however, the FERA of 1973 that placed a lot of restrictions on MNC's was done away with, and more sectors were opened up to FDI. Since 1991, India has seen a surge in FDI inflows, especially from 2005 onwards when inflows reached $8.9 billion in 2005-2006, then almost tripled in a year to $22.8 billion in 2006-2007, finally reaching a peak of 46 billion in 2011-2012. The growth in FDI has been incredible. Most of the FDI inflows have been received by the Services sector, and regionally Mumbai and Delhi are the cities that attract the most inflows. The economically richer states receive more FDI which could suggest that MNC's make use of location specific advantages.

From the empirical analysis, it can be seen that out of the various macroeconomic variables, trade openness and the inflation rate emerge as statistically significant; the former is positively correlated with FDI inflows and the latter is negatively correlated with FDI inflows. Literature on similar studies suggests that this was to be expected; a more open country generally sees higher FDI inflows, and a higher inflation rate often deters foreign investors. It is also observed that FDI shares a strong positive relationship with GDP and exports, and while the literature is cautious about deducing a causal relationship, it is generally accepted that these variables are positively correlated. For the purpose of this thesis I used FDI as an independent variable for the regressions, but other authors, who use more sophisticated methods of analysis,

find that a higher level of GDP could also lead to more FDI inflows. In any case, there is positive a link between FDI and GDP. It would be interesting to further explore this relationship through various other means.

The pattern of FDI has some interesting implications that do not necessarily support the positive FDI-GDP relationship. Firstly, most of the investment in recent years has been in the form of cross border Mergers and Acquisitions (M&As) rather than Greenfield investment. M&A's do not bring in the same advantages in terms of creation of new productive capacity, additional value added, and employment that Greenfield investment does. In fact, M&A's could even have a negative effect on the host country in cases of restructuring to achieve synergies, as well as formation of monopolies in an industry. Secondly, India receives 40% of its FDI from Mauritius, a tiny tax haven with whom India has a bilateral tax avoidance treaty. The Reserve Bank of India is worried that this channel is being misused by money launderers and the government is losing revenue to the tune of millions of dollars a year. Lastly, the pattern of FDI has contributed to inter regional disparities in India. between 1991 and 2002 the top ten states attracted more than 63% of the inflows whereas the bottom 10 states received less than 1% of the total FDI. Moreover, in a bid to attract FDI to their states, many state governments have overlooked the rural sector and concentrated their development expenditures in the urban areas which has increased rural-urban inequality. Despite these concerns, the overwhelming literature on this subject demonstrates that overall, the right channel of FDI could lead to a higher GDP, and it would be interesting to continue to observe the process of economic liberalization in India with respect to FDI and other types of Foreign Investment.

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Academic Vita

Nimarjit Singh

201 Vairo Blvd., Apt 168 Phone: (814)4418374
State College, PA 16803 nimarjitsingh@gmail.com

EDUCATION

Pennsylvania State University, **University Park, PA** (August 2009-Present).

- Economics (Bachelor of Science), International Politics with concentration in International Political Economy (Bachelor of Arts), Business (Liberal Arts Minor)
- Expected graduation date: May 2014

WORK EXPERIENCE

The Pennsylvania State University, University Park, PA
The Department of Economics
Research Assistant (August - December 2012)

- Obtained a research position under the "Research Experience for Undergraduates" program sponsored by Bates White LLC.
- Assisted Professor Stephen Yeaple in conducting research on tax havens and tax avoidance by multinational enterprises
- Managed a database with data on bilateral foreign direct investment flows for sixteen countries, for the purpose of econometric analysis.
- Gained a sound understanding of tax haven demand among multinational enterprises and analyzed the relationship between Foreign Direct Investment (FDI) and corporate tax rates

The Permanent Mission of India to the United Nations
235 East 43rd Street, New York, NY 10017
Intern (June -August 2011)

- Attended meetings and negotiations at the United Nations headquarters for the UN Security Council, the ECOSOC, and the Social, Humanitarian and Cultural Committee
- Conducted research on human rights violations, Security Council resolutions, growth and developmental issues, and the role of children in armed conflict
- Created PowerPoint Presentations and wrote detailed papers on said issues for the relevant department.
- Developed a sound understanding of the UN General Assembly Committees.
- Gained a profound insight into the working of the Indian Foreign Services

AWARDS AND SCHOLARSHIPS

The Department of Economics Honors Program
(April 2012- Present)

- Secured admission following superior academic performance in various upper level economics courses.
- Working on a senior economics thesis titled "Foreign Direct Investment in India: Macroeconomic Determinants and Economic Growth"

The Schreyer Honors College International Thesis Research Grant
(May-July 2012)

- Performed independent economics research in India for an undergraduate thesis titled "Foreign Direct Investment in India: Determinants and Spillovers."
- Met with several finance ministry officials, industry representatives and economists and performed a case study of current FDI policy in the country.

The Schreyer Honors College, University Park, PA (August 2010 - Present)

- Granted Admission following superior academic achievement in the academic year 2009-2010
- Recognized by the Dean of the College of Liberal Arts and granted admission into the Prestigious Paterno Fellows Program in fall 2010.
- Recognized as a 'Paterno Fellows Ambassador' to help recruit incoming freshman into the program and provide information to prospective students.
- Dean's List for outstanding academic performance: Fall 2009, Spring 2010, Spring 2011, Fall 2011, Spring 2012, Fall 2012.

The International Scholar Laureate Program, Beijing, Xian, Shanghai, People's Republic of China

- Nominated as a scholar and travelled to China as part of a Diplomacy and International Relations Conference *(June 2010)*
- Conducted a group case study of North Korean defectors and refugees in China

EXTRACURRICULAR ACTIVITIES

Penn State International Affairs and Debate Association, University Park PA
Active Member (August 2009-Present)

- Represented The Pennsylvania State University in various Model United Nations Conferences at prestigious universities such as Yale University, The University of Chicago and Columbia University.
- Appointed as a Co-Chair for a Crisis Simulation Committee for The Pennsylvania United Nations Conference (PUNC), Feb 2011

Sikh Student Association, University Park PA
May 2013-Present
Treasurer

- Responsible for managing the funds of the organization and conducting fundraisers to raise money
- Successfully organized a fundraising activity in New York City that raised $1755 in a single day
- Raised awareness about Sikhism and Indian culture through magazine interviews, discussions with student leaders, and organizing cultural dance competitions

SKILLS

- Proficient at Microsoft Excel, Word, and PowerPoint, working knowledge of STATA
- Fluent in English, Punjabi and Hindi (Native Language)