Region-wise spillover effects from Foreign Direct Investment (FDI) in India

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Thank you for being the source of inspiration and the guiding light in my life "maa and baba".You will always be missed and remembered.

Abstract

Foreign Direct Investment (FDI) is considered as a key element in the industrial development of a nation. It brings capital inflow and contributes to the development of technology, managerial skills, and domestic firms. Multinational corporations (MNCs) possess superior knowledge, patents, trademarks, and exclusive technology which "spillover" to the host economy and benefit the domestic firms. Using a sample of inward FDI data from India, the empirical findings from a Pooled Ordinary Least Squares (OLS) regression indicate that equity inflow of FDI positively augments the regional Gross Domestic Product (GSDP). In addition, the industrial linkages have a positive impact on sectoral development; however, the impact of taxation is negative. Moreover, when we change the specification of our model by using the Limited Information Maximum Likelihood (LIML) regression with an instrument, we find that sustained economy like India has uneven distribution of FDI inflows and serves as a very good example of proximity concentration, intra-regional openness, and agglomerations. A decrease in geographic distance of 5.5 km from the regional headquarters increases the FDI inflow by approximately USD1Mil. We also find that the market size, infrastructure and labour conditions are key attributes in the spatial distribution of FDI inflow. Furthermore, we use a textual analysis framework with the news articles from Factiva database on the FDI policy. The Key Research Index conveys periodic changes in policy framework from the perspective of the investments in the early years, the growth of the FDI in the retail sector and the various sectoral benefits received from the FDI policies. The empirical findings strongly corroborate with the argument that industrial linkages between foreign and domestic firms aids industry agglomerations and spillovers to the host economy (Blomstrom et al., 2000; Gorg and Greenaway, 2002; Narula and Marin, 2005; Vacek, 2007). Our findings emphasises that lowering of taxes to encourage FDI is a major driver to stimulate regional attractiveness and it augments the revenues collected through taxes. In other words, the policy environment provides a breeding ground for flourishing of enterprises and thereby benefits the local economy and a decrease in geographical distance increases inflow of FDI. The quintessential findings from this research contributes in highlighting key recommendations for the policy makers and to the existing literature on spatial distribution of FDI Inflows and their spillovers in Emerging economies.

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CHAPTER-ONE

LIST OF ABBREVIATIONS:

FDI : Foreign Direct Investments

GSDP: Gross State Domestic Product

MNC: Multinational Companies

MNE: Multinational Enterprises

KRI : Key Research Index

CII: Confederation of Indian Industries

DIPP: Department for Industrial Planning and Promotion

RBI: Reserve Bank of India

SEZ: Special Economic Zone

LIML: Limited Information Maximum Likelihood

CHAPTER ONE

Regional Growth through Spillovers from FDI - Evidence from Emerging Economies

SECTION 01: INTRODUCTION

The International Monetary Fund (IMF) defines Foreign Direct Investment (FDI) as an "*investment that is made to acquire a lasting interest in an enterprise operating in an economy other than that of an investor, the investor's purpose being to have an effective choice in the management of the enterprises*" (IMF 1980: Para 408). Foreign investment can be either public or private, with the latter comprising both portfolio and direct investment. FDI is considered a key element in the industrial development of a nation. FDI brings capital inflow and contributes to the development of technology, managerial skills and competitiveness of domestic firms. FDIs boost economic growth through the transfer of technology and its diffusion. It also aids the dissemination of productivity gains, managerial skills, and technical know-how to the recipient economies (Dimelis, 2005; Schneider, 2005; Girma, 2005; Li and Liu, 2005; Lin and Yeh, 2005). FDI encourages spillover effects through the transfer of technology (Wang and Yu, 2007). FDI promotes modernisation of economies and thereby **contributes** to the economic growth of the recipient countries (Grossman and Helpman, 1991; Barro and Sala-i-Martin, 1995; Hermes and Lensink; 2003**). Multinational corporations** (MNCs) possess superior knowledge, patents, trademarks, and exclusive technology which "spillover" to the host economy and **benefit** the domestic firms. "Spillovers" are positive externalities from FDIs **that lead** to productivity and efficiency benefits of firms in the host countries (Blomstrom and Kokko, 1997). The results of the FDI spillovers seem to be mixed. Studies conducted by Aitken and Harrison (1999) reveal "*market-stealing*" effects from the intense competition among top brands that can nullify the effects of FDI spillovers; this echoes well with other findings **that confirm** the negative effects of FDI spillovers (Haddad and Harrison, 1993; Aitken and Harrison, 1997; Djankov and Heokman, 2000; Jeon et al., 2013). However, the positive effects of FDI outrun the negative effects through enhancement of productivity (Haskel, Pereira and Slaughter, 2007; Javorcik, 2004; Liu, et al., 2012; Wang et al., 2012).

It is believed that FDI contributes to the transfer of technology, knowledge, managerial skills, and capital to the host economies. "Spillovers" are positive externalities that lead to productivity and efficiency benefits in the host country's local firms (Blomstrom and Kokko, 1997). It is proven that spillovers are directly linked to foreign presence (Blomstrom et al., 1999). The direct approach to spillovers emphasises the presence of foreign firms and its benefits to domestic firms (Blomstrom and Kokko, 2003). The indirect approach to spillovers emphasises the identification of channels through which FDI spillovers are realised and thereby an evaluation of the robustness of those channels (Blomstrom et.al, 1999, p.14). It is imperative to note that the spillovers from FDIs occur when the local suppliers meet demand by the established MNCs in a host nation, this encourages demand from foreign firms in terms of higher quality, price, and delivery standards (Smarzynska, 2002). When spillovers from FDIs occur the foreign firms use intermediate goods manufactured by domestic firms and this in turn reduces the average costs, due to increasing economies of scale (Barrios, 2000). Beckman and Czudaj's (2017) work on global spillovers provides useful insight into the capital flow and its impacts on GDP for selected emerging markets. The study involves both FDI and portfolio investments. It is argued that the capital flows positively contribute to GDP, however, with the exception of Korea, the results obtained infer that the net portfolio investments have more positive impacts on GDP than the net FDI flows for emerging markets. It is interesting to note that in the Asian crisis of 1997 emerging markets attracted huge capital inflows, this can be attributed to the pursuit of multinational companies to reduce tax liabilities by shifting taxable profits to emerging markets (Jones and Temouri, 2016). Capital flows from multinationals fuels domestic financial markets, however, countries with underdeveloped financial markets **tend to be** at a disadvantage in the case of reversals related to capital flows (Forbes and Warnock, 2012). Capital flows from multinationals **aid** accumulation of foreign reserve and enhance competitiveness by preventing domestic appreciation of local currencies. Foreign exchanges held by developing countries have quadrupled in the aftermath of the recession (Aizenman and Lee, 2008; Beck and Rahbari, 2011). Gomes-Caserres et. al (2006) indicate that inter-firm alliances play a pivotal role in the sharing of technological knowledge and **act** as a precursor to similarities between alliance partners. It is imperative to acknowledge that the sheer alliance of firms in RandD depends on the size of the firm, however, externalities of technological knowledge spill across sectors in the regions of economy. The innovation output in an economy is promoted by foreign institutional ownership and aid in human capital, as well as the growth of tangible and intangible investments across sectors (Bena et.al, 2017).

FDI brings the required capital and technology to provide an impetus to the much **needed** economic growth in the host country (Dunning, 1993; Blomstrom, Lipsey and Zejan, 1996; Borensztein et.al, 1998). The motivating factor for foreign companies is the sheer economic size of the host countries and the potential market for sales (Hojabr and Sabzi, 2006; Ahmadia and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzadi, 2015; Dodange, 2016; Mohammadvandnahidi, Jaberikhosroshahi and Norouzi, 2012). It is imperative to acknowledge that the scale and the growth of a region is dependent on its market size. A study by Ranjan and Agarwal (2011) on BRIC economies from 1975 to 2009 revealed market size as a significant determinant of FDI. Additional studies conducted by Kumar (2002), Banga (2003), Goldar (2007), Nunnenkamp and Stracke (2007), and Dhingra and Sidhu (2011) also support that market size is a key determinant of FDI inflow in a context such as India. Industrial linkages between foreign and domestic firms aids industry agglomerations and spillovers to the host economy (Blomstrom et.al, 2000; Gorg and Greenaway, 2002; Narula and Marin, 2005; Vacek, 2007). Linkages established between multinational companies and domestic firms contributes to tapping the potential benefits in the same or in related industrial sectors and thereby generates markets for domestic firms both in upstream and downstream industries (Pattnayak and Thangavelu; 2010).It is imperative to acknowledge that FDI encourages industrial sectors to form linkages in specific geographic locations and aids in enhancing firm capabilities through the diffusion of technology. Empirical evidence from China indicates the dominant presence of spillovers from productivity (Liang, 2017). Investigations conducted by Aitken and Harrison (1999) indicate the presence of negative productivity spillovers in the same sectors in a Venezuelan context. Recent studies conducted on industrial linkages and productivity spillovers conclude that vertically linked industries show **better** productivity spillovers than horizontally linked industries which involve the same sectors. The quintessential aspect of establishing industrial linkages in an economy is to facilitate the transfer of technology and benefit the local suppliers to multinational enterprises (MNEs). Local suppliers enjoy the liberty to work in tandem with the foreign enterprises and benefit from the productivity spillovers of FDI. Tax rates as an incentive to boost FDI inflows have gained attention due to the increase in globalisation and economic integrations (Hansson and Olofsdotter, 2013; de Mooij and Ederveeen, 2006; Feld and Heckemeyer, 2011***). Emerging*** economies have been at the forefront in promoting FDI to enhance economic growth (Li and Liu, 2005). **Policy environment greatly influences the decisions made by the policy makers**. Decisions related to government spending **affect** the inflow of FDI. Government spending and incentives provided to MNCs to set up their bases is a driving factor behind

encouraging FDI inflow. Government spending is a determinant of FDI (Othman et.al, 2018); however, it can be a gre. It is customary for governments to provide incentives through tax rebates and the setting up of special economic zones (SEZ). These tax incentives and SEZs aid the promotion of trade and investments. Empirical studies conducted by Othman et.al (2018) on ASEAN-5 countries indicate an increase in government expenditure from 1982-2016 in China, Indonesia, Malaysia, Philippines, Thailand, Singapore, and India (Othman et al., 2018).

1.1 Research Aim and Objectives:

The significant increase in FDI in almost all sectors of the economy makes it compelling to study the benefits of spillovers across the regions in India and thereby focus on the most dominant sectors and the regions which have benefited from FDI. This research **aims** to study the regional benefits of FDI inflow and **contributes** to highlighting the less developed regions and sectors. The research outcomes **aid** the provision of recommendations to the policy makers.

In line with the above research aim, an effort is made through this **thesis** to address the following objectives:

1a. The effect of inflow of FDI augments the market size of a region

1b. The effect of industrial linkages promotes sectoral development

1c. The effect of a conducive policy environment augments regional tax revenues

1.2. Research Methods: In Chapter-1 the research method includes a pooled ordinary least squared (OLS) regression. It is used to investigate key variables which represent market size (Total Gross State Domestic Product), industrial orientation (Total GSDP Services and Total GSDP Manufacturing), and conducive policy environment (own tax revenues as a percentage of Total Gross State Domestic Product). The dependent variable is TOTAL GSDP (t_gsdp). The regional characteristics are explained through the chosen list of explanatory variables in Table 01 and these are lagged by one year due to the fact that FDI flows in a single year are determined by economic conditions in the previous year of the chosen period. The empirical

results presented in Table 2 are in line with the signs of the estimated coefficients for most of the explanatory variables.

Research Questions: The scale and the growth of a region is dependent on its market size. Linkages established between multinational companies and domestic firms contributes to tapping the potential benefits in the same or in related industrial sectors and thereby generates markets for domestic firms. Multinational enterprises vouch for sophisticated infrastructure and prefer bases which have clustering of different industries at one location and conducive polices which favour removal of entry barriers to both input and output markets, flexible labour laws and a simplified tax structure (Pradhan, 2012).

In congruence with the above arguments, this research intends to address the following research questions.

- Does Equity inflow of FDI augments the regional Gross State Domestic Product (GSDP) ?
- Does equity inflow of FDI influence the growth of GSDP and promote Tax incentives?

1.3 Contribution: We contribute to the existing literature of FDI in emerging **markets** by addressing the regional factors which affect the equity inflow of FDI such as market size, industrial linkages, and conducive policy environment. The recent works on emerging markets by Othman et al. (2018) contribute to bringing a new perspective to the government expenditure and policy framework which benefits local economies; however, it does not address regional impact within the countries. This research intends to address regional aspects such as market size, industrial linkages and conducive policies and their subsequent role in attracting equity inflow of FDI.

The thesis is organised in the following way: Section 2 discusses the previous literature and develops hypotheses based on their contribution. Section 3 reports the methodology, including data collection and variable description. Section 4 discusses the empirical model and findings. Finally, section 5 provides the conclusion and recommendations for policy makers.

SECTION 02: LITERATURE REVIEW

2.1 Theoretical framework of Foreign Direct Investments (FDI):

According to International Monetary Fund, FDI is defined as "*investment that is made to acquire a lasting interest in an enterprise operating in an economy other than that of an investor, the investor's purpose being to have an effective choice in the management of the enterprises*" (IMF 1980: Para 408). Foreign investment can be either public or private, with the latter comprising both portfolio and direct investment. FDI is considered a key element in the industrial development of a nation. FDI brings capital inflow and contributes to the development of technology, managerial skills, and competitiveness of domestic firms.

Multinational Corporations (MNCs) possess superior knowledge, patents, trademarks, and exclusive technology. These attributes "spillover" to the host economy and benefit the domestic firms. Foreign investment can be either public or private, with the latter comprising both portfolio and direct investment. In the case of FDI, funds do not necessarily cross frontiers, and not all capital flows across frontiers qualify as investment (Petrochilos 1989:6). Sornarajah (1994) defines FDI as the "transfer of tangible or intangible assets from one country into another country for the purpose of use in that country to generate wealth under the total or partial control of the owner of the assets" (Sornarajah 1994, Graham and Drugman 1991:7). According to Dicken (1994) countries and regions compete to attract FDI to promote local economic growth. Sahoo (2006) investigated the attitude of South Asian economies in attracting FDI and concluded that there is a huge positive affect of FDI inflows on the economic growth to South East Asian countries. Azam and Lukman (2010) researched the determinants of foreign direct investment in India, Indonesia and Pakistan as market size, external debt, domestic investment, trade openness and physical infrastructure. Empirical studies conducted

by Jayachandran (2010) over the period of 1970-2007 suggests that there is no reciprocal causality relationship between trade, FDI, and economic growth, however they conclude that there exists a direction of causality relationship between exports and growth rate, and that no causality relationship exists between growth rate to exports. Jayachandran (2010) revealed FDI and exports as the factors affecting the economic growth of India. Cointegration analysis conducted by them suggests the existence of a long-running equilibrium relationship. In a market economy, trade and technology through exports and imports promote economic growth (Grassman and Gelpman, 1997;Frankel and Romel, 1999; Frankel, Romer, and Cyrus, 1996). The trade and growth of an economy has been extensively studied by Hsiao et al. (2006). Trade openness, which is the sum of exports and imports to gross domestic product (GDP), is being considered as one of the determinants of economic growth. Productivity in an economy can be enhanced by export expansion. Economies of scale can be achieved by export expansion. Exports in an economy boost foreign exchange reserve and provide wide access to international markets (Dritsaki, Caido, Dritsaki and Adamopoulos, 2004). It is unclear in the literature whether there exists a positive relationship between trade and growth, since trade is considered a simulative of growth. Economy growth, on the other hand, is subjected to technological advancement and it differs from one country to another. Studies conducted by Dritsaki et al. (2004) showed that technological advances through trade have a negative effect on economic growth. Hence, the subject of trade and economic structure is strongly debated by the academics. Kinoshita and Campos (2003) investigated the factors accounting for the geographical patterns of FDI inflows among 25 transition economies based on panel data between 1998 and 1999. Their findings conclude that institutions and agglomeration economies are the most important determinants of FDI, which overrides the other economic variables. They also conclude that natural resources and labour costs act as the motivating factors for

regional FDI. Trade openness is also a major determinant of FDI. Foreign investors tend to prefer transition countries that are more open to trade with less restriction on FDI.

2.2 Spillovers from Foreign Direct Investments (FDIs):

FDI leads to indirect beneficial externalities for the host country's firms. In general, such benefits are referred to as "spillovers", a term which accurately describes the way benefits to the host economy are transferred. It is believed that FDI contributes to the transfer of technology and superior managerial skills. Spillovers lead to productivity and efficient benefits in the host country's local firms (Blomstrom and Kokko, 1997). It is proved that the spillovers are directly linked to foreign presence (Blomstrom et.al, 1999). The direct approach to spillovers emphasises the presence of foreign firms and its benefits to domestic firms (Blomstrom and Kokko, 2003). The indirect approach to spillovers emphasises the identification of channels through which FDI spillovers are realised and thereby evaluation of the robustness of those channels (Blomstrom et.al, 1999, p.14). It is imperative to note that the spillovers from FDI occur when local suppliers meet demand by the established MNC in a host nation, this encourages demand from foreign firms in terms of higher quality, price, and delivery standards (Smarzynska, 2002). When spillovers from FDI occur, the foreign firms use intermediate goods manufactured by domestic firms and this in turn reduces the average costs due to increasing economies of scale (Barrios, 2000). Blomstrom et al. (1999) identified five transmission channels through which spillovers occur: (i) competition (ii) demonstration and imitation effects (iii) transfer of technology and RandD (iv) human capital and labour turnover (v) industrial management. Multinational firms gain advantages by overcoming potential entry barriers in a new market (Gorg and Strobl, 2001). High domestic competition leads to more extensive spillovers from FDI. This is evident in industries with intense competition and acts as an incentive for multinational firms to invest in domestic firms (Sjoholm, 1999). The increase in competition among domestic firms eliminates inefficient firms and this could be a

negative to domestic firms (Taymaz et.al, 2004). Spillovers from FDI encourages domestic firms to imitate their products and production process. This is evident through reverse engineering and the hiring of staff with exposure to skills acquired by working in an MNC. Local firms copy products and production processes. Demonstration and imitation represent the "*learning by watching effect*" (Blomstrom et al., 1999). Multinational firms aid the transfer of technology and R&D. Knowledge assets acquired by multinational firms such as patents, trademarks and exclusive technology encourages domestic firms to increase productivity on a par with multinational firms by copying them and building competitiveness in new areas (Mansfield and Romeo, 1980). Blomstrom (1986) found evidence of multinationals acting as a catalyst for the growth of Mexican manufacturing sectors and contributing to the convergence between Mexican and American firms in several industries. Dunning (1970) emphasises that the foreign company's management and technological skills contribute as a "brain-*drain in reverse*". Local employees trained by multinational firms enhances the profitability of domestic firms through their skills and managerial talent (Aitken and Harrison, 1999). It is imperative to note that firms in developing countries lack resources to compete with their multinational counterparts in advertisement and promotional activities, however, they do so on the basis of price cutting and penetrating low-end markets (Kumar and Siddharthan, 1994). Domestic firms learn industrial management techniques and stand to gain from marketing tactics and intend to expand beyond domestic markets.

2.3 Determinants of Foreign Direct Investment (FDI):

Empirical studies conducted by Jayachandran (2010) over the period of 1970-2007 suggests that there is no reciprocal causality relationship between trade, FDI and economic growth, however they concluded that that there exists a direction of causality relationship between exports and growth rate and that no causality relationship exists between growth rate to exports. Sahoo (2006) investigated the attitude of South Asian economies in attracting FDI and

concluded that there is a huge positive affect of FDI inflows on the economic growth of South East Asian countries. Azam and Lukman (2010) researched the determinants of foreign direct investment in India, Indonesia and Pakistan as market size, external debt, domestic investment, trade openness and physical infrastructure. In a market economy, trade and technology through exports and imports promotes economic growth (Grassman and Gelpman, 1997; Frankel and Romel, 1999; Frankel, Romer, and Cyrus, 1996). The trade and growth of an economy has been extensively studied by Frank, Hsiao, Mei-chu, and Hsiao (2006). Trade openness, which is a sum of exports and imports to gross domestic product (GDP), is considered one of the determinants of economic growth. Productivity in an economy can be enhanced by export expansion. Economies of scale can be achieved by export expansion. Exports in an economy boost foreign exchange reserve and provide wide access to international markets (Dritsaki, Caido, Dritsaki and Adamopoulos, 2004).

Thus, it is not clear in the literature whether there exists a positive relationship between trade and growth, since trade is considered a simulative of growth. Economy growth, on the other hand, is subjected to technological advances and differs from one country to another. Studies conducted by Dritsakietal (2004) indicates that technological advances through trade have a negative effect on economic growth. Hence, the subject of trade and economic structure is strongly debated by academics. Kinoshita and Campos (2003) investigated the factors accounting for the geographical patterns of FDI inflows among 25 transition economies based on panel data between 1998 and 1999. Their findings concluded that institutions and agglomeration economies are the most important determinants of FDI, which overrides other economic variables. They also concluded that natural resources and labour costs acted as the motivating factors for regional FDI. Trade openness is also a major determinant of FDI. Foreign investors tend to prefer transition countries that are more open to trade with less restriction on FDI. The absorptive capacity of a country is dependent on attributes such as

political stability, incumbent regime, and business conducive legislation. These country specific attributes lead to positive externalities known as **"**spillovers" **(**De Mello, 1999). It is imperative to acknowledge that FDI is a precursor of economic growth and is a major motivating factor that encourages host countries to lay a red-carpet welcome for multinational enterprises (MNEs). On the other hand, the motivating factor for foreign companies is the sheer economic size of the host countries and potential market for sales (Hojabr and Sabzi, 2006; Ahmadi and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzadi, 2015; Dodange, 2016; Mohammadvandnahidi, Jaberikhosroshahi and Norouzi, 2012). Empirical results obtained from studies conducted by Rafat and Monireh (2018) indicate the existence of a positive coefficient of openness, inferring that the importing of raw materials and the exporting of finished goods is a quintessential aspect of openness of an economy and this in turn facilitates the free movement of essential capital goods in an economy and justifies the positive impact of FDI (Hojabr and Sabzi, 2006; Ahmadi and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzadi, 2015; Moshiri and Keyanpor, 2012; Ghaffari and Akbari, 2011). Open trade regime offers a conducive environment for economic growth and FDI. It encourages capital accumulation and facilitates knowledge transfer (Basu, Chakraborty, and Reagle, 2003); however, it is also argued that FDI encourages the formation of enclave economies and thereby tends to be concentrated in specific regions (Carkovic and Levine, 2005). It is interesting to note that there exists a bidirectional causality between economic growth and FDI and this therefore rules out any scope of single-equation regression analysis (Carkovic and Levine; 2005). In an open economy exports and imports act as a driving force which promotes economic growth (Frankel and Romer, 1999; Frankel, Romer, and Cyrus, 1996; Grossman and Helpman, 1997).

2.3.1 Theoretical Framework:

This section addresses the description of the rationale behind the selection of variables which represent market size, industrial linkages and conducive policy environment. Market size represented by total gross state domestic product, industrial linkages through total gross state domestic product services and manufacturing. Own tax revenues as a percentage of total gross state domestic product is chosen as a proxy to represent conducive policy environment. A theoretical framework is constructed to justify the rationale from the point of literature. Suitable evidence from literature thus presented to buttress the choice of the key variables.

i) Market Size: The extant literature on FDI determinants identifies market size as a significant determinant in the inflow of foreign direct investment (FDI). FDI brings the required capital and technology to provide an impetus to the much need economic growth in the host country (Dunning, 1993; Blomstrom, Lipsey and Zejan, 1996; Borensztein et.al, 1998). The recipient country benefits from FDI in generating quality labour required to promote economic growth (de Mello and Sinclair, 1995; Markusen and Venables, 1999). The absorptive capacity of a host economy and its market size determines the volume of FDI inflow, however, there seems to be a lack of consensus on the positive effects of FDI on recipient countries. Investigations conducted by Haddad and Harrison (1993), Grilli and Milesi-Ferretti (1995) and Javorcik (2004) indicates that FDI does not contribute to economic growth. Additional studies on FDI by Borensztein, DeGrigoria and Lee (1998), Mercinger (2003), Moura and Forte (2009), and Najia et al. (2013) revealed a negative impact on economic growth in the recipient economies. It is argued in the literature that the absorptive capacity of a country is dependent on attributes such as political stability, incumbent regime and business conducive legislation. These country specific attributes lead to positive externalities known as **"**spillovers" **(**De Mello, 1999). It is imperative to acknowledge that FDI is a precursor for economic growth and is a major motivating factor that encourages host countries to lay a red carpet welcome for multinational enterprises (MNEs). On the other hand, the motivating factor for foreign companies is the sheer economic size of the host countries and potential market for sales (Hojabr and Sabzi, 2006; Ahmadi and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzadi, 2015; Dodange, 2016; Mohammadvandnahidi, Jaberikhosroshahi and Norouzi, 2012). Trade openness is derived from the summation of exports and imports in goods and services over GDP and plays a significant role in encouraging foreign investments. Empirical results obtained from studies conducted by Rafat and Monireh (2018) indicate the existence of a positive coefficient of openness, this infers that the importing of raw materials and the exporting of finished goods is

a quintessential aspect of openness of an economy and this in turn facilitates the free movement of essential capital goods in an economy, and also justifies the positive impact of FDI (Hojabr and Sabzi, 2006; Ahmadi and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzadi, 2015; Moshiri and Keyanpor, 2012; Ghaffari and Akbari, 2011. An open trade regime offers a conducive environment for economic growth and FDI. It encourages capital accumulation and facilitates knowledge transfer (Basu, Chakraborty, and Reagle, 2003); however, it is also argued that FDI encourages the formation of enclave economies and thereby tends to be concentrated in specific regions (Carkovic and Levine, 2005). It is interesting to note that there exists a bidirectional causality between economic growth and FDI and this therefore rules out any scope of single-equation regression analysis (Carkovic and Levine, 2005). In an open economy the exports and imports act as a driving force which promotes economic growth (Frankel and Romer, 1999; Frankel, Romer, and Cyrus, 1996; Grossman and Helpman, 1997,).

The scale and the growth of a region is dependent on its market size. Investigations by Barrel and Pain (1996) on FDI in the USA over the period 1971-1998 indicates that GNP and GNP Growth as proxies for demand which show a positive and significant effect. Other studies in a similar context confirm a positive effect on the GDP of host countries on United States FDI (Terpstra and Yu, 1988; Blonigen and Davies, 2000; Globerman and Shapiro, 2003). The determinants of FDI in a Latin American and Caribbean context reveal positive effect of United States FDI on GDP per capita (Love and Lage Hidalgo, 2000; Lall, Norman, and Featherstone, 2003; Tuman and Emmert, 2004). Culem (1988) argued that growing demand for FDI in a host nation also encourages demand for the consumption of goods and services which are produced by multinational enterprises in the host country. Studies conducted by Ranjan and Agarwal (2011) on BRIC economies from 1975 to 2009 reveal market size as a significant determinant of FDI along with trade openness and labour costs. It is interesting to note that in developing countries market size, GDP growth, international trade, and business environment are key determinants to attract FDI (Mottaleb and Kalirajan, 2010). Azam and Lukman (2010) researched the determinants of foreign direct investment in India, Indonesia and Pakistan as market size, external debt, domestic investment, trade openness and physical infrastructure. It is imperative to acknowledge that FDI is a precursor for economic growth and that it is a major motivating factor that encourages host countries to lay a red carpet welcome for multinational enterprises (MNEs). On the other hand, the motivating factor for foreign companies is the sheer market size of the host countries and the potential market for sales (Hojabr and Sabzi, 2006; Ahmadi and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzadi, 2015; Dodange,

2016;, Mohammadvandnahidi, Jaberikhosroshahi and Norouzi, 2012). Empirical studies conducted on the determinants of FDI in various contexts have involved a number of variables to represent market size, such as gross domestic product (GDP), growth rate of GDP, per capita income, population growth and consumption level in an economy.

In the current context, Total Gross State Domestic Product is chosen to represent the market size. NitiAayog (Planning Commission-India,2 018) defines it as "*a measure, in monetary terms, of the volume of all goods and services produced within the boundaries of the State during a given period of time, accounted without duplication*" (NitiAayog, 2018)

ii) Industrial linkages: Total GSDP Services and Total GSDP Manufacturing: It is imperative to acknowledge that multinational companies provide economic benefits to the domestic economy. Linkages established between multinational companies and domestic firms contributes to tapping the potential benefits in the same or in related industrial sectors and thereby generates markets for domestic firms both in upstream and downstream industries (Pattnayak and Thangavelu, 2010). Industrial linkages between foreign and domestic firms aids industry agglomerations and spillovers to the host economy (Blomstrom et.al, 2000; Gorg and Greenaway, 2002; Narula and Marin, 2005; Vacek, 2007). The investigations of Smarzynska (2004) in a Lithuanian context reveal positive spillovers from the activities of multinational firms in sectors downstream and not in the same sectors, however, the locational choice of producers promotes a positive externality effect. In the context of India's pharmaceutical sector, a significant emphasis is given to the formation of industrial linkages to promote R & D activities which involve reverse engineering on existing drugs and address issues related to the positive and negative spillovers from technology and industrial linkages (Kremer, 2002).

There exists two different perspectives related to the extent of spillovers from the activities of multinational firms and the real benefits to the host economy. Recent firm level empirical studies indicate negative spillovers (Aitken and Harrison, 1999; Djankov and Hoekman, 2000; Khawar, 2003), however, cross sectional and industry level investigations reveal positive spillovers effects and productive linkages between domestic and foreign firms. (Girma et al., 2001; Kokko et al., 1996). It is imperative to acknowledge that sectors such as manufacturing and services are capital and labour intensive, therefore at this juncture it is significant to address human capital as a key determinant in aiding FDI inflow in a specific location. For instance, recent studies conducted by Iwai and Thompson (2012) indicate human capital and labour quality as key determinants for developing countries and this corroborates with the previous

investigations of Noorbakhsh et al. (2001) on the importance of human capital in augmenting FDI inflows in an economy. It is imperative to acknowledge that FDI encourages industrial sectors to form linkages in specific geographic locations and aid in enhancing firm capabilities through the diffusion of technology. By forming industrial linkages, firms tend to augment their absorptive capacities. Empirical evidence from China indicates the dominant presence of spillovers from productivity (Liang, 2017). Investigations conducted by Aitken and Harrison (1999) indicate the presence of negative productivity spillovers in the same sectors in a Venezuelan context. Recent studies conducted on industrial linkages and productivity spillovers conclude that vertically linked industries show more positive productivity spillovers than horizontally linked industries which involve the same sectors. The quintessential aspect of establishing industrial linkages in an economy is to facilitate transfer of technology and benefit the local suppliers to multinational enterprises (MNEs). Local suppliers enjoy the liberty of working in tandem with foreign enterprises and benefit from the productivity spillovers from FDI. Studies conducted in a Lithuanian context indicate similar results to those obtained in a Venezuelan context, where Javorcik (2004) finds positive spillovers in vertically linked industries. Technology diffusion through the presence of MNEs in a geographical location benefits the firms with good RandD, and the availability of a highly educated workforce acts as a major attribute in attracting MNEs (Blalock and Gertler, 2009). Most of the available extant literature on horizontal productivity spillovers are focused on developing markets and it seems evident that horizontal productivity spillovers are limited to developing markets (Aitken and Harrison, 1999; Blalock and Gertler, 2008; Javorcik, 2004). However, evidence from developed countries is confined exclusively to an American and UK context (Keller and Yeaple, 2003; Chung et al., 2003; Haskel et al., 2002; Liu et al., 2000). Recent studies conducted in China's semiconductor industries yields interesting insights on the contrast between product quality and difference within domestic and international markets for goods made in an economy. For instance, domestic firms supply products in the local market with low demand on quality, however, multinational firms supply products in international markets with higher demand on both quality and product specification (Chesbrough and Liang, 2007). In the pursuit of knowledge spillovers, domestic firms sometimes tend to be at a disadvantage due to the intervention of foreign firms in the labour market. For instance, in order to discourage knowledge leakage, multinationals pay higher wages to employees to abstain them from bidding by domestic firms. At this juncture, domestic firms tend to lose out on a productive workforce due to limited absorptive capacity and the lack of superior management skills in line with their foreign counterparts (Blalock and Gertler, 2009; Cohen

and Levinthal, 1990). It is difficult for domestic firms to compete with foreign multinationals owing to their small firm size and limited utilisation of technology spillovers, this is peculiar in terms of acquiring quality labour and the losing of market share due to higher unit costs (Aitken and Harrison, 1999). Literature on spillover effects from FDI places greater stress on the impact of spillovers in the vertically related industrial sectors, and firms which are involved in backward linkages tend to be at an advantage due to the transfer of technology and spillovers from it. Backward linkage in a context such as China has been very useful owing to export oriented sectors wherein higher quality inputs are provided to the local suppliers (Liang, 2017). The formation of a supplier chain is an integral part of establishing industrial linkage. Multinationals intend to prevent knowledge leakage to competitors in the local markets through the transfer of technology and management skills and hence encourage good supplier relationships (Blalock and Gertler, 2008). Backward and forward linkages have been very productive in a Czech and Lithuanian context. Studies conducted in these contexts by Javorcik (2004) emphasise that a 1 standard deviation increase contributes to 15 percent augmentation in the output of each firm related to sectors which are involved in supplying foreign firms. Investigations on forward linkage in China reflects positive spillover effects through forward linkages, wherein foreign suppliers outsource manufacturing jobs to Chinese firms (Chang et al., 2007).

In line with the literature, an effort is made here to investigate industrial linkage owing to the geographical location of states and economic indicators. Total Gross State Domestic Product Services and manufacturing is chosen to represent the industrial linkage. NitiAayog (Planning Commission-India, 2018) defines it as "*a measure, in monetary terms, of the volume of all goods and services produced within the boundaries of the State during a given period of time, accounted without duplication*" (NitiAayog, 2018)

iii) Conducive policy environment: A conducive policy environment plays a pivotal role in attracting FDI inflow. Multinational enterprises vouch for sophisticated infrastructure and prefer bases which have clustering of different industries at one location and conducive polices which favour removal of entry barriers to both input and output markets, flexible labour laws and a simplified tax structure (Pradhan, 2012). Tax rates as an incentive to boost FDI inflows have gained attention due to the increase in globalisation and economic integrations (Hansson and Olofsdotter, 2013; de Mooij and Ederveeen, 2006; Feld and Heckemeyer, 2011). Recent studies conducted by Hansson and Olofsdotter (2013) on EU15 countries indicate that tax rates have declined due to market access, industry and technology externalities. Agglomeration

economies contribute to decreasing factor mobility and hence generate higher taxes for local economies (Andersson and Forslid, 1999; Baldwin et al, 2003; Baldwin and Krugman, 2004). Reduced political uncertainty and a conducive business environment promotes FDI inflow. Recent studies conducted by Krifa-Schneider and Matei (2010) on 33 developing and transition economies confirm the importance of political stability and a conducive business environment in enhancing FDI inflow. Creating a conductive policy environment relies on institutional factors such as effective regulatory practices, transparency between government policies and their implementation, corruption control, and economic sentiment among entrepreneurs. Studies conducted on institutional factors identifies that these factors positively impact on FDI inflow (Bloningen, 2005; Benassy-Quere et al., 2007; Sekkat and Varoudakis, 2007; Arbatli, 2011). However, there exists a criticism on the accurate estimation on the effect of institutional factors (Bloningen, 2005).

Efforts made by a government to augment the inflow of FDI goes beyond the ambits of a conducive policy environment. Constructive spending by the government is a precursor to economic stability and accelerates much needed growth and opens up avenues of job opportunities and thereby aids in the reduction of poverty (Ahuja, 2013); however, supporters of Keynesian theory view this as a driving factor behind demand function and induces a multiplier effect in augmenting the national economy. The quintessential aspect related to government spending and the conducive policy environment is to attract FDI inflow through public spending. For instance, government spending aims at removing the barriers to constructing roads, promoting health and education. Boosting agriculture, transport and electricity thereby attracts FDI. Emerging economies have been at the forefront in promoting FDI to enhance economic growth (Li and Liu, 2005). The policy environment is greatly influenced by the decisions made by the policy makers. Decisions related to government spending affects the inflow of FDI. Government spending and incentives provided to MNCs to set up their bases is a driving factor behind encouraging FDI inflow. It is customary for governments to provide incentives through tax rebates and the setting up of Special Economic Zones to promote trade and investments . Government spending is a determinant of FDI (Othman et al., 2018); however, it can be a great precursor of economic growth. Empirical studies conducted by Othman et al. (2018) on ASEAN-5 countries indicate an increase in government expenditure between 1982-2016 in China, Indonesia, Malaysia, Philippines, Thailand, Singapore and India (Othman et al, 2018). Unlike other countries, Malaysian government expenditure of 15 percent of GDP stands higher than the average expenditure of

other countries (Othman et al., 2018; Tuan et al., 2009). The ultimate objectives of increasing government spending is to build infrastructure, promote strong institutions, and create a congenial business environment (Panigrahi and Panda, 2012; He and Sun, 2014).

In line with the literature on conducive policy and its role in attracting FDI inflow, an effort is made here to represent own tax revenue as a key attribute of policy. Own tax revenues are a percentage of Total Gross State Domestic Product. NitiAayog (Planning Commission-India, 2018) defines it as "own *tax revenue is government income due to taxation and it is a measure, in monetary terms. The data contains actual, pre-actual and budgeted expenditure for own tax revenue as percentage of GSDP*" (NitiAayog, 2018)

2.4 Hypotheses Development: It is argued in the literature that the absorptive capacity of a country is dependent on attributes such as political stability, incumbent regime and business conducive legislation. These country specific attributes lead to positive externalities known as "spillovers" **(**De Mello, 1999). It is imperative to acknowledge that FDI is a precursor for economic growth and is a major motivating factor that encourages host countries to lay a red-carpet welcome for multinational enterprises (MNEs). On the other hand, the motivating factor for foreign companies is the sheer economic size of the host countries and the potential market for sales (Hojabr and Sabzi, 2006; Ahmadi and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzadi, 2015; Dodange, 2016, Mohammadvandnahidi, Jaberikhosroshahi and Norouzi, 2012). FDI encourages the formation of enclave economies and thereby tends to be concentrated in specific regions (Carkovic and Levine, 2005). It is interesting to note that there exists a bidirectional causality between economic growth and FDI, this therefore rules out any scope of single-equation regression analysis (Carkovic and Levine, 2005).

FDI brings the required capital and technology to provide an impetus to the much needed economic growth in the host country (Dunning, 1993; Blomstrom, Lipsey and Zejan, 1996; Borensztein et al., 1998) and also emphasises that the motivating factor for foreign companies is the sheer economic size of the host countries and potential market for sales (Hojabr and Sabzi, 2006; Ahmadi and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzadi, 2015;

Dodange, 2016; Mohammadvandnahidi, Jaberikhosroshahi and Norouzi, 2012). It is imperative to acknowledge that the scale and the growth of a region is dependent on its market size. Studies conducted by Ranjan and Agarwal (2011) on BRIC economies from 1975 to 2009 reveal market size to be a significant determinant of FDI. Additional studies conducted by Kumar (2002), Banga (2003), Goldar (2007), Nunnenkamp and Stracke (2007), Dhingra and Sidhu (2011) also support that market size is a key determinant of FDI inflow in a context such as India. Industrial linkages between foreign and domestic firms aids industry agglomerations and spillovers to the host economy (Blomstrom et. al., 2000; Gorg and Greenaway, 2002; Narula and Marin, 2005; Vacek, 2007). Linkages established between multinational companies and domestic firms contributes to tapping the potential benefits in the same or in related industrial sectors and thereby generates markets for domestic firms in both upstream and downstream industries (Pattnayak and Thangavelu, 2010). It is imperative to acknowledge that FDI encourages industrial sectors to form linkages in specific geographic locations and aids in enhancing firm capabilities through the diffusion of technology. By forming industrial linkages firms tend to augment their absorptive capacities. Empirical evidence from China indicates the dominant presence of spillovers from productivity (Liang, 2017). Investigations conducted by Aitken and Harrison (1999) indicate the presence of negative productivity spillovers in the same sectors in a Venezuelan context. Recent studies conducted on industrial linkages and productivity spillovers conclude that vertically linked industries show positive productivity spillovers than horizontally linked industries which involve the same sectors. The quintessential aspect of establishing industrial linkages in an economy is to facilitate transfer of technology and benefit the local suppliers to MNEs. Local suppliers enjoy the liberty of working in tandem with the foreign enterprises and benefit from the productivity spillovers resulting from FDI. Tax rates as an incentive to boost FDI inflows have gained attention due to the increase in globalisation and economic integrations (Hansson and Olofsdotter, 2013; de

Mooij and Ederveeen, 2006; Feld and Heckemeyer, 2011*).* Emerging economies have been at the forefront in promoting FDI to enhance economic growth (Li and Liu, 2005). The policy environment is greatly influenced by the decisions made by the policy makers. Decisions related to government spending affects the inflow of FDI. Government spending and incentives provided to MNCs to set up their bases is a driving factor behind encouraging FDI inflow. It is customary for governments to provide incentives through tax rebates and the setting up of Special Economic Zones to promote trade and investments. Government spending is a determinant of FDI (Othman et al., 2018); however, it can be a great precursor of economic growth. Empirical studies conducted by Othman et al. (2018) on ASEAN-5 countries indicates an increase in government expenditure from 1982-2016 in China, Indonesia, Malaysia, Philippines, Thailand, Singapore and India (Othman et al., 2018). It is unclear in the literature whether there exists a positive relationship between trade and growth since trade is considered a simulative of growth. Economy growth, on the other hand, is subjected to technological advance and it differs from one country to another. Studies conducted by Dritsaki et al. (2004) showed that technological advances through trade have a negative effect on economic growth. Hence, the subject of trade and economic structure is strongly debated by academics. Kinoshita and Campos (2003) investigated the factors accounting for the geographical patterns of FDI inflows among 25 transition economies based on panel data between 1998 and 1999. Their findings concluded that institutions and agglomeration economies are the most important determinants of FDI, which overrides the other economic variables.

In line with above observations this research proposes the following hypothesis:

2.5 HYPOTHESIS-1 (H1): Equity inflow of FDI positively augments regional Gross State Domestic Product (GSDP)

FDI brings the required capital and technology to provide an impetus to the much-needed economic growth in the host country (Dunning, 1993; Blomstrom, Lipsey and Zejan, 1996; Borensztein et al., 1998). Equity inflow of FDI generates a market for sales and positively augments the regional Gross State Domestic Product. It is imperative to acknowledge that FDI is a precursor of economic growth and is a major motivating factor that encourages host countries to lay a red carpet welcome for MNEs. On the other hand, the motivating factor for foreign companies is the sheer economic size of the host countries and the potential market for sales (Hojabr and Sabzi, 2006; Ahmadi and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzad,; 2015; Dodange, 2016; Mohammadvandnahidi, Jaberikhosroshahi and Norouzi, 2012).

2.6 HYPOTHESIS-2 (H2): The relationship between equity inflow of FDI and regional GSDP is positively moderated by industrial cluster.

India market size is a key determinant of FDI inflow. Industrial linkages between foreign and domestic firms aids in industry agglomerations and spillovers to the host economy (Blomstrom et al., 2000; Gorg and Greenaway, 2002; Narula and Marin, 2005; Vacek, 2007). Linkages established between multinational companies and domestic firms contributes to tapping the potential benefits in the same or in related industrial sectors and thereby generates markets for domestic firms both in upstream and downstream industries (Pattnayak and Thangavelu, 2010). It is imperative to acknowledge that FDI encourages industrial sectors to form linkages in specific geographic locations and aids in enhancing firm capabilities through the diffusion of technology.

2.7 HYPOTHESIS-3 (H3): The relationship between equity inflow of FDI and regional GSDP is positively moderated by tax incentives.

A conducive policy environment plays a pivotal role in attracting FDI inflow. Multinational enterprises vouch for sophisticated infrastructure and prefer bases which have clustering of different industries at one location and conducive polices which favour removal of entry barriers to both input and output markets, flexible labour laws and simplified tax structure (Pradhan, 2012). Tax rates as an incentive to boost FDI inflows have gained attention due to increases in globalisation and economic integrations (Hansson and Olofsdotter, 2013; de Mooij and Ederveeen, 2006; Feld and Heckemeyer, 2011). Recent studies conducted by Hansson and Olofsdotter (2013) on EU15 countries indicate that tax rates have declined due to market access, industry, and technology externalities. Agglomeration economies contribute to decreasing factor mobility and hence generate higher taxes for the local economies (Andersson and Forslid, 1999; Baldwin et al., 2003; Baldwin and Krugman, 2004).

SECTION-3-METHODOLOGY

3.1: Research Philosophy: Epistemological considerations have their origins in the discussion of theories related to knowledge, however, the perception of knowledge is subjected to individual interpretation. Knowledge is considered a basis for reality. The subject of finance and investments is shaped by various views and interests in a society; hence, it is said to be socially constructed. Quantitative hypothesising and testing applies inferential statistics which focus on explanations which are limited to factors influencing the research outcome. Personal viewpoints and opinions which shape the thinking of a researcher are rooted in critical realism. This has been extensively used in studies related to finance and investments. Critical realism in the subject of accounting and finance and has been contributed to immensely by various works (such as Modell, 2009; Lukka and Model, 2010; Burrowes, Kanstantin and Novicevi ,2004; Brown and Brignall, 2007; Alawattage and Wickramasinghe, 2008; Forsberg, 2010; Sikka and Willmott, 2005; Ahrens, 2008; Ahrens et al., 2008; Sikka, Filling and Liew, 2009). It is observed that for several decades, the construction and verification of theory is embedded within the positivist paradigm, however, there has been an increase in the number of researchers adopting an interpretivist paradigm to constructivist philosophies and theories related to finance through the use of qualitative methods with subjectivist epistemologies. The preliminary approach to the investigation of the research philosophies lies in the construction of the research questions. A good research is justified and often driven by research questions (Abernethy et al., 1999; Merchant and Simons, 1986). The research questions and the methods involved to investigate them includes research methodology. This methodology was adopted to investigate the answers to the research questions, where were comprised of ontological views and related epistemological assumptions. At this juncture the approach of a researcher is dependent on the researcher's meta-theoretical position.

Assumptions related to ontology affect the researcher's view and individual perception. Epistemology is derived from ontology and emphasises on theory of knowledge, its nature, and limits (Blackburn, 1996). A researcher's ontological viewpoint forms their epistemological beliefs in relation to the understanding and knowing of reality. From the standpoint of metaphysics reality is considered as concrete and objective (Bisman, 2010). Proponents of positivism believe that it is a highly objective view of a common single reality and positivists believe that anything that is perceived through the senses is treated as real (Sarantakos, 2005).

Hence, we can argue that reality is an externality independent of human thought and perception (Guba and Lincoln, 1998).

Positivist requirements from the perspective of methodology focus on universal principles and generalisability through the application of quantitative methodology, hence, the accuracy and usefulness of theories are judged based on the capacity to explain and predict a phenomenon. It is imperative to note that from the positivist point of view, human behaviour can be reduced to the state of generalised laws embodying a cause and effect relationship to explain the phenomenon, and employs rigorous empirical validation through statistical analysis to confirm and test the hypothesis. Hence, the research philosophy underpinned in this chapter includes statistical testing of the hypothesis.

3.2: Contextual Background: The Confederation of Indian Industry (CII) classifies the states and union territories of India into 5 regions (North, West, South, East and North East). India consists of 29 States (Administered by State Government) and 7 Union Territories (Administered by the Central Government). The CII classifies the states and union territories in India into 5 regions. The North region of India includes 7 states (Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh and Uttarakhand) and 2 Union Territories (Chandigarh and Delhi). The South Region is comprised of 5 States (Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Telangana) and 1 Union Territory (Puducherry). The East region consists of 5 States (Bihar, Jharkhand, Odisha, West Bengal, Chattisgarh and 1 Union Territory (Andaman). The West region encompasses 4 States (Goa, Gujarat, Maharashtra and Madhya Pradesh) and 2 Union Territories (Dadra-Nagar Haveli, Daman and Diu). The North east region covers 8 States (Arunachal-Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura). CII offers comprehensive data on the region-wise presence of industries and sectoral portfolio of various regions. The Department of Industrial Planning and Promotion (DIPP) provides FDI statistics and this data is widely used by academics researching Foreign Direct Investments (FDIs) in India. Panel data of States in India and the FDI received by regions in India is available on the official website of the DIPP.

3.3: Data Collection **:** The current data in the research is the panel data set of 29 states and 2 Union Territories of India over the period of 2009-2014. The dependent variable in this research study is the inflow of Foreign Direct Investments (FDI) received from 2009 to 2014.

The FDI data available from the Department for Industrial Planning and Promotion (DIPP) exists in PDF format and these files are then converted into Excel format, and thereby the data of each year is collected and collated manually to bring heterogeneity into the data. The data of GSDP, GSDP services and manufacturing and tax revenue of each state as a percentage of GSDP is obtained from the Planning Commission book. There exists extensive data which covers all states of India in the Planning Commission book. The sample period of 2009-2014 has been chosen in line with limitations associated with the available data on FDI. The data available on the DIPP website is cumulative to Indian States and is region-wise from April 2000 onwards, and it is interesting to note that FDI has picked up gradually since the year 2000. The sample size selected is comprised of monthly data of equity flow of FDI from 2009-2014. The data of the selected sample is obtained from the archived FDI database of the Department of Industrial Planning and Promotion (DIPP), Government of India. The data is available in PDF format and is converted into an Excel spreadsheet. The monthly data of FDI is compiled from 2009 until June 2014. There has been a constraint in obtaining monthly data since June 2014 owing to the improper format of the available data. Data from June 2016 exists in quarterly cumulative format and does not comprise individual months, unlike data of previous years. Hence, the data is collected from 2009 until June 2014. The constraint in data collection is addressed through data cleansing. Data cleansing is carried out to eliminate noise in unwanted yearly trailing and extra space from the Excel sheet, removal of line breaks in the monthly data and the non-printing characters from cells. The data collected from the converted PDF to Excel is uneven. The final sample includes 1100 observations which includes values of the variables, i.e. Gross State Domestic product services and Gross State Domestic Product Manufacturing taken as a percentage of GDP of each state in services and manufacturing. Tax revenue is taken as a percentage of GSDP of each state (see Table 01).

3.4: Econometric Approach: The econometric approach includes the application of pooled OLS regression. A pooled OLS regression is involved to investigate key variables which represent market size (Total Gross State Domestic Product),, industrial orientation (Total GSDP Services and Total GSDP Manufacturing), and conducive policy environment (own tax revenues as a percentage of Total Gross State Domestic Product). The dependent variable is TOTAL GSDP (t_gsdp). The regional characteristics are explained through the chosen list of explanatory variables in Table 01 and these are lagged by one year. A pooled OLS regression captures the effects of market size, industrial orientation and conducive policy on the dependent variable.

The pooled OLS estimation assumes that the coefficient across time and cross section remain the same. In a pooled OLS regression it is assumed that the regressors are non-stochastic, or if stochastic they are uncorrelated with the error term. The advantage with the OLS is that we believe the error term satisfies the usual classical assumptions (Gujarati, 2014).

3.5: Variable Description:

The dependent variable is TOTAL GSDP (t_gsdp). The regional characteristics are explained through the chosen list of explanatory variables in Table 01 and these are lagged by one year. Total Gross State Domestic Product is chosen to represent the market size. NitiAayog (Planning Commission-India, 2018) defines it as "*a measure, in monetary terms, of the volume of all goods and services produced within the boundaries of the State during a given period of time, accounted without duplication*" (NitiAayog, 2018). Total Gross State Domestic Product Services and manufacturing is chosen to represent the industrial linkage. NitiAayog (Planning Commission-India, 2018) defines it as "*a measure, in monetary terms, of the volume of all goods and services produced within the boundaries of the State during a given period of time, accounted without duplication*" (NitiAayog, 2018). In line with the literature on conducive policy and its role in attracting FDI inflow, an effort is made here to represent own tax revenue as a key attribute of policy. Own tax revenues are a percentage of Total Gross State Domestic Product. NitiAayog (Planning Commission-India, 2018) defines it as "own *tax revenue is government income due to taxation and it is a measure, in monetary terms. The data contains actual, pre-actual and budgeted expenditure for own tax revenue as percentage of GSDP*" (NitiAayog, 2018)

A pooled OLS regression is involved to investigate key variables which represent market size, industrial orientation and conducive policy environment. The econometric model includes t and i and this represents the time; i.ε is the random error distributed identically and independently. The dependent variable is TOTAL GSDP (t_gsdp) and represents the Total Gross Domestic State Product (t_gsdp) and explanatory variables are TOTAL FDI INFLOW (tfdi),TOTAL GSDP SERVICES (s_gsdp),TOTAL GSDP MANUFACTURING (m_gsdp) and TAX − PERCENTAGE OF GSDP (tax). A pooled OLS regression captures the effects of market size, industrial orientation and conducive policy on the dependent variable.

Table 01: List of Explanatory Variables

List of Explanatory Variables			
Factor	**Variables**	**Denotation**	**Expected Sign**
Market Size	01.Total Gross State Domestic Product	tgsdp	+
	02.Log Total Gross State Domestic Product	log_t_gsdp	+
Industrial Linkage	01.Total Gross State Domestic Product Services	s_gsdp	+
	02.Total Gross State Domestic Product Manufacturing	m_gsdp	+
	03.Log Total Gross State Domestic Product Services	log_s_gdsdp	+
	04.Log Gross State Domestic Product Manufacturing	log_m_gsdp	+
Conducive Policy Environment	01.Tax revenues as a percentage of Total Gross State Domestic Product	tax	-
	02.Log Tax revenues as a percentage of Total Gross State Domestic Product	log_tax	-

FDI inflow is the cumulative value of FDI received by India from 2009 until 2014 and it is represented in millions. Gross State Domestic product services and Gross State Domestic Product Manufacturing is taken as a percentage of GDP of each state in services and manufacturing. Tax revenue is taken as percentage of GSDP of each state. Source: Data book of Planning Commission of India, Department of Industrial Planning and Promotion-DIPP official website (Compiled by author).

3.6 Descriptive Statistics

The sample period of 2009-2014 has been chosen in line with limitations associated with the available data on FDI. The data available on the DIPP website is cumulative to Indian states and is region-wise from April 2000 onwards; it is interesting to note that FDI has picked up gradually since the year 2000. The sample size selected is comprised of monthly data of equity flow of FDI from 2009-2014. The data of the selected sample is obtained from the archived FDI database of the Department of Industrial Planning and Promotion (DIPP), Government of India. The final sample includes 1100 observations from 2009 to 2014 and is categorised accordingly through chosen variables. Total Gross State Domestic Product (t_gsdp) is chosen to represent market size. Total GSDP Services (s_gsdp) and Total GSDP Manufacturing (m_gsdp) represent industrial linkages. Own tax revenues as a percentage of Total Gross State Domestic Product (tax) represent conducive policy.

Table 02: Descriptive Statistics-Region-wise

Region	Freq	Percent	Cum
East India	180	18.75	25
North East India	60	6.25	31.25
North India	240	25	56.25
South India	240	25	81.25
West India	180	18.75	100

* The Confederation of Indian Industry (CII classifies the states and union territories in India into 5 regions. The North region of India includes 7 states (Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh and Uttarakhand) and 2 Union Territories (Chandigarh and Delhi). The South Region comprises of 5 States (Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Telangana) and 1 Union Territory (Puducherry). The East region consists of 5 States (Bihar,Jharkhand,Odisha,West Bengal, Chattisgarh and 1 Union Territory (Andaman). The West region encompasses 4 Stats (Goa, Gujarat, Maharashtra and Madhya Pradesh) and 2 Union Territories.(Dadra-Nagar Haveli, Daman and Diu). The North east region covers 8 States (Arunachal-Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura)

Table 03: Descriptive Statistics-Variables

DESCRIPTIVE STATISTICS					
Variables	**Observations**	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
REGIONWISE	1019	2.584887	1.571919	0	6
YEAR	1020	2012	1.414907	2010	2014
TOTAL FDI INFLOW	1020	10097.64	16884.19	0	70953
TAX-PERCENTAGE OF GSDP	816	6.66	2.151855	0	10.72
TOTAL GSDP	1020	241966.5	197158.4	0	897786
TOTAL GSDP-SERVICES	1020	8.969529	7.425753	0	65.56
TOTAL GSDP-MANUFACTURING	1020	4.576706	7.209737	-9.2	29.18
LOG-TOTAL FDI INFLOW	1018	7.459761	2.303539	-0.9416085	11.16977
LOG-TOTAL GSDP	924	12.13534	1.021019	9.488426	13.70769
LOG- TOTAL GSDP-SERVICES	924	2.174199	0.4518199	0.7178398	4.182966
LOG- TOTAL GSDP-MANUFACTURING	720	1.525583	1.061775	-1.108663	3.373484
LOG- TAX-PERCENTAGE OF GSDP	768	1.936808	0.2015027	1.435085	2.372111

*FDI inflow is the cumulative value of FDI received by India from 2009 until 2014 and it is represented in millions. Gross State Domestic product services and Gross State Domestic Product Manufacturing is taken as a percentage of GDP of each state in services and manufacturing. Tax revenue is taken as percentage of GSDP of each state. Source: Data book of Planning Commission of India, Department of Industrial Planning and Promotion-DIPP official website.(Compiled by author)

Table 04: The Correlation Matrix

Variable	1	2	3	4	5	6	7	8	9	10	11
1.Year	**1.00**										
2. TOTAL GSDP (t_gsdp)	**0.00**	**1.00**									
3.TOTAL FDI INFLOW (tfdi)	**-0.06**	**0.56**	**1.00**								
4.TAX-PERCENTAGE OF GSDP (tax)	**0.34**	**0.33**	**0.18**	**1.00**							
5. TOTAL GSDP-MANUFACTURING (m_gsdp)	**-0.49**	**0.06**	**0.00**	**-0.34**	**1.00**						
6.TOTAL GSDP-SERVICES (s_gsdp)	**0.03**	**-0.1**	**-0.04**	**0.04**	**-0.13**	**1.00**					
7. LOG-TOTAL FDI INFLOW (log_tfdi)	**-0.00**	**0.5**	**0.72**	**0.47**	**-0.08**	**-0.03**	**1.00**				
8.LOG-TOTAL GSDP (log_t_gsdp)	**0.09**	**0.87**	**0.38**	**0.31**	**0.03**	**-0.25**	**0.45**	**1.00**			
9 LOG- TOTAL GSDP-SERVICES (log_s_gsdp)	**0.00**	**0.00**	**0.05**	**0.05**	**-0.14**	**0.84**	**-0.00**	**0.00**	**1.00**		
10.LOG- TOTAL GSDP-MANUFACTURING (log_m_gsdp)	**-0.44**	**0.04**	**-0.00**	**-0.36**	**0.88**	**-0.09**	**-0.09**	**0.01**	**-0.06**	**1.00**	
11.LOG- TAX-PERCENTAGE OF GSDP (log_tax)	**0.34**	**0.32**	**0.19**	**0.98**	**-0.35**	**0.06**	**0.47**	**0.29**	**0.07**	**-0.37**	**1.00**

*FDI inflow is the cumulative value of FDI received by India from 2009 until 2014 and it is represented in millions. Gross State Domestic product services and Gross State Domestic Product Manufacturing is taken as a percentage of GDP of each state in services and manufacturing. Tax revenue is taken as percentage of GSDP of each state.Source: Data book of Planning Commission of India, Department of Industrial Planning and Promotion-DIPP official website (Compiled by author)

The correlation matrix highlights that TOTAL FDI INFLOW (t_FDI) is positively correlated to the TOTAL_GSDP (t_gsdp), TAX-PERCENTAGE OF GSDP (tax), TOTAL GSDP-MANUFACTURING (m_gsdp) and is negatively correlated with TOTAL GSDP-SERVICES (s_gsdp).

SECTION 4-EMPIRICAL FINDINGS

4.1 Empirical Results: The empirical analysis is based on the panel data set of 29 states and 7 Union Territories of India over the period of 2009-2014. The Confederation of Indian Industry (CII) classifies the states and union territories in India into 5 regions (North, West, South, East and North East). India consists of 29 States (Administered by State Government) and 7 Union Territories (Administered by the Central Government). The dependent variable in this research study is Total GSDP (t_gsdp) received from 2009-2014. The FDI data available from the Department for Industrial Planning and Promotion (DIPP) exists in PDF format and these files are converted into Excel format, and thereby data of each year is collected and collated manually to bring heterogeneity in the data. The data of GSDP, GSDP services and manufacturing and tax revenue of each state as a percentage of GSDP is obtained from the Planning Commission book. There exists extensive data which covers all states of India in the Planning Commission book. The sample period of 2009-2014 has been chosen in line with limitations associated with the available data on FDI. The data available on the DIPP website is cumulative to Indian states and is region-wise from April 2000 onwards; it is interesting to note that FDI has picked up gradually since the year 2000.

The preliminary observations from the descriptive statistics and correlation matrix (see Table 04) indicates that GSDP is positively correlated with the taxes which are accounted for as a percentage of gross state domestic product. The total gross state domestic product is negatively correlated to FDI inflow. It is also imperative to note that GSDP of manufacturing is negatively correlated.

4.2 Empirical Model: The panel data involves the inflow of FDI in 29 states and 7 Union Territories from 2009-2014. A pooled OLS regression is involved to investigate key variables which represent market size, industrial orientation and conducive policy environment

The econometric model is given below where t and i represent the time and is the states. ε is the random error distributed identically and independently. The dependent variable is TOTAL GSDP (t_gsdp) and represents the Total Gross Domestic State Product (t_gsdp) and the explanatory variables are TOTAL FDI INFLOW (tfdi),TOTAL GSDP SERVICES (s_gsdp),TOTAL GSDP MANUFACTURING (m_gsdp) and TAX − PERCENTAGE OF GSDP (tax).

$$t\_gsdp_{it} = \beta_0 + \beta_1(t\_fdi)_{it} + \beta_2(s\_gsdp)_{it} + \beta_3(m\_gsdp)_{it} + \beta_4(tax)_{it} + \epsilon_{it}$$

The estimation method involve pooled ordinary least square. The dependent variable is TOTAL GSDP (t_gsdp). The regional characteristics are explained through the chosen list of explanatory variables in Table 01 and these are lagged by one year due to the fact that FDI inflows in a single year are determined by economic conditions in the previous year of the chosen period. The empirical results presented in Table 05 are in line with the signs of the estimated coefficients for most of the explanatory variables.

Market Size: The coefficient of market size represented by TOTAL GSDP (t_gsdp), in Table 2 is positive and significant at 1 percent level. This supports the argument that FDI bring capital required and technology to provide an impetus to the much need economic growth in the host country (Dunning, 1993; Blomstrom, Lipsey and Zejan, 1996;Borensztein et.al, 1998) and also emphasise the motivating factor for foreign companies is the sheer economic size of the host countries and potential market for sales (Hojabr and Sabzi; 2006, Ahmadi and Ghanbarzadeh ; 2011, Khosrozadeh, Firoozjan and Amirzadi; 2015, Dodange; 2016, Mohammadvandnahidi, Jaberikhosroshahi and Norouzi; 2012). The scale and the growth of a region is dependent on its market size. Studies conducted by Ranjan and Agarwal (2011) on BRIC economies from 1975 to 2009 reveal market size as a significant determinant of FDI. The additional studies conducted by Kumar (2002), Banga (2003), Goldar (2007), Nunnenkamp and Stracke (2007), Dhingra and Sidhu (2011) also support in a context like India market size is a key determinant of Inflow of FDI.

Table 05: Pooled OLS Regression results

Explained Variable(Dependent): LOG-TOTAL GSDP(log_t_gsdp)

EXPLANATORY VARIABLES	Model Specification-1	Model Specification-2	Model Specification-3	Model Specification-04	Model Specification-05
LOG-TOTAL INFLOW OF FDI (log_tfdi)	0.275***	0.234***	0.251***	0.138***	0.176***
	(0.0210)	**(0.0203)**	**(0.0206)**	**(0.0238)**	**(0.0270)**
LOG-TOTAL GSDP MANUFACTURING (log_m_gsdp)	0.203***	0.167***	0.214***	0.104***	0.047
	(0.0396)	**(0.0413)**	**(0.0399)**	**(0.0373)**	**(0.0407)**
LOG-TOTAL GSDP SERVICES (log_s_gdsdp)	0.247*	0.248*	0.202	0.277*	0.320*
	(0.123)	**(0.120)**	**(0.125)**	**(0.132)**	**(0.141)**
REGION-01	-0.536***	-0.529***	-0.566***	-0.430***	-0.327***
	(0.108)	**(0.107)**	**(0.109)**	**(0.107)**	**(0.107)**
REGION-02	0.0344	0.0966	0.0391	0.101*	0.184***
	(0.0550)	**(0.0541)**	**(0.0547)**	**(0.0467)**	**(0.0469)**
REGION-03	-0.792***	-0.847***	-0.817***	-0.919***	-0.994***
	(0.120)	**(0.126)**	**(0.121)**	**(0.129)**	**(0.134)**
REGION-04	0.126*	0.121*	0.0803	0.0774	0.160**
	(0.0531)	**(0.0513)**	**(0.0515)**	**(0.0524)**	**(0.0543)**
REGION-05	**-0.287*** **	**-0.354*** **	**-0.364*** **	**-0.578*** **	**-0.464*** **
	(0.0675)	(0.0619)	(0.0664)	(0.0621)	(0.0703)
FDI-MANUFACTURE		0.0000194***			0.0000296***
		(0.00000348)			**(0.00000532)**
FDI-SERVICES			0.0000128***		0.00000352***
			(0.00000393)		**(0.000000569)**
FDI-TAX-INCENTIVES				0.00000352***	-0.000000237
				(0.000000569)	**(0.000000759)**
CONSTANT	**9.405*** **	**9.691*** **	**9.631*** **	**10.39*** **	**10.11*** **
	(0.351)	**(0.338)**	**(0.365)**	**(0.364)**	**(0.394)**
REGION FIXED EFFECT	**YES**	**YES**	**YES**	**YES**	**YES**
YEAR FIXED EFFECT	**YES**	**YES**	**YES**	**YES**	**YES**
N-TOTAL POOLED OBSERVATIONS	**719**	**719**	**719**	**719**	**719**
R-SQUARED	**0.394**	**0.413**	**0.4**	**0.381**	**0.403**

Notes: t statistics in parenthesis and *p<0.05, **p<0.01, ***p<0.001

Industrial Linkages: The coefficient of industrial linkages represented by TOTAL GSDP SERVICES (s_gsdp) is positive. TOTAL GSDP MANUFACTURING (m_gsdp is positive and significant in line with gsdp services. These findings corroborates strongly with the investigations conducted on industrial linkages. For instance, industrial linkages between foreign and domestic firms aids in industry agglomerations and spillovers to the host economy (Blomstrom et al, 2000; Gorg and Greenaway, 2002; Narula and Marin, 2005; Vacek, 2007).Linkages established between the multinational companies and the domestic firms contributes in tapping the potential benefits in the same or in related industrial sectors and thereby generates markets for domestic firms both in upstream and downstream industries (Pattnayak and Thangavelu; 2010).

FDI encourages industrial sectors to form linkages in specific geographic locations and aid in enhancing firm capabilities through diffusion of technology. By forming industrial linkages firms tend to augment their absorptive capacities. Empirical evidence from China indicates the dominant presence of spillovers from productivity (Liang, 2017). Investigations conducted by Aitken and Harrison (1999) indicate presence of negative productivity spillovers in same sectors in the Venezuelan context. Recent studies conducted on industrial linkages and productivity spillovers conclude that vertically linked industries show positive productivity spillovers than horizontally linked industries which involve same sectors.

The quintessential aspect of establishing industrial linkages in an economy is to facilitate transfer of technology and benefit the local suppliers to Multinational Enterprises (MNEs).Local suppliers enjoy the liberty to work in tandem with the foreign enterprises and benefit from the productivity spillovers from FDI. In the current context, it is interesting to note that service sector as shown in Table 03-Appendices comprises of 17.33 percent of total inflow of FDI and these services sector firms are predominant in southern region, whereas manufacturing firms are concentrated in the northern region. The other argument which can be made here based on the positive coefficient of gsdp services is related to wages. FDI flows are attracted by the lower cost of labour. Services sector accounts for 17.33 percent and it can be argued that these sectors are lucrative in attracting FDI inflow owing to the lower wages and thus allows incentives for the Multinational firms to set up services hubs in Southern region of India. For instance, Bengaluru in southern region of India is popular as Silicon Valley of India and it has a mammoth share in the start-up firms.

Conducive Policy Environment: The coefficient of conducive policy environment represented by State's own tax revenue as a percentage of gsdp, TAX – PERCENTAGE OF GSDP (tax) is negative and in line with theoretical findings which stress on the fact that lower taxes are a major incentives to attract inflow of FDI.Tax rates as an incentive to boost FDI inflows have gained attention due to increase in globalization and economic integrations (Hansson and Olofsdotter, 2013; de Mooij and Ederveeen, 2006;Feld and Heckemeyer, 2011*)*.Emerging economies have been at the forefront in promoting FDI to enhance economic growth (Li and Liu, 2005). Policy environment is greatly influences decisions made by the policy makers. Decisions related to government spending affects the inflow of FDI. Government spending and incentives provided to MNC's to set up their bases is a driving factor behind encouraging FDI inflow. It is customary for the governments to provide incentives through tax rebates and setting up of Special Economic Zones to promote trade and investments is one aspect of it. Government spending is a determinant of FDI (Othman et.al, 2018); however, it can be a great precursor of economic growth.

SECTION 05 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusion: Foreign Direct Investment (FDI) is considered a key element in the industrial development of a nation. FDI brings capital inflow and contributes to the development of technology, managerial skills and competitiveness of domestic firms. MNCs possess superior knowledge, patents, trademarks and exclusive technology which "spillover" to the host economy and which benefits domestic firms. There seems to be massive regional inequality in terms of receiving equity inflow in an Indian context (see Fig.1). Geographic regions such as the north-east have been at disadvantage owing to their location and have attracted the least inflow of FDI. India opened the gates to Foreign Institutional Investors (FII) amidst massive economic reforms in September 1992 and experienced the impact of institutional investments. It has also witnessed their strategies and trading techniques, both in financial markets and business sectors. The onus of bringing liberal economic reforms was to boost the economic growth of India from restricted access to a worldwide centre of attraction for new investments. FDI brought in India through liberal economic reforms had an impact on socio-spatial groups (Tsai, 1995). The new economic policies initiated in 1991 were aimed at entailing the privatisation of public assets such as electricity, water and transport systems. While these steps to privatise proved beneficial to some sections of the population, they were detrimental to others (Baviskar 2003; Kundu, 2004). According to Jatinder et al. (2011) the quest for FDI inflow in India has been an integral part of national policy agenda and this policy have been framed on the New Economic Policy of 1991. As a result of the new economic policy, India attracted massive FDI inflow in the late 1990s. Foreign Direct Investments in India and China have grown rapidly after the post reform periods. In China, reforms undertaken during the leadership of Deng Xioping in 1978 opened the gates for the FDI and in India under the leadership of Mr. Narasimha Rao in 1991, the liberalisation of the economy led to an increase

in FDI flows. FDI in India was aimed at integrating its economy with that of the world economy.

The empirical analysis based on the panel data set of 29 states and 9 Union Territories of India over the period of 2009-2014 concludes that the coefficient of market size represented by total gross state domestic product (t_gsdp) in Table 1 is positive and significant at the 1 percent level. This supports the argument that FDI brings required capital and technology to provide an impetus to the much needed economic growth in the host country (Dunning, 1993; Blomstrom, Lipsey and Zejan, 1996; Borensztein et al., 1998) and also emphasise the motivating factor for foreign companies is the sheer economic size of the host countries and potential market for sales (Hojabr and Sabzi, 2006; Ahmadi and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzadi, 2015; Dodange, 2016; Mohammadvandnahidi, Jaberikhosroshahi and Norouzi, 2012). It is imperative to acknowledge that the scale and the growth of a region is dependent on its market size and the findings support the hypotheses (H1: Equity inflow of FDI positively augments the regional GSDP in India).

The coefficient of industrial linkages represented by total gsdp services is positive and total gsdp manufacturing is positive and significant at 5 percent. These findings strongly corroborate the investigations conducted on industrial linkages. For instance, industrial linkages between foreign and domestic firms aids industry agglomerations and spillovers to the host economy (Blomstrom et al., 2000; Gorg and Greenaway, 2002; Narula and Marin, 2005; Vacek, 2007). In the current context, it is interesting to note that the service sector as shown in Table 03-Appendices is comprised of 17.33 percent of total FDI inflow and that these services sector firms are predominant in the southern region, whereas manufacturing firms are concentrated in the northern region. The other argument which can be made here based on the positive coefficient of gsdp services is related to wages. FDI flows are attracted by the lower

cost of labour. The services sector accounts for 17.33 percent and it can be argued that these sectors are lucrative in attracting FDI inflow owing to the lower wages, which allows incentives for the multinational firms to set up services hubs in the southern region of India. For instance, Bengaluru in the southern region of India is popularly known as the Silicon Valley of India and it has a mammoth share in the start-up firms. The findings support the hypotheses (H2: Industrial linkages have a positive impact on sectoral development). Tax rates as an incentive to boost FDI inflows have gained attention due to an increase in globalisation and economic integrations (Hansson and Olofsdotter, 2013; de Mooij and Ederveeen, 2006; Feld and Heckemeyer, 2011*)* .Emerging economies have been at the forefront in promoting FDI to enhance economic growth (Li and Liu, 2005). The policy environment is greatly influenced by the decisions made by the policy makers. Decisions related to government spending affects the inflow of FDI. Government spending and incentives provided to MNCs to set up their bases is a driving factor behind encouraging FDI inflow. It is customary for the governments to provide incentives through tax rebates and the setting up of Special Economic Zones to promote trade and investments. The coefficient of a conducive policy environment represented by the state's own tax revenue as a percentage of gsdp is negative and is significant in line with theoretical findings, which emphasises that lower taxes are a major incentive to attract FDI inflow. Lowering of taxes to encourage FDI is a major driver to stimulate regional attractiveness and it augments the revenues collected through taxes. These findings support the hypothesis (H3: Conducive policy environment enhances regional tax revenues) and the recent empirical studies conducted by Othman et al. (2018) on ASEAN-5 countries which indicated an increase in government expenditure between 1982-2016 in China, Indonesia, Malaysia, Philippines, Thailand, Singapore and India (Othman et al., 2018).

It can be inferred from Chapter-01 that market size, industrial linkages and conducive policy environment encourage Inflow of FDI and this corroborates with the findings in Chapter-02 wherein it is found that the FDI Policy as a framework is an inherent aspect of creating a conducive policy environment to encourage flow of foreign funds in an economy. Policy environment provides a breeding ground for flourishing of enterprises and thereby aids in augmenting of funds in the local economy. The gains made through the implementation of massive reforms contributes in encouraging these policies to aid industries in the creation of opportunities for local residents, promote development of relevant infrastructural facilities to benefit from the larger spillovers from FDI.

In terms of generalization of the research outcomes, the findings from Chapter-01 supports the argument that FDI bring capital required and technology to provide an impetus to the much need economic growth in the host country (Dunning, 1993; Blomstrom, Lipsey and Zejan, 1996;Borensztein et.al, 1998) and also emphasise the motivating factor for foreign companies is the sheer economic size of the host countries and potential market for sales (Hojabr and Sabzi; 2006, Ahmadi and Ghanbarzadeh ; 2011, Khosrozadeh, Firoozjan and Amirzadi; 2015, Dodange; 2016, Mohammadvandnahidi, Jaberikhosroshahi and Norouzi; 2012). The scale and the growth of a region is dependent on its market size and this supports the studies conducted by Ranjan and Agarwal (2011) on BRIC economies from 1975 to 2009 wherein it is revealed that market size is a significant determinant of FDI. The additional studies conducted by Kumar (2002), Banga (2003), Goldar (2007), Nunnenkamp and Stracke (2007), Dhingra and Sidhu (2011) also support in a context like India market size is a key determinant of Inflow of FDI. Empirical evidence from China indicates the dominant presence of spillovers from productivity (Liang, 2017). Investigations conducted by Aitken and Harrison (1999) indicate presence of negative productivity spillovers in same sectors in the Venezuelan context. Recent studies conducted on industrial linkages and productivity spillovers conclude that vertically linked industries show positive productivity spillovers than horizontally linked industries which involve same sectors.

5.2 Recommendations for policy makers: It is imperative to acknowledge that Foreign Direct Investment (FDI) is considered a key element in the industrial development of a nation. It brings capital inflow and contributes to the development of technology, managerial

skills and domestic firms. India has been successful in attracting massive foreign direct investments after the liberalisation of its economy in 1991; however, it is observed that there seems to be massive regional inequality in terms of receiving of equity inflow. Geographic regions such as the north-east have been at disadvantage owing to their location and have attracted the least total inflow of FDI 0.03% against the west-region which stands at 34.5% (See Figure 2-Appendices). This finding is in line with the location advantage suggested by Dunning (1993) which emphasises that better location choice is an important attribute to attract higher FDI. It is interesting to note that the presence of a strong agglomeration effect has a massive impact on receiving FDI inflow. States in the western region of India are well developed, for example Maharashtra, Gujarat, Madhya Pradesh and Goa, and have attracted massive FDI compared to the north east, such as Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland. Sikkim and Tripura. This is a stark reality and serve as a clarion call for the policy makers to bring key legislation at the national and state levels to address the inequality and make an effort to prioritise laggard states. The FDI policy should be designed with an ambition to cover laggard states of the North East; these states should be considered for special incentives to attract FDI inflows. the north east region in India is known for its natural resources. Concerted efforts from both State and Central Government can be focused in enhancing sectors, such as manufacturing and services, with a special emphasis on reduction in tax rates and rebates for MNEs to establish their bases in these laggard states. The empirical results reveal that the coefficient of industrial linkages represented by total gsdp services is positive and total gsdp manufacturing is positive and significant at 5 percent. These findings strongly corroborate the investigations conducted on industrial linkages. For instance, industrial linkages between foreign and domestic firms aids industry agglomerations and spillovers to the host economy (Blomstrom et al., 2000; Gorg and Greenaway, 2002; Narula and Marin, 2005; Vacek, 2007). In the current context, it is interesting to note that the services

sector (See Table 03-Appendices) is comprised of 17.33% of total inflow of FDI and that these services sector firms are predominant in the southern region, whereas manufacturing firms are concentrated in the northern region. The other argument which can be made here based on the positive coefficient of gsdp services is related to wages. FDI flows are attracted by the lower cost of labour. The services sector is lucrative in attracting FDI inflow owing to the lower wages and thus allows incentives for multinational firms to set up services hubs in the southern region of India. For instance, Bengaluru in the southern region of India is popular as the "*Silicon Valley of India*" and it has a mammoth share in the start-up firms. The growth of the services sector can give huge impetus to economic growth by generating employment for skilled, semiskilled and unskilled applicants. This makes it imperative for both State and Central Government to focus on both the manufacturing and service sectors as growth sectors with massive employment potential. The recent introduction of the National Manufacturing Policy (NMP) is an encouraging effort to promote the manufacturing sector. This policy intends to enhance the share of manufacturing in GDP to 25% and is aiming to create 100 million jobs over a period of 10 years in collaboration with public private partnership (PPP). As a part of this policy the Central Government of India aims to create National Investment and Manufacturing Zones (NIMZs). These are large integrated industrial townships with sophisticated infrastructure, energy efficient technology and skill development facilities to create a conducive environment for manufacturing industries. Currently there are 14 NIMZs which have been granted in-principle approval in Prakasam in Andhra Pradesh, Medak in Telangana and Kalingnagar, Jaipur District in Odisha (DIPP, 2018). The policy environment is greatly influenced by the decisions made by the policy makers. Decisions related to government spending affects the inflow of FDI. Government spending and incentives provided to MNCs to set up their bases is a driving factor behind encouraging FDI inflow. It is customary for the governments to provide incentives through tax rebates and the setting up of Special

Economic Zones to promote trade and investments. The coefficient of a conducive policy environment is represented by the state's own tax revenue as a percentage of gsdp, which is negative and is significant in line with theoretical findings which emphasise that lower taxes are major incentives to attract inflow of FDI. Lowering of taxes to encourage FDI is a major driver to stimulate regional attractiveness and it augments the revenues collected through taxes. The establishment of both Special Economic Zones (SEZs) to augment the services sector and National Investment and Manufacturing Zones (NIMZs) to promote the manufacturing industry are a welcome effort by the policy makers and these should be implemented consistently to promote regional and national development.

CHAPTER-TWO

FDI Inflows and the Role of Conducive National Policy
A Text Analyses

SECTION-1-INTRODUCTION

1.1 Conducive national policy environment: It plays a pivotal role in attracting inflow of Foreign Direct Investments (FDI) in any economy. Multinational Enterprises (MNEs) vouch for sophisticated infrastructure and prefer bases with clustering of different industries at one location and conducive polices which favour removal of entry barriers to both input and output markets, flexible labour laws, and simplified tax structure (Pradhan, 2012). Tax rates as an incentive to boost FDI inflows have gained attention due to increase in globalisation and economic integrations (Hansson and Olofsdotter, 2013; de Mooij and Ederveeen, 2006; Feld and Heckemeyer, 2011). Recent studies conducted by Hansson and Olofsdotter (2013) on EU15 countries indicate that tax rates have declined due to market access, industry and technology externalities. Agglomeration economies contribute to decreasing factor mobility and hence generate higher taxes for the local economies (Andersson and Forslid, 1999; Baldwin et al., 2003; Baldwin and Krugman, 2004). Apart from tax as an incentive, it is interesting to note that reduced political uncertainty and a conducive business environment also contribute to FDI inflow. Recent studies conducted by Krifa-Schneider and Matei (2010) on 33 developing and transition economies confirm the importance of political stability and a conducive business environment in enhancing FDI inflow. Creating a conducive policy environment relies on institutional factors such as effective regulatory practices, transparency between government policies and their implementation, corruption control, and economic sentiment among entrepreneurs. Studies conducted on institutional factors identifies that these factors positively impact FDI inflow (Bloningen, 2005; Benassy-Quere et al., 2007; Sekkat and Veganzones-Varoudakis, 2007; Arbatli, 2011).

Constructive spending by the government is a precursor to economic stability and accelerates much needed growth and opens avenues of job opportunities and thereby aids the reduction of poverty (Ahuja, 2013). However, supporters of Keynesian theory views it as a driving factor behind demand function and induces a multiplier effect in augmenting the national economy. The quintessential aspect related to government spending and the conducive policy environment is to attract FDI inflow through public spending. For instance, government spending aims at removing barriers in the construction of roads, promoting health and education, and the boosting of agriculture, transport and electricity which subsequently attracts FDI. Emerging economies have been at the forefront in promoting FDI to enhance economic growth (Li and Liu, 2005). The policy environment is greatly influenced by the decisions made by the policy makers. Decisions related to government spending affects the inflow of FDI. Government spending and incentives provided to MNCs to set up their bases is a driving factor behind encouraging FDI inflow. It is customary for governments to provide incentives through tax rebates and the setting up of Special Economic Zones to promote trade and investments. Government spending is a determinant of FDI (Othman et al., 2018); however, it can be a great precursor of economic growth. Empirical studies conducted by Othman et al. (2018) on ASEAN-5 countries indicate an increase in government expenditure between 1982-2016 in China, Indonesia, Malaysia, Philippines, Thailand, Singapore and India (Othman et al., 2018). Unlike other countries Malaysian government expenditure of 15 percent of GDP stands higher than the average expenditure of other countries (Othman et al., 2018, Tuan et al., 2009). The ultimate objective of increasing government spending is to build infrastructure, promote strong institutions, and to create a congenial business environment (Panigrahi and Panda, 2012; He and Sun; 2014). Based on the key discussion of the conducive policy environment, it can be concluded that policy environment greatly augments FDI inflow into an economy. Proactive governments exacerbate policies related to FDI and this can be witnessed both in the context of China and India. Reforms undertaken by the Chinese Premier Den Xiaoping and Indian Prime Minister P V Narasimha have contributed immensely to the expansion of FDI inflow.

It is argued in the literature that the absorptive capacity of a country is dependent on attributes such as political stability, incumbent regime and business conducive legislation. These country specific attributes lead to positive externalities known as “spillovers” (De Mello, 1999). It is imperative to acknowledge that FDI is a precursor for economic growth and is a major motivating factor that encourages host countries to lay a red carpet welcome for

Multinational Enterprises (MNEs). On the other hand, the motivating factor for foreign companies is the sheer economic size of the host countries and the potential market for sales (Hojabr and Sabzi, 2006; Ahmadi and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzadi, 2015; Dodange, 2016; Mohammadvandnahidi, Jaberikhosroshahi and Norouzi, 2012). FDI encourages the formation of enclave economies and thereby tends to be concentrated in specific regions (Carkovic and Levine, 2005). It is interesting to note that there exists a bidirectional causality between economic growth and FDI, this therefore rules out any scope for single-equation regression analysis (Carkovic and Levine, 2005). FDI brings the required capital and technology to provide an impetus to the much needed economic growth in the host country (Dunning, 1993; Blomstrom, Lipsey and Zejan, 1996; Borensztein et al., 1998) and also emphasises that the motivating factor for foreign companies is the sheer economic size of the host countries and the potential market for sales (Hojabr and Sabzi, 2006; Ahmadi and Ghanbarzadeh, 2011; Khosrozadeh, Firoozjan and Amirzadi, 2015; Dodange, 2016; Mohammadvandnahidi, Jaberikhosroshahi and Norouzi, 2012). It is imperative to acknowledge that the scale and the growth of a region is dependent on its market size. Studies conducted by Ranjan and Agarwal (2011) on BRIC economies from 1975 to 2009 reveal market size to be a significant determinant of FDI. Additional studies conducted by Kumar (2002), Banga (2003), Goldar (2007), Nunnenkamp and Stracke (2007), and Dhingra and Sidhu (2011) also support that market size is a key determinant of FDI inflow in a context such as India. Industrial linkages between foreign and domestic firms aids industry agglomerations and spillovers to the host economy (Blomstrom et al., 2000; Gorg and Greenaway, 2002; Narula and Marin, 2005; Vacek, 2007).

By forming industrial linkages firms tend to augment their absorptive capacities. Empirical evidence from China indicates the dominant presence of spillovers from productivity (Liang, 2017). Investigations conducted by Aitken and Harrison (1999) indicate the presence of negative productivity spillovers in the same sectors in a Venezuelan context. Recent studies conducted on industrial linkages and productivity spillovers conclude that vertically linked industries show more positive productivity spillovers than horizontally linked industries which involve the same sectors. The quintessential aspect of establishing industrial linkages in an economy is to facilitate the transfer of technology and benefit the local suppliers to MNEs. Local suppliers enjoy the liberty to work in tandem with foreign enterprises and benefit from the productivity spillovers from FDI. Tax rates as an incentive to boost FDI inflows have gained attention due to an increase in globalisation and economic integrations (Hansson and

Olofsdotter, 2013; de Mooij and Ederveeen, 2006; Feld and Heckemeyer, 2011*).* Emerging economies have been at the forefront in promoting FDI to enhance economic growth (Li and Liu, 2005). The policy environment is greatly influenced by the decisions made by the policy makers. Decisions related to government spending affects the inflow of FDI. Government spending and incentives provided to MNCs to set up their bases is a driving factor behind encouraging FDI inflow. It is customary for the governments to provide incentives through tax rebates and the setting up of Special Economic Zones to promote trade and investments.

1.2 Research Gap: Existing literature on FDI extensively emphasises the determinants of FDI which accounts for both inward and outward FDI, however, discussion on FDI policy is scarce in the available literature. Though, efforts made by existing scholars have been on the attributes of FDI policy and the impacts of them in attracting FDI. A serious effort is made through this investigation to identify key words which have played a dominant role in the transformation of FDI policy in the aftermath of economic reforms through liberalisation policies. The dynamic changes in the FDI policy of India since liberalisation have attracted lot of attention from academics; however, policy discussions pertaining to FDI and its role in transforming economy are scarce. The subsequent changes in the key aspects related to the FDI policy framework makes an interesting case to determine the policy framework and its role in enhancing FDI inflow. The findings through this investigation will throw light on the innate role of FDI policies in enhancing competitiveness and innovation of enterprises and at the same time contribute to bringing a sense of balance between economic growth and structure changes through proactive policies. The quintessential aspect of the FDI framework adopted by India is to encourage the flow of foreign funds and to create a conducive policy environment to attract foreign investors to invest in fast growing sectors of India.

Whilst there is substantial literature on FDI determinants in an Indian context. Nonetheless, the policy related literature is limited and signifies a gap in the literature. Hence, at this juncture an attempt is made to investigate FDI policy related key words and their prominent role in the transformation of FDI policy in the aftermath of the liberalisation of the Indian economy.

Research Questions: In conjunction with the above research gap, this research intends to address the following questions:

- Does the construction of Key Research Index (KRI) represent the transition of words and changes in the FDI policy framework reports published since1991?

- Does the high concentration of the word relative to the high KRI value signify the relevance of the words over a period?

1.2.1 Research Methods: The research methods in Chapter-2 includes the construction of a Key Research Index (KRI) which reflects the dynamic changes in the key words related to FDI policy linked documents from the era of liberalisation (1991) until 2017. The dynamic changes in the key words in FDI policy are reflected in the construction of KRI of 26 years where (i=1,……,n) is an index for chosen words and t is the index of the year with the frequency data of the top 50 key words linked to the published FDI policy reports. The number of texts n=146. As presented in the construction of the index in Equation (1) the numerator is the share of a word i's frequency in the year t and the denominator represents the average share of the word within the total count of 39135 words. This Key Research Index is in line with the index which constitutes trade specialisation (Fink, Kwon, Rho, and So, 2014; Kwon and Cho, 2015); however, it differs in the sense that it compares the keyword frequency with the average share of the same keyword for the whole time period, whereas in the case of trade specialisation a comparison of the share of an item in a country's trade with respect to the global share takes a leading count. It is imperative to note that the share of a keyword frequency is just the same as its share for the overall period. The declining value of KRI indicates the declining popularity of the key words in the policy linked reports. The word cloud represents the top-50 key words that appeared in the reports over the past 26 years. These words have been chosen based on word count frequency. A word count frequency list shows the words which are most relevant to the key word search.

1.3 Contribution:

An effort is made in this chapter to investigate the key aspects of FDI policy through text analysis using word frequency data. This is a naïve effort to investigate the policy framework through text analysis. The FDI policy as a framework is an inherent aspect of creating a conducive policy environment to encourage flow of foreign funds in an economy. The policy environment provides a breeding ground for the flourishing of enterprises and thereby aids in augmenting funds in the local economy. This research contributes to highlighting the gains made through the implementation of massive reforms through the implementation of friendly FDI policies, the crucial role played by policy makers in encouraging these policies to aid

industries in the creation of opportunities for local residents, and promotes development of relevant infrastructural facilities to benefit from the larger spillovers from FDI.

1.4 Research Aim and Objectives: A naïve effort is made here to conduct a basic text analysis FDI policy using key words. To reflect the dynamic change in the key words, an effort is made here to calculate the key research index (KRI) since the liberalisation of the economy. The construction of KRI is in line with the methodology used in the works of Kwon and Kwon (2017) on telecommunications policy. The policy framework is subsequently investigated through a simple word frequency analysis. It is observed that the application of KRI is similar to the trade specialisation index used in the works of Fink, Kwon, Rho, and So (2014) and Cho (2015). However, it differs in a sense that it compares the sharing of the keyword frequency at a given time and with respect to the mean share of the same keyword for the entire time period. This Key Research Index is in line with the index which constitutes trade specialisation (Fink, Kwon, Rho, and So, 2014; Kwon and Cho, 2015); however, it differs in sense that it compares the keyword frequency with the average share of the same keyword for the whole time period, whereas in the case of trade specialisation a comparison of the share of an item in a country's trade is made in respect to the global share, which takes a leading count.

The aim of this chapter is to explore the dynamic changes in the key words related to the FDI policy documents through the construction of a Key Research Index (KRI).

In line with the above discussion an effort is made through this study to investigate the following objectives.

1a. The construction of Key Research Index (KRI) to reflect the dynamic changes in the key words related to FDI policy linked documents since the era of liberalisation (1991) until 2017.

1b. The transition of words since the liberalisation of the Indian economy and the role of this transition in successfully representing the changes in the FDI policy framework reports published since 1991.

1c. The high concentration of the word relative to the high KRI value associated with it and the subsequent changes in KRI values and its relevance.

It is imperative to note that the share of a keyword frequency is just the same as its share for the overall period. The concentration of a word's frequency in a short period is its KRI value due to the denominator as an average word frequency over a span of 26 years. KRI has many

benefits over word counts or shares. The declining value of KRI indicates the declining popularity of the key words in the policy linked reports.

Chapter Summary: Section-01 of the chapter covers the introduction to the concept of FDI policy and explores the aspects related to FDI policy, Section-02 involves a theoretical framework on FDI policy and explores policies and their impact on flow of FDI in developed, developing and under-developed economies, Section-03 highlights the methodology behind the study and covers data collection, Section-04 addresses data analysis and the findings, and finally Section-05 discusses the findings and the conclusion drawn from them.

SECTION-2-LITERATURE REVIEW

2.1 FDI Policy Framework among developed countries: Research report of UNCTAD (2017) acknowledges that *"Investment policy making is getting more complex, more divergent and more uncertain"* (UNCTAD, 2019, p. 11). Policy making and connectivity has gained ground in the recent FDI literature. Iammarino (2018) defines connectivity as *"exposure of a place to the inflows and outflows of assets, knowledge, capabilities and expertise from and towards the rest of the world"* (Iammarino, 2018, p. 1). It is imperative to acknowledge that the connectivity plays a pivotal role in the augmentation of FDI inflows. Evidence from developed countries indicates that connectivity is a major determinant of FDI policy initiation. Connectivity adopts a dual direction, such as territorial attractiveness and the traits related to specialisation and diversification. Investigation into the regional inequality and economic development of developed economies indicates that there is a shift in the growth of regions owing to globalisation and technological advancement. Territorial attractiveness serves as a dominant factor in the mobilisation of FDI flows and promotes re-orientation of the industrial structure (Iammarino, 2018). With a rapid rise in globalisation, the FDI has grown exponentially over the last three decades. UNCTAD (2017) estimates that FDI stocks went up from 10% in 1990 to approximately 35% in 2016 (UNCTAD, 2017). It is interesting to note that in comparison to the growth of FDI stocks, the share of developing and emerging economies has increased in 2014, and is now approximately 55% of the total inflows and 40% of total outflows in the global economy (UNCTAD, 2015, 2017).

2.2 FDI Policy Framework of India: India opened the gates to Foreign Institutional Investors (FII) amidst massive economic reforms in September 1992 and experienced the impact of

institutional investments. The onus of bringing liberal economic reforms is to boost the economic growth of India from the restricted access to a worldwide centre of attraction for new investments. FDI brought in India through liberal economic reforms had an impact on socio-spatial groups (Tsai, 1995). The new economic policies initiated in 1991 aimed at entailing the privatisation of public assets such as electricity, water and transport systems. These steps to privatise proved beneficial to some sections of the population but were detrimental to others (Baviskar 2003, Kundu 2004). Jatinder et al. (2011) state that the quest for FDI inflow in India has been an integral part of the national policy agenda and this policy has been framed on the New Economic Policy of 1991. As a result of the new economic policy, India attracted massive FDI inflow in the late 1990s. Foreign Direct Investments in India and China have grown rapidly after the post reform periods. In China, reforms undertaken during the leadership of Deng Xioping in 1978 opened the gates for the FDI. In India under the leadership of Mr. Narasimha Rao in 1991, the liberalisation of the economy led to an increase in the FDI flows. FDI in India is aimed at integrating its economy with that of the world economy. The significant increase in FDI in almost all sectors of the economy makes it interesting to study the benefits of spillovers across the regions to figure out the most dominant sectors and the regions which have benefited from FDI, and also contribute to highlighting the less developed regions and sectors and hence thereby aid in providing recommendations to the policy makers. The dynamic changes in the FDI policy of India since liberalisation have attracted lot of attention from academics, however, policy discussions pertaining to the FDI and its role in transforming the economy are scarce. The subsequent changes in the key aspects related to the FDI policy framework makes an interesting case to determine the policy framework and its role in enhancing FDI inflow. The findings through this investigation will throw light on the innate role of FDI policies in enhancing the competitiveness and innovation of enterprises and at the same time contribute to bringing a sense of balance between economic growth and structure changes through proactive policies.

2.3 The significance of Text Analysis and Policy Framework: Automated analysis of open-text data has gained massive attention recently owing to its ease of application, elimination of human errors and flexibility to create models which are far superior to manual coding. The need for efficiency in execution and the pace of automation in market research has made text analysis an indispensable tool in the analysis of extensive text data. The recent investigation conducted on text data reveals the evolution of text analysis as early as the 1990s, however,

evidence on text analysis dates back to the 1980s (Macer and Wilson, 2017; Raud and Fallig, 1993). The benefits of text analysis include massive cost savings and superior pace and accuracy over manual coding. One of the striking features of automated text analysis is its superiority in conveying direct access and insights to the participant's views in their own words and the elimination of common human errors associated with manual coding and variations in interpretations (Anderson, 2014; Downer, Wells, Crichton, 2019). The massive growth in the availability of free text through social media sites and customer feedback has contributed immensely to the advancement of automated text analysis and this is evident in the recent works of Saxena, Chaturvedi, and Rakesh (2018). Previous contributions by Torii, Tilak, Doan, Zisook, and Fan (2016) are also commendable. Text analytics is currently applicable to multiple contexts where abundance of data is present, and there are diversified subjects matters which include health, organisational culture, computing and communications (Carah, Meurk, and Angus, 2015; Cunningham, Tablan, Roberts, and Bontcheva, 2013; Khoo and Johnkhan, 2017; Topaz et al.; 2016; Pandey and Pandey, 2017; Rambocas and Pacheco, 2018).

The selection of key words using word-frequency analysis aims at generating key word lists that better agree with composite lists produced by panels formed of human indexers. Five statistical criteria were included: word count, frequency difference, Poisson standard deviate, frequency ratio and standard deviation. It is observed that computer generated word frequency analysis is much more economic and is better than the list produced by individual panel members. The method used in the computer selection of key words involves in-document word occurrence frequency and in-corpus relative occurrence frequency as measures of word importance (Carol and Roeloffs, 1969).

Critical observations made by Orlikowski and Baroudi (1991) revealed the limitations of qualitative methods owing to their confinement to surveys and experiments. Arguments made against qualitative methods are centred on knowledge acquisition and data analysis. Text analysis as qualitative methods gathered little attention in the beginning due to lack of knowledge and equating of qualitative research with non-positivist, anti-positivist or interpretive research (Maanen, 2011). Qualitative text analysis methods are appreciated for being inclined towards the positivist tradition (Lacity and Janson, 1994). It is imperative to acknowledge that information systems (IS) researchers have widely regarded qualitative approaches which involve phenomenology, ethnomethodology, action research and futures research to supplement quantitative methods (Boland, 1985, Mumford, Hirschheim, Fitzgerald, Wood-Harper, 1985). Qualitative methods and its framework adopted by Lacity and Janson (1994) are widely regarded

as a benchmark to assess widely regarded applications in text analysis. The framework involves classification of qualitative approaches into positivist, interpretive and linguistic, based on the nature of text data, individual text interpretation and validity checks to determine the justification of text interpretations. Discourse interpretation is a significant analytical tool to understand information requirements from users and at this juncture text analysis serve as an indispensable tool. Text analysis using themes is a good example of discourse interpretation. Themes constructed using transcriptive texts offer valuable information to researchers working on thematic analysis. There are different methods for understanding texts. For instance, the positivist text approaches assume understanding comes through identification of non-random variations in a text, the type and structure of utterances determine linguistic approaches and interpretivist methods assume that understanding comes from intrusive methods in which researchers understand how culture and experiences influences text interpretation (Barelson, 1952; Naisbit, 1982; Aburdene and Naisbit, 1990; Austin, 1962; Janson and Woo, 1991; Janson and Woo, 1992' Souza and Marcondes, 1984; Lacity, 1992; Sanders, 1982).

As per the research report published by Esticast Research and Consulting (2017), the adoption of cloud computing technology is responsible for the burgeoning trend in global text analytics. The advancements made in text analytics have contributed immensely to the growth of text analytics. The increasing use of social media platforms is adding fuel to the robust growth of the text analytics market. Linguistic analysis is expected to pave the way for the massive growth in the text analytics market. North America as a market stands tall among the global analytics market through its massive growth of approximately 24.8% from 2017-2014 (Esticast Research and Consulting, 2017). Greenbook's 2017 annual GRIT survey of research agencies and clients indicates that text analytics have been used 4% of the time, and there is an estimate of approximately 30% of anticipated usage, however, there have been minor changes in recent years on the percentage use of text analytics. The GRIT survey also highlights that although Excel offers the add-in of text analytics, the majority of survey participants use "sort" functions with manual coding.

Text analytics as an area of research dates back to the period after the Second World War, however, it has gained significant attention in the past decade. The primary focus of earlier text analytics has been artificial intelligence, and over a period of time this changed into an empirical approach. The quintessential aspect centred on text analytics is the premise that computers are best in terms of pattern recognition and at this juncture the capacity of computer servers and personal computers deserves special attention. The advancement in text analytics

has now made it easy to manage large, unstructured text which is churned out every day through the burgeoning growth of text via social media platforms.

Enterprise data in a contemporary world is mostly unstructured. This unstructured data is mostly textual and unorganised and includes documents, instant messages, comments on social media and posts published on social media platforms. It is challenging for data miners to analyse this complex information owing to the cumbersome nature of the data analysis. Text analysis involves extracting knowledge from the unstructured text. It is often referred as 'text mining' or 'text analytics'. In a more contextual approach text analysis contribute immensely to providing valuable insights related to the organisation's internal environment and also aids in improving the productivity of the organisation along with value for customers.

2.4 Conclusion: Policy making and connectivity is gaining ground in the recent FDI literature. Evidence from developed countries indicates that connectivity is a major determinant of FDI policy initiation. Connectivity adopts a dual direction such as territorial attractiveness and the traits related to specialisation and diversification. The onus of bringing liberal economic reforms is to boost the economic growth of India from restricted access to a worldwide centre of attraction for new investments. The dynamic changes in the FDI policy of India since liberalisation have attracted lot of attention from academics; however, policy discussions pertaining to the FDI and its role in transforming economy are scarce. The subsequent changes in the key aspects related to the FDI policy framework makes an interesting case to determine the policy framework and its role in enhancing the inflow of FDI. The application of text analysis in analysing the policy framework can provide valuable insights into the key changes in text over a period and serve as a dynamic tool to focus on major transitions in the FDI policy framework.

SECTION 3-METHODOLOGY

3.1 Research Philosophy: Theory construction and its verification is embedded within the positivist paradigm, however, there has been an increase in number of researchers adopting interpretivist paradigm to the constructivist philosophies and theories related to the finance through use of qualitative methods with a subjectivist epistemologies, however, the positivist paradigm adopted recently with a post positivist stand. The preliminary approach to the investigation of the research philosophies lies in the construction of the research questions. A good research is justified and often driven by research questions (Abernethy et al, 1999; Merchant and Simons, 1986). The research questions and the methods involved to investigate them includes research methodology, this methodology adopted to investigate the answers to the research questions comprises of ontological views and related/underlying epistemological assumptions, at this juncture the approach of a researcher is dependent on researcher's meta-theoretical position. In congruence with the discussion carried in Chapter-1, an effort is made in this chapter to construct a Key Research Index (KRI). The philosophical approach in this research methodology focus on positivism and the interpretation of this index from a deductive approach.

3.2 Contextual Background: An effort is made here to conduct a basic text analysis FDI policy using key words. The reports obtained from the use of "FDI Policy of India" as a key word is being searched on Factiva data. The consolidated file since 1991-2017 includes 39135 words and a word crawl suggests key words which area frequently used in the policy framework documents are investigate to establish key words related to FDI policy framework. Certain words have been removed to avoid repetition of key words in the word count frequency. A word count frequency is created to list the word which are most relevant to the key word search. The top 50 words have been selected out of the total word count and a word cloud is created on NVIVO 19 Software. This word cloud summarises key subject words that appeared in the reports over the past 26 years.

3.3 Data Collection: This chapter intends to address the FDI policy framework adopted by India ever since liberalization of its economy. The quintessential aspect of FDI framework adopted by India is to encourage the flow of foreign funds and to create a conducive policy environment to attract foreign investors to invest in fast growing sectors of India. An effort is

made here to investigate the key aspects of FDI policy through text analysis using word frequency data.. The sample involves collection of FDI Policy related report obtained from Factiva database since 1991-2017 and a word frequency test is conducted to list the words which are most relevant to the key word "*FDI Policy of India*". The total data retrieved from 1991-2017 contains 146 pages and 39135 words.

FDI Policy as a framework is an inherent aspect of creating a conducive policy environment to encourage flow of foreign funds in an economy. Policy environment provides a breeding ground for flourishing of enterprises and thereby aids in augmenting of funds in the local economy. An effort is made here to conduct a basic text analysis FDI policy using key words. The reports obtained from the use of "FDI Policy of India" as a key word is being searched on Factiva data. The consolidated file since 1991-2017 includes 39135 words and a word crawl suggests key words which are frequently used in the policy framework documents Certain words have been removed to avoid repetition of key words in the word count frequency. A word count frequency is created to list the word which are most relevant to the key word search. The top 50 words have been selected out of the total word count and a word cloud is created on NVIVO 19 Software. This word cloud summarises key subject words that appeared in the reports over the past 26 years.

3.4 Textual Analysis: The textual analysis approach includes the construction of Key Research Index (KRI). To reflect the dynamic change in the key words, an effort is made here to calculate key research index (KRI) since liberalization of the economy. The application of KRI in the Indian context reflects the dynamic changes in the key words in FDI policy linked reports. The construction of KRI of 26 years where (i=1,……,n) is an index for chosen words and t is the index of the year with the frequency data of top 50 key words linked to the FDI policy reports published. The number of texts n=146. As presented in the construction of index in Equation (1) the numerator is the share of a word i's frequency in the year t and the denominator represents the average share of the word within the total count of 39135 words. This Key Research Index is in line with the index which constitutes trade specialization (Fink, Kwon, Rho, and So, 2014; Kwon and Cho, 2015); however, it differs in sense that it compares the keyword frequency with the average share of the same keyword for the whole time period, wherein in case of trade specialization comparison of share of an item in a country's trade with

respect to the global share takes a leading count. The declining value of KRI indicates the declining popularity of the key words in the policy linked reports.

In order to address policy framework, it is imperative to have access to the policy documents, hence, in absence of policy documents we have collected newspaper articles related to FDI policy of India from the Factiva Database. The textual data thus collected, is quantified by using NVIVO software. In comparison to the other programme based softwares, NVIVO is much user friendly in quantifying the text. The application of text analysis using NVIVO in analysing the policy framework provides valuable insights into the key changes in text over a period and serve as a dynamic tool to focus on major transitions in the FDI policy framework in the aftermath of economic reforms.

3.5 Variable Description: Unlike Chapter-1, this study focus on the construction of Key Research Index (KRI) and its interpretation with reference to FDI policy framework linked documents. Among the 39315 words related to FDI policy framework linked documents top 10 key words “india” ”fdi ”investment”, ”retail” ,”market” ,”policy” ,” government” ,”sector” ”indian” ,”industry”. constitutes approximately 8.49 percent of the total word frequency (39315) and these words have high KRI values i.e.greater than17.75. The KRI values reflect the transition of words since liberalization of Indian economy and this transition represent changes in the FDI policy framework reports published since 1991. The high concentration of the word also highlight the high KRI value associated with it. This indicates that word with high concentration and KRI value represents its relevance over a period. The high concentration of the word is attributed to the presence of high denominator value since the denominator represents the average frequency of the word. The transition of the declining KRI words can be attributed to the changes in policy framework in line with the decreasing relevance among the policy linked documents.

SECTION 4- EMPIRICAL FINDINGS

4.1 Key Research Index (KRI): This index is constructed to reflect the dynamic changes in the key words related to FDI policy linked documents since the era of liberalisation (1991) until 2017. The dynamic changes in the key words in FDI policy are reflected in the construction of KRI of 26 years where (i=1,……,n) is an index for chosen words and t is the index of the year with the frequency data of top 50 key words linked to the published FDI policy reports. The number of texts n=146. As presented in the construction of the index in Equation (1) the numerator is the share of a word i's frequency in the year t and the denominator represents the average share of the word within the total count of 39135 words. This Key Research Index is in line with the index which constitutes trade specialisation (Fink, Kwon, Rho, and So, 2014; Kwon and Cho, 2015); however, it differs in the sense that it compares the keyword frequency with the average share of the same keyword for the whole time period, whereas in case of trade specialisation a comparison of share of an item in a country's trade is made in respect to the global share, which takes a leading count. It is imperative to note that the share of a keyword frequency is just the same as its share for the overall period. The concentration of a word's frequency in a short period is its KRI value due to the denominator as an average word frequency over a span of 26 years. KRI has many benefits over word counts or shares. The declining value of KRI indicates the declining popularity of the key words in the policy linked reports.

$$KRI_{it}=FKW_{it}/\sum_{i=1}^{n} FKW_{it}/\sum_{i=1}^{26} FKW_{it}/\sum_{i=1}^{26}\sum_{i=1}^{n} FKW_{it} \text{.....(1)}$$

Word	Length	Count	Weighted Percentage (%)	FKW	FKW (n)	FKW/Average	KRI
India	5	519	2.18	519	2305	0.013	16.98

Word	Length	Count	Weighted Percentage (%)	Similar Words (Word Bag)
India	5	519	2.18	india, india', 'india

As evident from the above example, the word 'india' as a key word in research index has a value of 16.98. A critical analysis of the top KRI words indicates key changes in the FDI policy over a period of time. The top 10 KRI words are "india", "fdi", "investment", "retail",

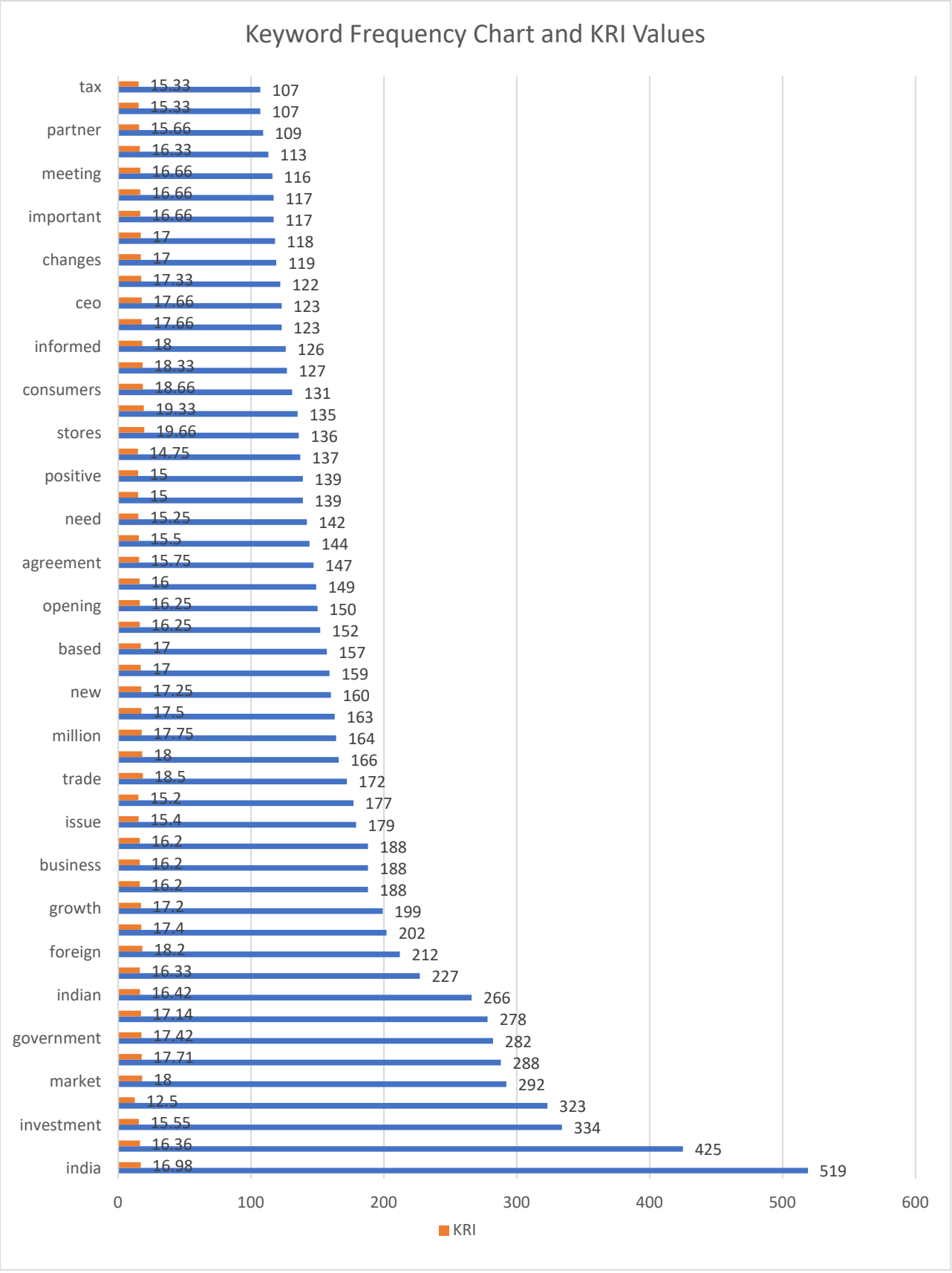
"market", "policy", "investment", "sector", "indian", "industry" and these words have been shortlisted among the top 50 words based on their KRI values. The KRI value decreases over a period of time and this indicates that the relevancy of the word decreases due to the decreasing value of the KRI values.

Fig.2.1: The word cloud-FDI Policy framework

Source: Compiled by author

The word cloud represents the top-50 key words that appeared in the reports over the past 26 years. These words have been chosen based on word count frequency. A word count frequency list the words which are most relevant to the key word search. The top 50 words have been selected out of the total word count and a word cloud is created on NVIVO 19 Software.

Fig.2.2-The Key Word Frequency Chart and KRI Values



Source: Compiled by author

Table.2.1: The Top-10 Key Words by their weighted percentage

Top 10-Key words				
Word	Length	Count	Weighted Percentage (%)	Word Bag
india	5	519	2.18	india, india', 'india
fdi	3	425	1.78	fdi, fdi'
investment	10	334	1.26	commitment, committed, inducted, induction, invest, invested, investing, investment, investments, place, placed, places, put, puts, putting, seat
retail	6	323	1.18	retail, retailer, retailers, retailing
market	6	292	1.08	commercial, commercials, grocery, market, marketers, marketing, marketplace, markets, mart, merchandise, merchant, sell, sell', seller, sellers, selling, vendor, vendors
policy	6	288	0.89	policies, policy
government	10	282	0.84	administrative, author, authorities, authority, authors, control, control', 'control', controlled, 'controlled, controlling, controls, establish, established, establishing, establishment, governance, government, governments, order, ordered, organisation, organisational, organise, organisms, organized, political, 'politically, politics, regime, regular, regulate, regulated, regulates, regulating, regulation, regulations, 'regulations, regulators, rule, rules
sector	6	278	0.78	sector, sectoral, sectors, sphere
indian	6	266	0.73	indian, indians
industry	8	227	0.72	diligent, industrial, industrialisation, industries, industry, industry', manufacture, manufactured, manufacturers, manufacturing

Source: Compiled by author

Table.2.2- The Top 10-KRI-Words

Top 10-KRI-Words		
Word	Count	KRI
india	519	19.66
fdi	425	19.33
investment	334	18.66
retail	323	18.5
market	292	18.33
policy	288	18.2
government	282	18
sector	278	18
indian	266	18
industry	227	17.75

Source: Compiled by author

SECTION 5-CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions: A Key Research Index (KRI) is constructed to reflect the dynamic changes in the key words related to FDI policy linked documents since the era of liberalisation (1991) until 2017. The dynamic changes in the key words in FDI policy are reflected in the construction of a KRI of 26 years where (i=1,……,n) is an index for chosen words and t is the index of the year with the frequency data of the top 50 key words linked to the published FDI policy reports. This Key Research Index is constructed in line with the index which constitutes trade specialisation (Fink, Kwon, Rho, and So, 2014; Kwon and Cho, 2015); however, it differs in sense that it compares the keyword frequency with the average share of the same keyword for the whole time period, whereas in the case of trade specialisation a comparison of the share of an item in a country's trade is made in respect to the global share, which takes a leading count. It is imperative to note that the share of a keyword frequency is just the same as its share for the overall period. The decreasing value of the KRI indicates the decreasing relevancy and popularity of the key word over a period. Hence, we can infer that the key words with the decreasing value in the top-10 order are "india", "fdi", "investment", "retail", "market", "policy", "government", "sector", "indian", "industry". The key words and the words in the word cloud reflect the history of the FDI policy in India and the changes in the key words ever since the liberalisation of economy in 1991. The smooth transition of key words highlight the

changes in FDI policy from the perspectives of the investments in the early years, and the growth of the FDI in the retail sectors and the sectoral benefits received from the FDI policies since 1991.

5.1.1Transition of Key Words related to FDI Policy Framework since liberalisation:

It is imperative to note that among the 39315 words related to the FDI policy framework linked documents, the top 10 key words are "india", "fdi", "investment", "retail", "market", "policy", "government", "sector", "indian", "industry". These constitute approximately 8.49 percent of the total word frequency (39315) and these words have high KRI values i.e. greater than 17.75. The KRI values reflect the transition of words since the liberalisation of the Indian economy and this transition represent changes in the FDI policy framework reports published since 1991. The high concentration of the words also highlights the high KRI value associated with it. This indicates that words with high concentration and KRI values represent its relevance over a period. The high concentration of the words are attributed to the presence of high denominator value since the denominator represents the average frequency of the word. The transition of the declining KRI words can be attributed to the changes in the policy framework in line with the decreasing relevance, the key word "india" appears in the period of the intense liberalisation in the early 1990s, and this is quite obvious bearing in mind the fact that India adopted a paradigm shift at the turn of the year 1990. The early years of the 90s, before the economic impetus by the Indian Government under the rule of Prime Minister P.V. Narasimha Rao, witnessed several crises related to the unstable balance of payment (BoP), political instability at home, and the piling of external debt. This deteriorates the credit rating of the country and as a result short-term and long-term borrowing was a record low level. India has great difficulty in meeting import bills, and borrowing from the international markets poses another challenge to overcome. The rise in petroleum prices contributes to the decline and is almost a point of no remittance from Non Residential Indians (NRIs) from the Gulf. India's payment of external liabilities keeps increasing and this makes it imperative for the Government to recognise the alarm bells surrounding the indian economy, hence the relevance of the word made it very much significant in the 1990s. The word "fdi" appears in the early phase of the economic liberalisation and represents the change in a paradigm shift of India from being a restricted economy to a liberalised economy through massive economic reforms to encourage Foreign Direct Investments (FDI). India opened up the flood gates to invite massive FDI through liberalised economic policy. The friendly FDI policy attracted global attention and hence India allows up to 51 percent in 35 highest priority sectors, the ultimate automatic route of entry for

foreign MNEs. Export related companies received massive impetus, whereas the Government introduced 51 percent foreign equity to promote exports in the economy. The Government also encourages establishment of Export Promotion Zones (EPZs) to aid 100 percent export projects within India. The word "investment" appears in 1991 and represents the investment related board established to promote the FDI. The setting up of the Foreign Investment Promotion Board (FIPB) gathered much attention in 1991. The government set up an inter-ministerial body overlooked by the Department of Economic Affairs. Massive investments with a valuation of approximately 300 Billion INR came under the scrutiny of the Finance Minister through the Government route, however, this was abolished in 2017 by the incumbent government to be replaced by Foreign Investment Facilitation Portal (FIPP) in order to promote speedy investments in India. The government of India amended the previous Foreign Exchange Regulation Act (FERA) at the same time to increase the pace of liberalisation and lifted the restrictions imposed on foreign companies under this act. These relaxations gave much needed economic impetus to boost investments by foreign companies. The other amendment i.e. Foreign Exchange Management Act (FEMA) brought a massive change in the foreign exchange market and helped to promote outward FDI significantly in the year 2000. The word "retail" gained much importance in the early 2000s due to raising the cap on industrial sectors, the government of India allows 51% FDI in a single brand retail sector which subsequently increased to 100% until 2012, and was subject to certain conditions by the government, hence, the word "retail" truly captures and represent the changes in the retail sector. The word "market" gained significant attention in the early 2000s to the last phase of 2017, and represented the globalisation of the market and captured the massive transitions which happened in the economy after the liberalisation policy and its implementation. India gained much attention on the global platform owing to the paradigm shift of being the restrictive regime to a lucrative emerging market. The government of India raised the cap in all sectors and benefited from the immense globalisation, the changes in the FEMA act brought much foreign exchange surplus in the economy, key sectors such as insurance and defence opened with a cap of 26%. The telecoms sector witnessed the raising of the cap from 49% to 74%. Single brand retail obtained permission for the raising of the cap from 51 percent with the government route to 100 percent in 2012. The other significant development in the retail sector happened in 2013 with the approval of the government in the single brand retail sector through raising the automatic route up to 49% and the introduction of the multi brand retail sector with a cap of 51% under certain conditions. The word "policy" with a KRI value of 18.2 represents the policy related changes from 1991 until the last phase of 2017. It captures the broader

changes in the FDI policy and hitherto symbolises the changes carried out within the FDI policy over a period. The quintessential aspect of the FDI policies is to benefit from the massive transfer of technology and technical know-how to the emerging economies. India vehemently capitalised on this opportunity through consistent proactive policies which are aimed at benefiting from the broader impact of FDI. This word also comes in tandem with the word "government" and has a KRI value of 18. The previous policies prior to the liberalisation was aimed at the exercising of government control on trade and commerce related decision making and implementation, however, liberalisation brought changes through abolishing restrictions on trade and the prevalence of license related control on the free flow of trade and commerce. The economic reforms of 1991 symbolised a major paradigm shift from India being a restrictive regime to a global investment platform. These reforms dismantled the predominant "license raj" which had governed India since its independence. FDI inflows increased massively after the rolling out of the liberalised policies and these contributed immensely to helping India tide over the crisis related to the balance of payment and the downgrading of their credit rating.

5.1.2 The other significant observations related to changes in the KRI values

The word "sector" and " indian" have similar KRI values and appear predominantly from the year 2000 onwards. These words represent both sectoral reforms in the FDI framework and the significant changes made in the policies to accommodate Indian companies which are basically owned and controlled by residents of India, which obtained approval to downstream investments without government approval. The other word which carries a lot of significance in the promotion of conducive environment for foreign firms is "industry". This word represents the changes in the industry and its promotion through the establishment of Special Economic Zones (SEZs), and has gathered much attention. The SEZ act introduced in the year 2005 encourages the setting up of infrastructure by state governments to promote export industries. The SEZ act became fully operational from the year 2006 and covers objectives which include a holistic approach to generate economic activity, promote export related industries, obtain investments from both domestic and foreign firms, and gain employment opportunities and the development of related infrastructural facilities.

The existing literature on FDI emphasises extensively on the determinants of FDI, which accounts for both inward and outward FDI, however, discussion on FDI policy is scarce in the available literature. Though, efforts made by existing scholars have been on the attributes of FDI policy and the impacts of them in attracting FDI. A serious effort is made through this

investigation to identify key words which have played a dominant role in the transformation of FDI policy in the aftermath of economic reforms. The KRI values are the top 10 words from the above findings, and reflect the transition of words since the liberalisation of the Indian economy. This transition represents changes in the FDI policy framework reports published since 1991. The high concentration of the word also highlights the high KRI value associated with it. This indicates that words with high concentration and KRI value represents its relevance over a period. The high concentration of the word is attributed to the presence of a high denominator value, since the denominator represents the average frequency of the word. Hence, we can infer the top 10 key words are “india”, “fdi”, “investment”, “retail”, “market”, “policy”, “government”, “sector”, “indian”, “industry”. . These highlight the changes in FDI policy from the perspectives of the investments in the early years, the growth of the FDI in the retail sectors, and the various sectoral benefits received from the FDI policies since 1991.

Findings from Chapter-2 indicates that FDI Policy as a framework is an inherent aspect of creating a conducive environment to encourage flow of foreign funds in an economy. Policy environment provides a breeding ground for flourishing of enterprises and thereby aids in augmenting of funds in the local economy. FDI policies play a crucial role in encouraging these policies to aid industries in the creation of opportunities for local residents, promote development of relevant infrastructural facilities to benefit from the larger spillovers from FDI. These findings from Chapter-2 are congruent with Chapter-3 which emphasise that attributes governing FDI inflow are peculiar due to the stable economic regime aftermath of the implementation of the liberalisaton policies and with Chapter-1 key findings such as conducive policy environment greatly promotes inflow of FDI.

The findings from Chapter-2 can be generalised in terms of creation of conductive environment framework by the implementation of FDI policies. This research contributes in highlighting the gains made through the implementation of massive economic reforms and the crucial role played by policy makers in encouraging these policies to aid industries in the creation of opportunities for local residents, promote development of relevant infrastructural facilities to benefit from the larger spillovers from FDI. Emerging economies such as India and China have been at the forefront in promoting FDI to enhance economic growth (Li and Liu, 2005).

5.2 Recommendations: The quintessential aspect of the FDI policies is to benefit from the massive transfer of technology and technical know-how to the emerging economies, and India vehemently capitalised this opportunity through consistent proactive policies which are aimed at benefiting from the broader impact of FDI. India gained much attention on the global platform owing to the paradigm shift of being a restrictive regime to a lucrative emerging market. The raising of the cap in sectoral industries has provided much needed economic impetus. The liberalisation of the economy in 1991 dismantled the draconian "license raj"[1] to emancipate India from the shackles of the restricted trade regime. Nonetheless, it is imperative to uphold the gains made through these reforms through the implementation of friendly FDI policies. At this juncture, policy makers play a crucial role in encouraging these policies to aid industries in the creation of opportunities for local residents and promote the development of relevant infrastructural facilities to benefit from the larger spillovers from FDI.

[1] System involving licenses, regulations marred with red tapism particularly predominant in India until liberalisation of its economy in 1991.

CHAPTER-THREE

Regional Attributes and Spatial Distribution of FDI Inflows - Evidence from India

SECTION 1-INTRODUCTION

1.1 Regional attributes and Foreign Direct Investments (FDI): In light of the overall FDI received since liberalisation in India, an effort is made through this chapter to investigate the regional attributes of these FDIs. Empirical analysis in Chapter-01 indicates that market size and industrial linkages have a positive impact in promoting equity inflow of FDI, however, the impact of taxation is negative. These findings strongly corroborate the argument that industrial linkages between foreign and domestic firms aids industry agglomerations and spillovers to the host economy (Blomstrom et al., 2000; Gorg and Greenaway, 2002; Narula and Marin, 2005; Vacek, 2007). Multinational Corporations (MNCs) possess superior knowledge, patents, trademarks and exclusive technology which "spillover"[2] to the host economy and benefit domestic firms. It is believed that FDI contributes to the transfer of technology, knowledge, managerial skills and capital to host economies. "Spillovers" are positive externalities which lead to productivity and efficient benefits in the host country's local firms (Blomstrom and Kokko, 1997). The recent works of Beckman and Czudaj (2017) on global spillovers provides

[2]"Spillovers" are positive externalities from Foreign Direct Investments (FDI) which leads to productivity and efficient benefits in the host countries (see Blomstrom & Kokko, 1997).

useful insight into capital flow and its impacts on GDP for selected emerging markets. The study involves both FDI and portfolio investments[3]. It is argued that capital flows positively contribute to GDP, however, with the exception of Korea, the results obtained infer that the net portfolio investments have more positive impacts on GDP than the net FDI flows for emerging markets. It is interesting to note that in terms of crises, emerging markets attract huge capital inflows, and this contributes to the pursuit of multinational companies to reduce tax liabilities by shifting taxable profits to emerging markets (Jones and Temouri, 2016). Capital flows from multinationals fuels domestic financial markets, however, countries with underdeveloped financial markets tends to be at disadvantage in the case of reversals related to capital flows (Forbes and Warnock, 2012). Capital flows from multinationals aids the accumulation of foreign reserve and enhances competitiveness by preventing domestic appreciation of local currencies. Foreign exchanges held by developing countries have quadrupled in the aftermath of recession (Aizenman and Lee, 2008; Beck and Rahbari, 2011).

FDI brings the required capital and technology to provide an impetus to the much need economic growth in the host country (Dunning, 1993; Blomstrom, Lipsey and Zejan, 1996; Borensztein et al., 1998).The motivating factor for foreign companies is the sheer economic size of the host countries and the potential market for sales (Hojabr and Sabzi; 2006, Ahmadi and Ghanbarzadeh; 2011, Khosrozadeh, Firoozjan and Amirzadi; 2015, Dodange; 2016, Mohammadvandnahidi, Jaberikhosroshahi and Norouzi; 2012). It is imperative to acknowledge that the scale and the growth of a region is dependent on its market size. Studies conducted by Ranjan and Agarwal (2011) on BRIC economies from 1975 to 2009 reveal market size to be a significant determinant of FDI. The additional studies conducted by Kumar

[3]Portfolio investments are not accounted for this chapter.

(2002), Banga (2003), Goldar (2007), Nunnenkamp and Stracke (2007), Dhingra and Sidhu (2011) also support that market size is a key determinant of FDI inflow in a context such as India. FDI encourages industrial sectors to form linkages in specific geographic locations and aid to enhance firm capabilities through the diffusion of technology. Studies in a Chinese context indicate that investors value cultural similarities, geographical proximity and historical ties whilst making decisions. However, there is a strong rationale behind the selection of a location for investment choice; this corroborates the literature of geographical proximity and flow of FDI. Geographic distance as a locational choice plays an imminent role in attracting Multinational Enterprises (MNEs). Studies carried out on locational choice indicate that it is a major determinant of FDI. From the classical work on FDI by Dunning (1988) it is evident that multinationals contemplate their global expansion strategies in line with the rapid economic growth achieved by emerging markets. Dunning (1988) categorises these attributes as natural resource seeking, market seeking, efficiency seeking and strategic-asset-seeking. Distinctiveness in selection of location seems to be a recurring trait in FDI inflow from certain countries. Investigations by He (2003) revealed that Japanese investors prefer port cities whereas European and American and Taiwanese prefer local markets; however, investors from Hong Kong seems to be wary of geographical and cultural proximities. The spatial concentration of FDI flows in a Chinese context reflects uniqueness in the choice of location. Whilst the Japanese prefer the northeast region to gain geographic and cultural advantage, Americans and Europeans prefer regions with high labour productivity and agglomerated bases (Zhao and Zhu, 2000; Cheng and Stough, 2006).

The rationale behind firms inclining towards proximity-concentration is to benefit from the lowering of transport costs and trade barriers through proximity, this justifies the broader inclination of concentration hypothesis towards market size. However, on the other hand

proponents of factor-proportion hypothesis emphasise factor-intensities such as capital and labour intensive markets (Helpman, 1984; Markusen, 1984; Helpman and Krugman, 1985; Ethier and Horn, 1990). Flexible labour markets aid the augmentation of job creation and generate an element of stability in the unemployment rate (Radulescu and Robson, 2013). Labour conditions and the concept of flexibility covers multiples aspects related to labour markets. UK HM Treasury (2004) identifies the attributes of a flexible labour market, such as striking a balance between labour demand and supply, the imminent role of transferable skills, changes in labour demand, the redeployment of labour between firms, easy commuting to the workplace, work life balance, and a robust institutional environment (HM Treasury, 2004). Based on the above discussion it can be inferred that market size, infrastructure, and labour conditions play a dominant role in determining the locational attributes of MNEs.

1.2 Research Gap

The existing literature on the endogeneity effects of FDI focus on a Chinese context, however, in line with the existing literature an effort is made through this chapter to investigate the direct endogeneity problem of FDI inflow in an Indian context through the application of instrumental variables. Previous studies in a Chinese context applied vector auto-regression (VAR) techniques. Studies conducted by Borenstein et al. (1998) indicated that an endogeneity problem arises due to the lack of ideal instruments, and at this juncture the application of Instrument Variables (IV) can address problems of endogeneity. In order to address the weak instruments, a naïve effort is made to apply limited-information maximum likelihood (LIML) estimation in line with the theoretical underpinnings on weak instruments (see Stock and Yogo, 2002; Hahn and Hausman, 2005). The rationale behind the application of LIML instruments works very well with the sustained reforms carried out by India after the liberalisation of the

economy in 1991. This works really well in terms of stability in economic reforms and the sustained growth of economy over a period of time. Hence, we can argue that unlike "shock therapy" applied elsewhere, the Indian scenario presents stable economic growth after liberalisation and hence the effects of them are easily quantified. The consistent time variation over a period of time is conducive to control for any unobserved effect and therefore paves the way for robust results. Two Stage Least Squares (2SLS) is a precursor to identify the strength of the instruments, however, weak instruments render robustness of 2SLS. Stock and Yogo (2002) highlighted that the LIML method is far superior to 2SLS in the presence of weak instruments. An effort is made in this chapter to apply the LIML model to the weak instruments. The empirical results thus obtained conclude that the geographical distance plays an imminent role in FDI inflow. This corresponds very well with the theory of gravity model. It is found that the LIML results at 5% and 1% level confirm that FDI inflow is positively related to the geographic distance between regions. Attributes such as population density, power requirements and literacy rate are significant in attracting FDI inflows. Population density can be posited as an availability of required labour force, and the power requirement reflects that infrastructural facilities are conducive to attracting MNEs. This corroborates that the establishment of Special Economic Zones as a priority to boost infrastructure plays a dominant role, and that the literacy rate is a proxy to confirm the quality of labour. A quality of labour encourages MNEs to look for established zones and the availability of man power. Population density is widely applied in the gravity models to analyse trade flows. It is imperative to acknowledge that trade theory emphasises volume of trade and population, whereas increases in population increases the volume of trade and hence larger countries attract an increasing volume of trade. GDP also indicates the size of the demand and supply of the market (Grubbert and Mutti, 1991; 2000; Brito and e Mello-Sampayo, 2004).

Ressearch Questions: In order to address the above research gap, an effort is made through this study to address the following research questions.

- Does population density and regional GSDP effect inflow of FDI ?
- Does geographic distance and power requirement attract flow of FDI ?
- Does literacy rate as an attribute of quality of labour aid in attracting regional flow of FDI?

1.2.1 Research Methods: This study includes the application of the limited-information maximum likelihood (LIML) model in line with the theoretical underpinnings on weak instruments (see Stock and Yogo, 2002; Hahn and Hausman, 2005). The rationale behind the application of LIML instruments works very well with the sustained reforms carried out by India after the liberalisation of the economy in 1991, and this works really well in terms of stability in economic reforms and the sustained growth of the economy over a period of time. Hence, we can argue that unlike "shock therapy" applied elsewhere, the Indian scenario presents a stable economic growth after liberalisation and hence the effects of them are easily quantified. The consistent time variation over a period of time is conducive to control for any unobserved effect and hence paves the way for robust results. LIML is a befitting choice in explaining the weak instruments and for sustained economies such as India it exclusively addresses the spatial attributes responsible for attracting FDI inflow.

1.3 Research Aim and Objectives:

Studies conducted by Ranjan and Agarwal (2011) on BRIC economies from 1975 to 2009 reveal market size to be a significant determinant of FDI. The additional studies conducted by Kumar (2002), Banga (2003), Goldar (2007), Nunnenkamp and Stracke (2007), and Dhingra and Sidhu (2011) also support market size as a key determinant of FDI inflow. It is imperative

to acknowledge that FDI encourages industrial sectors to form linkages in specific geographic locations and aid in enhancing firm capabilities through the diffusion of technology. Existing literature on endogeneity effects of FDI focus on a Chinese context, however, an effort is made through this chapter to investigate the direct endogeneity problem of FDI inflow in an Indian context through the application of instrumental variables.

The aim of this chapter is to investigate the regional attributes responsible for the FDI inflow.

In line with the imminent findings an effort is made to research the regional attributes responsible for the FDI inflow and addresses the following objectives.

1a. The effect of population density and regional GSDP on the inflow of FDI.

1b. The role of geographic distance and power requirement as a precursor for attracting flow of FDI.

1c. Literacy rate as an attribute of quality of labour and a quintessential aspect in attracting regional flow of FDI.

1.4 Contribution: Unlike "shock therapy" applied elsewhere, the Indian scenario presents stable economic growth after liberalisation and hence the effects of them are easily quantified. The consistent time variation over a period of time is conducive to control for any unobserved effect and hence paves the way for robust results. We contribute to the existing literature on emerging markets and the pivotal role played by the gravity model in explaining the rationale behind the locational choice of Multinational Enterprises (MNEs). The application of LIML instruments works very well with the sustained reforms carried out by India after the liberalisation of the economy in 1991, and this works really well in terms of stability in economic reforms and the sustained growth of the economy over a period of time. Thus, we

can conclude that LIML is a befitting choice in explaining the weak instruments and for sustained economies such as India it exclusively address the spatial attributes responsible for attracting FDI inflow.

Chapter summary: This chapter includes three sections. Section 1 introduces the rationale behind the selection of regional attributes, section 2 builds a conceptual framework and section 3 addresses the methodology and the choice of data and variables. Section 04 addresses the empirical model and subsequent findings from the data analysis and section 05 concludes with plausible recommendations suitable for the policy makers.

SECTION 2-LITERATURE REVIEW

2.1 Regional attributes and spatial distribution of FDI Inflows: Foreign Direct Investment (FDI) is considered a key element in the industrial development of a nation. FDI brings capital inflow and contributes to the development of technology, managerial skills and competitiveness of domestic firms. The significant increase in FDI in almost all sectors of the economy makes it interesting to investigate the benefits of spillovers across all the regions and contribute to highlighting the less developed regions and sectors, and thereby aiding in providing recommendations to the policy makers. This chapter aims to review the existing relevant literature which determines the FDI inflow.

2.1.1 Market Size: Population Density, GSDP Services:

It is imperative to acknowledge that market size of the host countries reflects the demand for goods and services. Studies conducted on determinants of FDI highlight market size as a major determinant in attracting FDI inflow. Investigations in an American context indicate the existence of a positive relationship between market size and FDI inflow (Schmitz and Bieri, 1972; Cushman, 1985, 1988; Barrel and Pain, 1996; Blonigen and Davis, 2000; Goberman and Shapiro, 2002). Gross Domestic Product (GDP) is a proxy for market size as it captures the effect of income on FDI of the host country. An increase in GDP is directly proportional to market size and hence reflects the demand for goods and services produced by multinational enterprise (MNEs). The GDP of an economy also serves as an indicator of money available for spending and hence larger disposable incomes increases demand for goods and services (Dornbush and Fischer, 1994; Garcia, Kennedy and Ferreira, 2016). Shmidt and Beiri (1972) studied US FDI investments in the European Economic Community over the period of 1952-1966. Cushman (1985) revealed a positive effect of direct investments and income. Barrel and Pain (1996) identified the Gross National Product (GNP) level and GNP growth as a proxy for the host country's demand. Apart from GDP, remittances as proxy for market size indicates disposable income and constitutes consumption in an economy. Remittances are likely to be spent in the economy by the recipients. Any increase in remittance increases demand for recipient economies and it is deemed as a proxy for market size (Glytsos, 2005). Garcia-Fuentes and Kennedy (2011), through their investigation on Latin American Countries (LAC), found a positive effect of remittances on aggregate FDI inflows. Hence, it can be inferred that market size is a key attribute in the regional distribution of FDI inflow.

2.1.2 Infrastructure: Geographic Distance, Power Requirement:

Studies conducted by Kogut and Singh (1988) emphasised that the cultural and geographical proximities affect investor behaviour. Similarly, Takagi and Shi (2011) indicated that exchange rate policies affect FDI among investors intending on long term returns on their investments. Studies in a Chinese context reflect that investors value cultural similarities, geographical proximity and historical ties whilst making decisions. However, it is imperative to acknowledge that there is a strong rationale behind the selection of location for investment choice, and this corroborates the literature of geographical proximity and flow of FDI. Geographic distance as a locational choice plays an imminent role in attracting Multinational Enterprises (MNEs). Studies carried out on locational choice indicate that geographic distance is a major determinant of FDI. From the classical work on FDI by Dunning (1988) it is evident that multinationals contemplate their global expansion strategies in line with the rapid economic growth achieved by emerging markets. Dunning (1988) categorises these attributes as natural resource seeking: market seeking, efficiency seeking, and strategic-asset-seeking. The creation of special economic zones (SEZs) to promote incentives for MNEs has been a priority in policy making by emerging countries. The Special Economic Zones are established to attract Foreign Direct Investments. Investigations by Beamish and Wang (1989), Hayter and Hand (1998) reveal that these SEZs attracted most of the FDI (approximately 65.6%) in China in the 1980s. However, this share declined until the 1990s, owing to the creation of other types of economic zones such as Economic and Technological Development Zones (ETDZs) and this intensified the competition among firms to benefit from economic incentives. (Goddard, 1997; Hayter and Han, 1998; Belkhodja et al., 2017). The rationale behind the locational choice seems to be very obvious and this is primarily to achieve competitive advantage and to benefit from the broader market in terms of sales and profitability (Coughlin, Terza and Arromdee,

1991). Studies related to the broader emerging market indicates locational choice as a major attribute towards flow of FDI from MNEs. Locational choice helps to increase volume and sectoral characteristics and this is extensively cited in the early works in a Chinese context (Cheng and Stough, 2006; Schroath, Hu and Chen 1993; Zhang, 1994). FDI inflow from countries such as the United States, Japan and European countries exhibit a characteristic trend which emphasises preferential choice of size of the cities and consumption and availability of good infrastructure, whilst making investment decisions. This rules out any possibility of further scope in terms of alternatives to replace locational choices as an attribute. Agglomeration economies aid locational choice and this is a dominant factor in augmenting FDI stock. MNEs prioritise investments into locations which have established a pattern in the flow of FDI stock (Alguacilm Marti and Orts, 2013; Broadman and Sun, 1997; Chen and Yeh, 2012; Mayer and Muchielli, 1998; Wei et al.,1999).

Distinctiveness in selection of location seems to be a recurring trait in FDI inflow from certain countries. Investigations by He (2003) reveal that Japanese investors prefer port cities, whereas Europeans, Americans, and Taiwanese prefer the local market; however, investors from Hong Kong seem to be wary of geographical and cultural proximities. The spatial concentration of FDI flows in a Chinese context reflect the uniqueness in choice of location. Whilst the Japanese prefer the northeast region to gain a geographic and cultural advantage, Americans and Europeans prefer regions with high labour productivity and agglomerated bases (Zhao and Zhu, 2000; Cheng and Stough, 2006). Methodologies determined to consider locational choice are categorised as aggregate and disaggregate. Aggregate methodology envisages FDI stocks and its normal distribution across cities and provinces with substantial volume of FDI inflow; however, disaggregate methodology examines firm specific location choices (Cheng and Stough, 2006). Aggregate studies indicate that attributes such as communication infrastructure and transportation play a vital role in attracting FDI inflow in cities and provinces (Barros,

Caporale and Damasio, 2013; Gong, 1995; Zhao and Zhu, 2000; Fu, 2000; Fung, Lizaka, and Parker, 2002; Sun, Tong, and Yu, 2002).

Based on the above discussion it can be summarised that evidence from literature indicates that attributes such as labour cost, quality of labour, agglomeration economies and government policies play a significant role in determining location choice.

2.1.3 Labour Conditions: Literacy Rate/Geographic Distance Literacy Rate

The quintessential aspect behind FDI flows in an economy has been explored through various parameters, however, geographical distance and FDI flows is a recent investigation and has attracted plenty of attention among researchers. It is interesting to note that the intricacies of spatial distribution of FDI have been nicely addressed through the application of the gravity model. International trade as an attribute has been extensively researched in terms of spatial interaction patterns exhibited in both international trade and foreign direct investments flows. Locational choice of host countries by MNEs depends on geographical proximity and cost effectiveness (Blonigen, 2005). Globalisation of economies yields business opportunities for MNEs and at this juncture, embracing technological growth serves a viable choice for MNEs. There exists two schools of thought with reference to locational choice. Traditional trade theory much emphasises proximity-concentration, factor proportions and internalisation, however, modern theory emphasises changes in the business model to adopt to foreign activities (Carr et al., 2001; Markusen, 2002; Helpman, 2006; Ekholm et al., 2007).

The classical gravity model[4] discussed in the majority of trade theory models applies the "distance-decay" concept, whereas the volume of trade decreases in proportion to the increase in the distance between them (Fotheringham, 1983a, 1984). However, the "distance-

[4]Classical gravity model applies "distance decay" concept (Fotheringham,1983a,1984)

incentive"[5] concept emphasises that the volume of trade increases due to the reduction in transport costs by involving production at local places rather than exports (Horstmann and Markusen, 1992; Brainard, 1993b,1997; Markusen and Venables, 2000). Opponents of the classical version of the gravity models argue the imminent flaw in the gravity model, owing to its basic assumption that FDI flows rely entirely on attributes related to those countries, however, it does not account for alternate locations and the subsequent advantages. It inadvertently places too much emphasis on country specific factors, and this is a limiting factor. In order to address this basic cynicism of classic gravity model, efforts have been made by de Mello-Sampayo (2007)[6] to introduce a share version of the gravity model introduced in geography literature contributed by Hua and Porell (1979)[7], however, this is significantly ignored in economic theories and applications. The gravity model literature has centred on two peculiar theories i.e. proximity-concentration hypothesis[8] and factor-proportions hypothesis[9]. Proponents of proximity-concentration argues that the firms rely on foreign penetration through exports and overseas expansion. These include capitalisation of advantages such as achievement of economies of scale and proximity to the foreign market (Krugman, 1983; Horstmann and Markusen, 1992; Brainard, 1993b, 1997). The rationale behind firms inclining towards proximity-concentration is to benefit from the lowering of transport costs and trade barriers through proximity, this justifies the broader inclination of concentration hypothesis towards market size hypothesis. On the other hand, proponents of factor-proportion hypothesis emphasise factor-intensities of different production stages i.e. diversification of activities related to capital intensive and labour intensive markets. The burgeoning reason is to benefit

[5]"Distance-incentive" concept relies on the epithet that volume of trade increases owing to reduction in transport costs through production at local places than exports (Horstmann and Markusen,1992;Brainard,1993b,1997;Markusen and Venables,200)
[6]Shared version of classical gravity model introduced by de Mello-Sampayo (2007)
[7]Hua and Porell explored human geography and applied gravity model extensively.
[8]Proximity-concentration hypothesis identifies market penetration through exports and overseas expansion
[9]Factor-proportion hypothesis envisages factor intensities i.e. capital intensive and labour intensive.

from production in the labour intensive markets and to focus operations from headquarters onto capital intensive markets (Helpman, 1984; Markusen, 1984; Helpman and Krugman, 1985; Ethier and Horn, 1990). Hence, we can argue that conducive labour conditions are a major determinant of FDI inflow.

2.2 Role of Gravity Model: The existing literature on FDI determinants identifies locational choice as an attribute which contributes immensely to FDI inflow and this corroborate well with the findings in the classical gravity model. The outcomes of the gravity model vehemently support the theory of proximity concentration and internalisation. The gravity model has been very supportive in explaining the key concepts in FDI and its spatial concentration. With the advent of globalisation in emerging economies, an increasing number of MNEs are contemplating the locational choice of FDI and embracing technological advancement. The traditional theory of gravity model is still able to explain the intricate relationship between trade flow, FDI and locational choice (Helpman, 2006). One strand of the gravity model theory accommodates the proximity concentration theory and the other strand focuses on factor concentration theory, wherein the rationale behind the locational choice is to benefit from the different factor production stages; this works well in an economy which relies on technology for the production function. Factor intensities play a prominent role in factor concentration. Firms tend to exploit these factors in two ways. One is to benefit from the capital intensive factor through choice of headquarters and labour-intensive factors by focusing on plant activities (Helpman, 1984; Markusen, 1984; Helpman and Krugman, 1985; Ethier and Horn, 1990). The factor-concentration theory works very well in terms of vertical FDI. The basic premise of proximity concentration theory is the argument that location choice of FDI inflow is dependent on the higher transportation costs and trade barriers, as these lead to a decrease in economies of scale, hence, firms opt for investment in larger foreign markets in order to reap

the benefits of larger economies of scales and to minimise transportation costs. This argument supports the market size hypothesis very well. In these conditions it is imperative for the firms to capitalise on scale advantages and minimise transportation costs. The proximity concentration theory holds very well for the horizontal FDI as it is evident that most of the FDI in India is market seeking in nature. The proximity concentration theory paves the way for the agglomeration economies wherein existing MNEs encourage others to establish at a certain location (Wheeler and Mody, 1992; Head et al.,1995; Cheng and Kwan, 2000). The elimination of trade barriers and greater openness encourages cross border investments, apart from the reduction in the geographic distance, and lays a foundation for greater FDI inflows between regions within the country. The uneven distribution of FDI inflows in India is a very good example of proximity concentration, intra-regional openness and agglomerations. The theoretical underpinning of the classical gravity model emphasise that trade barriers and high transportation costs increases import prices and hence these are quite antagonistic to the FDI inflow, however, trade and FDI are considered as an alternative mode of foreign market penetration (Horst, 1972a,b; Caves, 1974; Brainard, 1977).

2.3 Conclusion: Based on the above discussion in the existing literature it can be concluded that market size, infrastructure and labour conditions are the key attributes to attract FDI inflows**.** It is imperative to acknowledge that there is a strong rationale behind selection of location for investment choice and this corroborates the literature of geographical proximity and flow of FDI. Geographic distance as a locational choice plays an imminent role in attracting MNEs. The GDP of an economy also serves as an indicator of money available for spending, and hence larger disposable incomes increases demand for goods and services (Dornbush and Fischer, 1994; Garcia, Kennedy and Ferreira, 2016). Market size as a determinant of FDI is extensively discussed in the literature. Studies conducted by Kogut and Singh (1988)

emphasises that cultural and geographical proximities affect investor behaviour along with the country of origin for location choice. The rationale behind firms inclining towards proximity-concentration is to benefit from the lowering of transport costs and trade barriers through proximity and this justifies the broader inclination of a concentration hypothesis. The burgeoning reason is to benefit from production in the labour intensive markets and to focus operations from headquarters in capital intensive markets (Helpman, 1984; Markusen, 1984; Helpman and Krugman, 1985; Ethier and Horn, 1990). Hence, it can be reiterated that market size, infrastructure and labour conditions are key attributes in the spatial distribution of FDI inflow and this is established in the existing literature and serves as a precursor for addressing key attributes in the current context with a holistic perspective.

SECTION 3-METHODOLOGY

3.1 Research Philosophy: It is imperative to acknowledge that the assumptions related to the ontology affect the researcher's view and individual perception. Epistemology is derived from the ontology and emphasise on theory of knowledge, its nature, and limits (Blackburn, 1996). A researcher's ontological viewpoint forms the epistemological beliefs in relation to the understanding and knowing of reality. From the standpoint of metaphysics reality is considered as concrete and objective.(Bisman, 2010). Proponents of positivism believe that it is a highly objective view of a common single reality and positivists believe that anything that is perceived through the senses are treated as real (Sarantakos, 2005), hence we can argue that reality is an externality independent of human thought and perception (Guba and Lincoln, 1998).Positivist requirements from the perspective of methodology focus on universal principles and generalisability through the application of quantitative methodology, hence, the accuracy and usefulness of theories are judged based on the capacity to explain and predict a phenomenon. Positivist argue that human behaviours can be reduced to the state of generalised laws embodying cause and effect relationship to explain the phenomenon and employs rigorous empirical validation through statistical analysis to confirm and test hypothesis. Hence, the

research philosophical underpinned in this chapter includes statistical test of hypothesis in congruence with the discussion involved in Chapter-1.

3.2 Contextual Background: The CII classifies the states in India into 5 regions (North, West, South, East and North East). India consists of 29 States (Administered by State Government). The CII classifies the states and union territories in India into 5 regions. The North region of India includes 7 states (Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh and Uttarakhand). The South Region comprises of 5 States (Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Telangana). The East region consists of 5 States (Bihar, Jharkhand, Odisha, West Bengal, Chhattisgarh).The West region encompasses 4 States (Goa, Gujarat, Maharashtra and Madhya Pradesh). The North east region covers 8 States (Arunachal-Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura). Department of Industrial Planning and Promotion (DIPP) provide FDI statistics and this data is widely used by the Academics researching on Foreign Direct Investments (FDI) in India.

3.3 Data Collection: The FDI data available on the Department for Industrial Planning and Promotion (DIPP) exist in PDF format and this file is converted into excel format and thereby data of each year is collected and collated manually to bring heterogeneity in the data. The data of State-wise Total Population (POP_TOTAL), State-wise Population-Rural Area (POP_RURAL), State-wise Population-Urban Area (POP_URBAN), State-wise Population Density (POP_DENSITY), State-wise Literacy Rate (LIT_RATE), State-wise Power Requirement (POW_REQUIREMENT), State-wise Per Capita Availability of Power (POW_REQUIREMENT), State-wise Railway Route (RAIL_ROUTE), State-wise Unemployment Rate-Rural (UNEMPLOYMENT_RURAL), State-wise Unemployment Rate-Urban (UNEMPLOYMENT_URBAN), Cumulative Flow of FDI (FDI_INFLOW),

Geographic Distance (GEO_DISTANCE) are taken from the HandBook of Statistics on Indian States official database available on Reserve Bank of India (RBI). The FDI data available on the Department for Industrial Planning and Promotion (DIPP) exist in PDF format and these files converted into excel format and thereby consolidated cumulative data of FDI since 2000 until 2011 is collected and collated manually to bring heterogeneity in the data. The limitation with the data due to the census of India conducted in a considerable gap of every decade is a challenging task, however, the empirical techniques chosen in the model i.e. Limited Information Maximum Likelihood (LIML) statistical technique duly addresses problems with the selection of a small sample and presence of weak instruments. The application of LIML instruments works very well with the sustained reforms carried by India after the liberalization of economy in 1991, and this really works well in terms of stability in economic reforms and the sustained growth of economy over a period. Thus, we can conclude that LIML is a befitting choice in explaining the weak instruments and for sustained economies such as India it exclusively addresses the spatial attributes responsible for attracting FDI inflow.

3.4 Econometric Approach: The econometric approach includes an application of Limited Information Maximum Likelihood (LIML) regression**.** The dependent variable is LOG_FDI and the independent variables which have been selected to investigate are LOG_GEO_DISTANCE,LOG_POP_DENSITY,LOG_POW_REQUIREMENT, LITERACY RATE (LIT_RATE) and GEO_DISTANCE and subsequent LIT_RATE. Studies conducted by Borenstein et al. (1998) indicates endogeneity problem arises due to the lack of ideal instruments and at this juncture application of Instrument Variables (IV) can address problems of endogeneity. In order to address the weak instruments a naïve effort is made to apply limited-information maximum likelihood (LIML) estimation in line with the theoretical underpinnings on weak instruments (see Stock and Yogo, 2002; Hahn and Hausman, 2005). The rationale behind the application of LIML instruments works very well with the sustained reforms carried

by India after the liberalization of economy in 1991, and this really works well in terms of stability in economic reforms and the sustained growth of economy over a period of time. Hence, we can argue that unlike "shock therapy" applied elsewhere, Indian scenario presents a stable economic growth after liberalization and hence the effects of them are easily quantified.The consistent time variation over a period of time is conducive to control for any unobserved effect and hence paves a way for robust results. Two Stage Least Squares (2SLS) is a precursor to identify strength of the instruments, however, weak instruments render robustness of 2SLS. Studies of Stock and Yogo (2002) highlight LIML method far superior to 2SLS in the presence of weak instruments. An effort is made in this Chapter to apply the LIML model to the weak instruments.

3.5 Variable Description: The Department for Industrial Planning and Promotion (DIPP) provides comprehensive data related to FDI on its official website. FDI_inflow data obtained from DIPP is cumulative and it does take account from 2000 until 2011. The data thus collected accounts for year 2011 and has a sample size of a year. Population Density and GSDP_Services and GSDP-Manufacturing are taken as proxies to represent market size. These data are collected from the official statistic published on the Central Bank i.e. The Reserve Bank of India's Handbook of Statistics on Indian States official database available on Reserve Bank of India (RBI).The sample period of 2011 has been chosen in line with limitations associated with the available data Census. The Census data is reported by the Office of the Registrar General and Census Commissioner, India and the latest data of the recent census is available until 2011. Census in India is conducted every 10 years and the next Census is schedule in 2021.The final breakdown of variables is presented in Table-3.1.

Table 3.1: Summary of Variables and Denotations

SL No	VARIABLES	DENOTATION
1	STATE-WISE TOTAL POPULATION ('1000)	(POP_TOTAL)
2	STATE-WISE POPULATION-RURAL AREA ('1000)	(POP_RURAL)
3	STATE-WISE POPULATION-URBAN AREA ('1000)	(POP_URBAN)
4	STATE-WISE POPULATION DENSITY (Per Square Km)	(POP_DENSITY)
5	STATE-WISE LITERACY RATE (Percent)	(LIT_RATE)
6	STATE-WISE POWER REQUIREMENT (Net Million Units)	(POW_REQUIREMENT)
7	STATE-WISE PER CAPITA AVAILABILITY OF POWER (Kilowatt-Hour)	(PER CAPITA_POWER)
8	STATE-WISE RAILWAY ROUTE (Kms)	(RAIL_ROUTE)
9	STATE-WISE UNEMPLOYMENT RATE (Rural Male-Per 1000)	(UNEMPLOYMENT_RURAL)
10	STATE-WISE UNEMPLOYMENT RATE (Urban Male-Per 1000)	(UNEMPLOYMENT_URBAN)
11	CUMULATIVE FLOW OF FDI (US$ Million)	(FDI_INFLOW)
12	GEOGRAPHIC DISTANCE (Delhi to Regions in Kilo meters)	(GEO_DISTANCE)

Notes: State-wise total population data, state-wse population (Rural area), state-wise population (urban area), state-wise literacy rate, state-wise power requirement, state-wise per capita availability of power, state-wise railway route, state-wise unemployment rate (rural male), state-wise unemployment (urban male) is obtained from Census India official website, FDI data are collected from FDI statistics published on Department for Industrial Planning and Promotion (DIPP) official website and Geographic distance from Delhi to Regions are compiled through google maps. Source: Census of India and Reserve Bank of India (compiled by author)

Table 3.2: Variable denotation, definition and sources of data

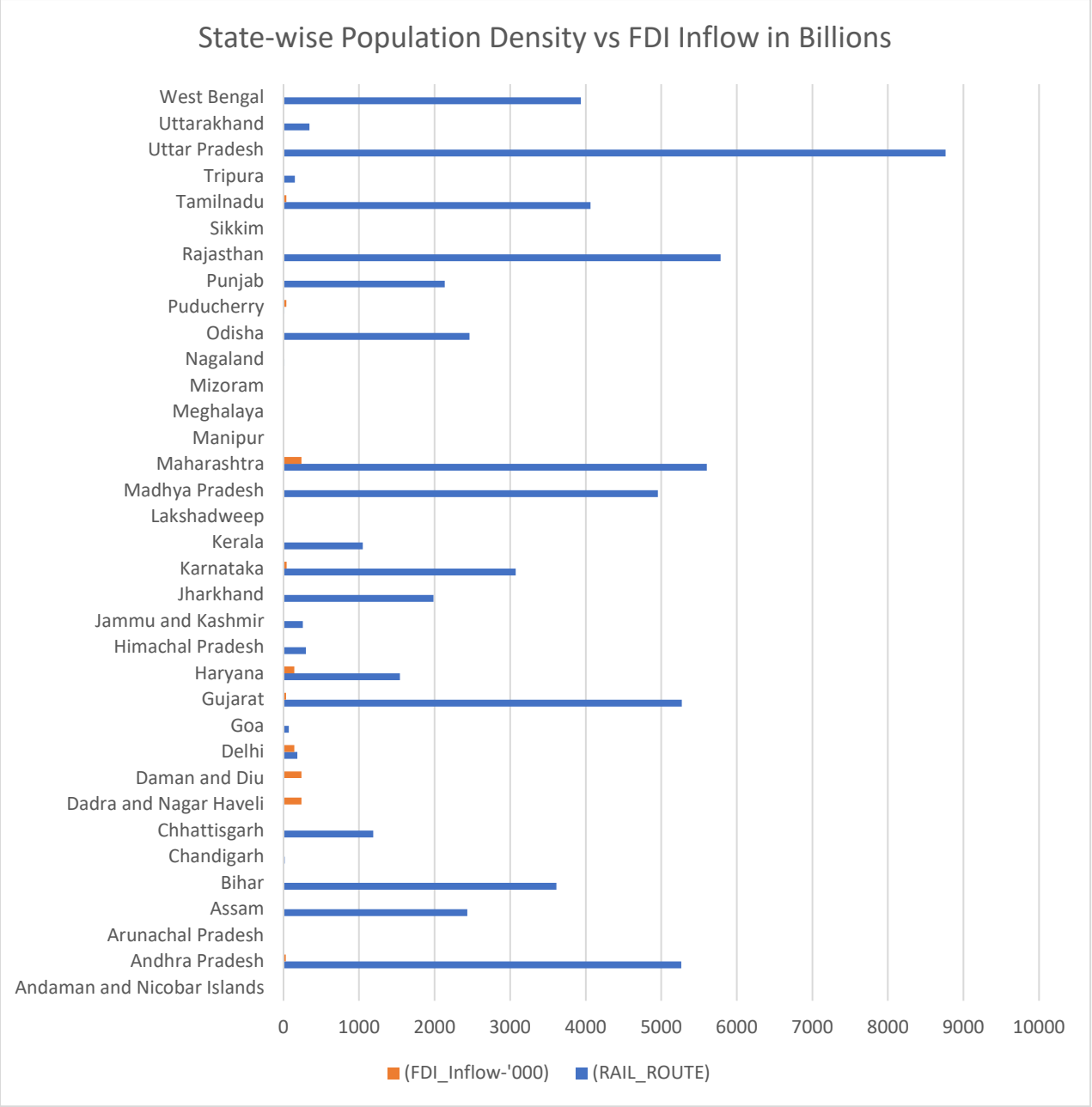
Denotation	Variable	Definition/ construct	Source
(POP_TOTAL)	STATE-WISE TOTAL POPULATION (‘1000)	The total population of states in India. Each State is being accounted for.	Official India Census data. Available on the RBI database http://censusindia.gov.in/ https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home
(POP_RURAL)	STATE-WISE POPULATION-RURAL AREA (‘1000)	The total population in the rural area of states in India. Each State is being accounted for.	Official India Census data. Available on the RBI database http://censusindia.gov.in/ https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home
(POP_URBAN)	STATE-WISE POPULATION-URBAN AREA (‘1000)	The total population in the urban area of states in India. Each State is being accounted for	Official India Census data. Available on the RBI database http://censusindia.gov.in/ https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home
(POP_DENSITY)	STATE-WISE POPULATION DENSITY (Per Square Km)	The number of people per square kilometer.	Official India Census data. Available on the RBI database http://censusindia.gov.in/ https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home
(LIT_RATE)	STATE-WISE LITERACY RATE (Percent)	This percentage of people relative to the population who are literate	Official India Census data. Available on the RBI database http://censusindia.gov.in/ https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home

(POW_REQUIREMENT)	STATE-WISE POWER REQUIREMENT (Net Million Units)	Availability of power in Net Million Units in each state of India.	Official India Census data. Available on the RBI database http://censusindia.gov.in/ https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home
(PER CAPITA_POWER)	STATE-WISE PER CAPITA AVAILABILITY OF POWER (Kilowatt-Hour)	Availability of power in Kilowatt per hour available per person in states of India	Official India Census data. Available on the RBI database http://censusindia.gov.in/ https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home
(RAIL_ROUTE)	STATE-WISE RAILWAY ROUTE (Kms)	Railway route in Kilometers available for each state in India.	Official India Census data. Available on the RBI database http://censusindia.gov.in/ https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home
(UNEMPLOYMENT_RURAL)	STATE-WISE UNEMPLOYMENT RATE (Rural Male-Per 1000)	Unemployment rate expressed in percentage and represents rate per 100 males in rural areas of each state.	Official India Census data. Available on the RBI database http://censusindia.gov.in/ https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home
(UNEMPLOYMENT_URBAN)	STATE-WISE UNEMPLOYMENT RATE (Urban Male-Per 1000)	Unemployment rate expressed in percentage and represents rate per 100 males in urban areas of each state.	Official India Census data. Available on the RBI database http://censusindia.gov.in/ https://dbie.rbi.org.in/DBIE/dbie.rbi?site=home
(FDI_INFLOW)	CUMULATIVE FLOW OF FDI (US$ Million)	FDI flow cumulative from year 2000 onwards.	DIPP Official Website. https://dipp.gov.in/publications/fdi-statistics
(GEO_DISTANCE)	GEOGRAPHIC DISTANCE (Delhi to Regions in Kilo meters)	Distance in Kilometers from Delhi to regions in Kilometers. The Headquarters of RBI are located in Delhi.	Official Website Google Maps. https://www.google.co.uk/maps/

Notes: State-wise total population data, state-wse population (Rural area), state-wise population (urban area), state-wise literacy rate, state-wise power requirement, state-wise per capita availability of power, state-wise railway route, state-wise unemployment rate (rural male), state-wise unemployment (urban male) is obtained from Census India official website, FDI data is collected from FDI statistics published on Department for Industrial Planning nd Promotion (DIPP) official website and Geographic distance from Delhi to Regions are compiled through google maps.Source: Census of India and Reserve Bank of India databook (compiled by author)

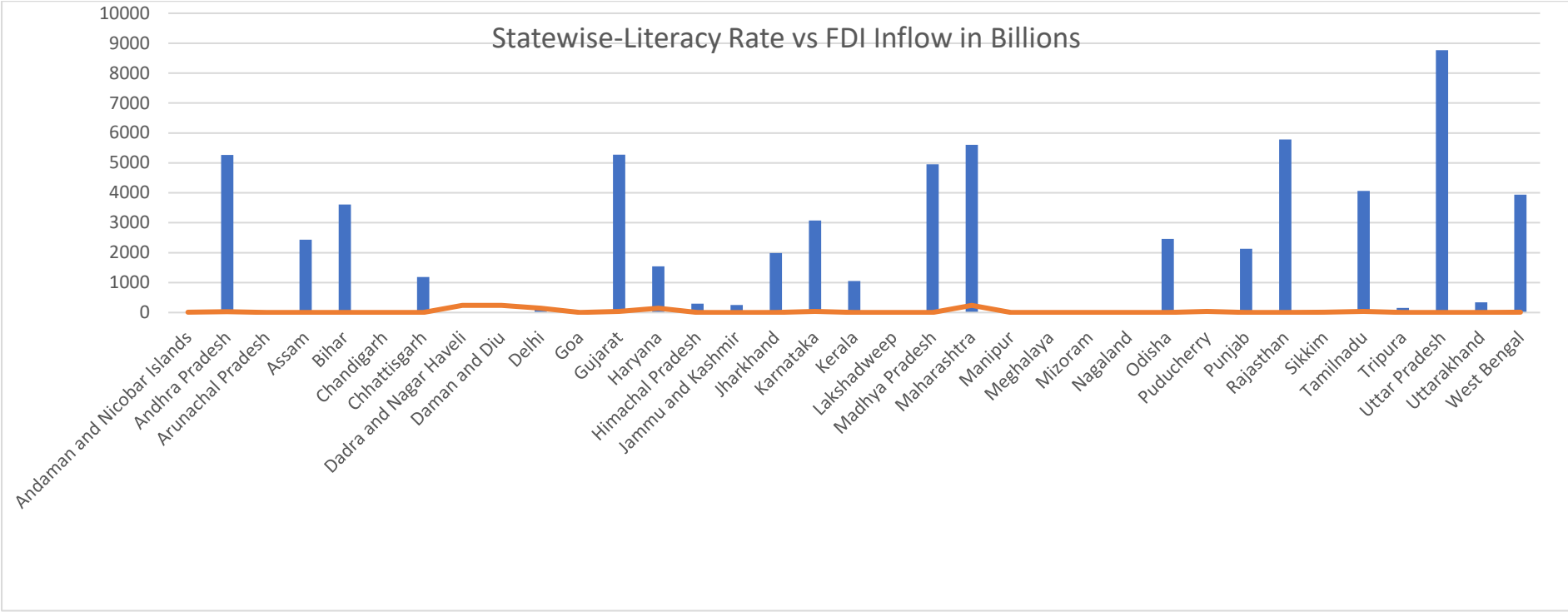
The below figure represents the state-wise population density and FDI inflow.

Graph. 01-State-wise Population Density vs FDI Inflow (Billions)



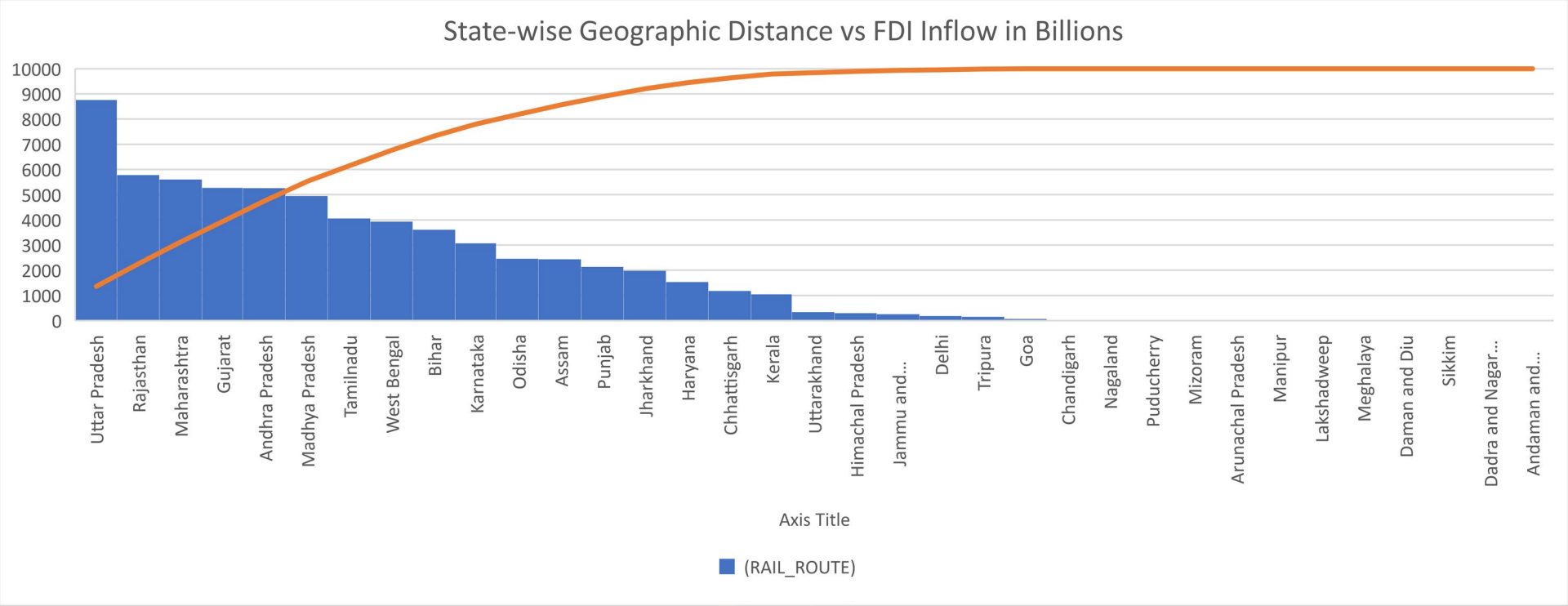
Source: Compiled by author

Graph..02-State-wise Literacy Rate vs FDI Inflow (Billions)



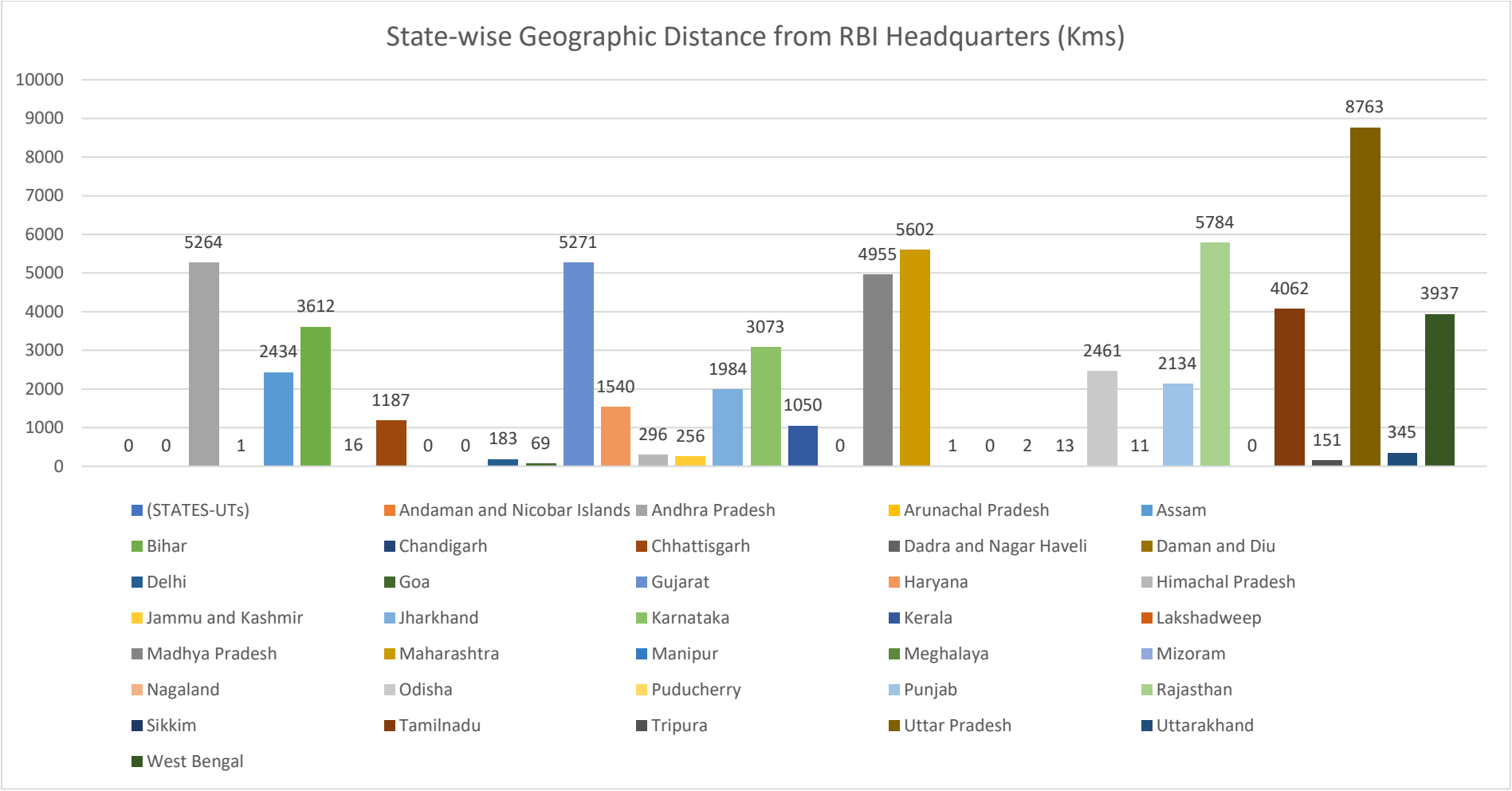
Source: Compiled by author

Graph.03-State-wise Geographic Distance vs FDI Inflow (Billions)



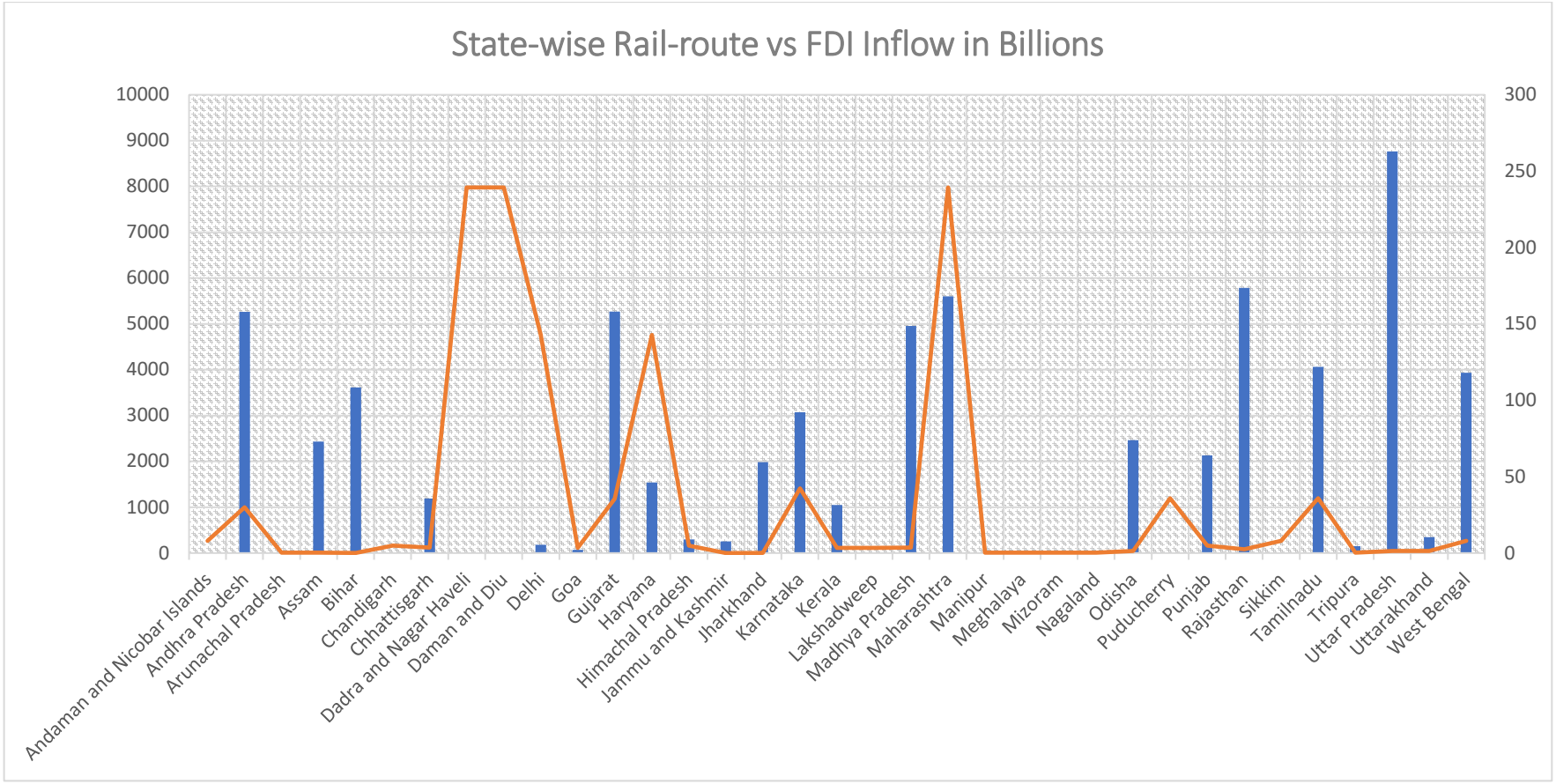
Source: Compiled by author

Graph.04-State-wise Geographic Distance from RBI Headquarters (Kilometres)



Source: Compiled by author

Graph.05-State-wise Geographic Distance from RBI Headquarters (Kilometres)



Source: Compiled by author

3.6 Descriptive Statistics

The sample includes 213 observations for a period of 12 months in year 2011. The data of FDI inflow collected exclusively from the website of Department of Industrial Planning and Promotion (DIPP) of the Government of India. The other variables are log values of Geographic Distance (LOG_GEO_DIST), Population Density (LOG_POP_DEN), Power Requirement (LOG_POW_REQ), Literacy Rate and the product of both Geographic Distance and Literacy Rate (GEO_LIT_RATE), The data of these values are collected from the data book of Reserve Bank of India (RBI)

Table 3.3 : Descriptive Statistics

				QUANTILES				
VARIABLES*	OBS	MEAN	STD.DEV.	MIN	0.25	MEDIAN	0.75	MAX
LOG_FDI_INF	35	8.52	2.49	4.09	5.77	8.17	10.49	13.48
LOG_GEO_DIST	35	6.9	1.33	0.69	6.38	7.26	7.76	7.87
LOG_POP_DEN	36	5.93	1.35	2.83	5.06	5.88	6.64	9.33
LOG_POW_REQ	36	8.99	2.21	3.61	7.46	9.41	10.77	13.75
LIT_RATE	36	77.72	8.51	61.8	71.23	76.58	85.95	94
GEO_LIT_RATE	35	537.24	127.5	59.76	466.13	546.15	621.35	740.04

*FDI inflow is the cumulative value of FDI received by India from 2000 until 2011 and it is represented in millions. Geographic distance is the distance from the Reserve Bank of India (RBI) headquarters to the state capitals expressed in Kilometers. It is compiled based on the google maps. Population density is the population of each state per square kilometer distance, Power requirement is net million. Literacy rate is the percentage of people related to the percentage who are literate. Source: Census of India and Reserve Bank of India Databook (compiled by author)

Table 3.4- The Correlation Matrix

VARIABLES *	(1)	(2)	(3)	(4)	(5)	(6)
(1) LOG_FDI_INF	1.000					
(2) LOG_GEO_DIST	-0.325	1.000				
(3) LOG_POP_DEN	0.393	-0.491	1.000			
(4) LOG_POW_REQ	0.360	-0.312	0.216	1.000		
(5) LIT_RATE	0.303	-0.012	0.254	-0.438	1.000	
(6) GEO_LIT_RATE	-0.143	0.879	-0.315	-0.472	0.463	1.000

*FDI inflow is the cumulative value of FDI received by India from 2000 until 2011 and it is represented in millions. Geographic distance is the distance from the Reserve Bank of India (RBI) headquarters to the state capitals expressed in Kilometers. It is compiled based on the google maps. Gross State Domestic product services and Gross State Domestic Product Manufacturing is taken as a percentage of GDP of each state in services and manufacturing. Population density is the population of each state per square kilometer distance, Rail route is expressed in Kilometers, Power requirement is net million units, Unemployment is per 100 male in urban and rural area. Tax revenue is taken as percentage of GSDP of each state.. Literacy rate is the percentage of people related to the percentage who are literate Source: Census of India and Reserve Bank of India databook (compiled by author)

The correlation matrix indicates that the FDI (LOG_FDI_INF) in negatively correlated to the Geographic Distance (LOG_GEO_DIST), Geographic Distance and Literacy Rate. Population Density (LOG_POP_DEN), Power Requirement (LOG_POW), Literacy Rate is positively correlated to the FDI inflow.

SECTON 4- EMPIRICAL FINDINGS

4.1 Empirical Results: The empirical analysis is based on the panel data set of 29 states for the year 2011. The Confederation of Indian Industry (CII) classifies the states and union territories in India into 5 regions (North, West, South, East and North East). India consists of 29 States (Administered by State Government). The dependent variable in this research study is log value of the total inflow of FDI (LOG_FDI). The FDI data available from the Department for Industrial Planning and Promotion (DIPP) exist in PDF format and these files are converted into Excel format and thereby consolidated cumulative data of FDI since 2000 until 2011 is collected and collated manually to bring heterogeneity in the data. The data of State-wise Total Population (POP_TOTAL), State-wise Population-Rural Area (POP_RURAL), State-wise Population-Urban Area (POP_URBAN),State-wise Population Density (POP_DENSITY), State-wise Literacy Rate (LIT_RATE), State-wise Power Requirement (POW_REQUIREMENT), State-wise Per Capita Availability of Power (POW_REQUIREMENT), State-wise Railway Route (RAIL_ROUTE), State-wise Unemployment Rate-Rural (UNEMPLOYMENT_RURAL), State-wise Unemployment Rate-Urban (UNEMPLOYMENT_URBAN), Cumulative Flow of FDI (FDI_INFLOW), Geographic Distance (GEO_DISTANCE) are taken from the Handbook of Statistics on Indian States official database available from the Reserve Bank of India (RBI).

The preliminary observations from the descriptive statistics and correlation matrix (see Table 02) indicates that FDI_INFLOW is positively correlated TO LOG_POW_REQUIREMENT, LOG_RAIL_ROUTE, LOG_POP_DENSITY and negatively correlated to the GEO_DISTANCE.

4.2 Empirical Model:

The econometric model is given below where t and i represent the time and i.ε is the random error distributed identically and independently. The dependent variable is LOG_FDI and the independent variables which have been selected to investigate are LOG_GEO_DISTANCE, LOG_POP_DENSITY,LOG_POW_REQUIREMENT, LITERACY RATE (LIT_RATE) and GEO_DISTANCE and subsequent LIT_RATE.

$$Log(FDI)_{it} = \beta_0 + \beta_1 Log(GeoDistance)_{it} + \beta_2 Log(Pop\ Density)_{it} +$$
$$\beta_3 Log(Pow\ Requirement)_{it} + \beta_4 (Literacy\ Rate)_{it} +$$
$$\beta_5 Log(GeoDistance\ x\ Literacy\ Rate)_{it} + \epsilon_{it}$$

The preliminary results also indicate that the geographic proximity acts a major determinant in attracting FDI inflow. Timberger (1962) applied the concept of Newton's Gravitational Law to measure trade flows among countries. Studies conducted by Timbergen (1962) concluded that the flow of trade between countries are directly related to their economic size and are indirectly related to the distance between them. It emphasised that the countries which are geographically proximal determine the flow of trade. Distance between the countries impacts on the flow of trades. Determinants of trade flows are discussed extensively in the literature through the modification of gravity model (Karemera et al., 1990). Lai and Zhu (2004) worked extensively on the gravity model and identified the determinants of bilateral trade. The conclusions from the work of Lai and Zhu (2004) indicated that the tariff liberalisation worked well for poor countries. The gravity model modified by Wang et al.(2010) succeeded in identifying FDI

stocks and domestic research and development. The gravity model as discussed by Morely, Rosello, and Santana Gaego (2014) emphasised the advantages of the gravity model in explaining geographical distance and source country characteristics.

Table 3.5: Limited Information Maximum Likelihood Regression (LIML-Regression)

Explained Variable (Dependent): LOG-TOTAL FDI INFLOW (LOG_FDI)

EXPLANATORY VARIABLES	LIML MODEL-1	LIML MODEL-2	LIML MODEL-3
Log(GeoDistance)	**-5.594***	**-3.973*****	-5.224
	(2.464)	(1.031)	(2.781)
Log_pop_density	**-1.871***	**-1.832****	**-1.665***
	(0.942)	(0.620)	(0.836)
Log_pow_requirement	**1.830****	**1.927*****	**1.648***
	(0.698)	(0.496)	(0.676)
Literacy_rate			
Geo_distance_literacy_rate	**0.0519***	**0.0347*****	0.0484
	(0.0239)	(0.00967)	(0.0277)
Log_tax revenue	-3.009	-1.243	-3.019
	(2.814)	(1.795)	(2.905)
Log_gsdp_services	-1.656		-1.847
	(1.714)		(1.722)
Log_unemployment_urban		0.779	0.0321
		(0.628)	(1.483)
Log_unemployment_rural			-0.486
			(1.239)
Constant	21.90	**9.249***	23.87
	(11.70)	(4.715)	(13.89)
Observations	24	26	24
R-squared	0.135	0.550	0.262

*Notes: t statistics in parentheses and *p<0.05, **p<0.01, ***p<0.001. *FDI inflow is the cumulative value of FDI received by India from 2000 until 2011 and it is represented in millions. Geographic distance is the distance from the Reserve Bank of India (RBI) headquarters to the state capitals expressed in Kilometers. It is compiled based on the google maps. Gross State Domestic product services and Gross State Domestic Product Manufacturing is taken as a percentage of GDP of each state in services and manufacturing. Population density is the population of each state per square kilometer distance, Rail route is expressed in Kilometers, Power requirement is net million units, Unemployment is per 100 male in urban and rural area. Tax revenue is taken as percentage of GSDP of each state. Literacy rate is the percentage of people related to the percentage who are literate Source: Census of India and Reserve Bank of India databook (compiled by author). Standard errors are robust to control for heteroscedasticity.*

4.3 Discussion:

An eclectic approach is being adopted to include several variables i.e. Geographic Distance (Geo-Distance), Population Density (Pop-Den), Power Requirement (Pow_req) and literacy rate (Lit-Rate) to determine the prominent attributes responsible for the location choice of MNEs; a critical review of traditional theory is adopted to explain these attributes in an emerging economy like India. The empirical findings are in line with the proximity concentration theory, wherein market size is a major attribute in determining the locational choice of FDI inflows in India.

The basic premise of proximity concentration theory is the argument that location choice of FDI inflow is dependent on the higher transportation costs and trade barriers, as these lead to a decrease in economies of scale, hence, firms opt for investing in larger foreign markets in order to reap the benefits of larger economies of scales and minimise transportation costs. This argument also supports the market size hypothesis very well. In these conditions it is imperative for the firms to capitalise on scale advantages and minimise transportation costs. Hence, we can argue that FDI inflow in India is market seeking in nature. The proximity concentration theory holds very well for the horizontal FDI as it is evident that most of the FDI in India is market seeking in nature. The proximity concentration theory paves the way for the agglomeration economies wherein existing MNEs encourage others to establish themselves at a certain location (Wheeler and Mody, 1992; Head et al., 1995; Cheng and Kwan, 2000).

Empirical results thus obtained concludes that the geographical distance plays an imminent role in FDI inflow. A decrease in geographic distance of 5.5km increases the FDI inflow by

approximately USD1Mil. This corresponds very well with the classical theory of gravity model wherein a decrease in geographical distance increases FDI inflow. The significant results at 5% and 1% of Limited Information Maximum Likelihood regression level confirms that FDI inflow is positively related to the geographic distance between regions. The coefficient of population density conveys that FDI inflows increases 1 percent on an average decrease of 1.8 square kilometre population, power requirements increases by 1.83 net million units per 1 percent increase in FDI inflow, and literacy rate and geographic distance increase by 0.05 per 1 percent increase in FDI inflow. Population density is a proxy of required labour force and power requirement as a proxy reflects infrastructural facilities conducive to attract FDI inflow from Multinational Enterprises (MNEs). Literacy rate is a proxy of quality of labour. A good quality of labour encourages MNEs to look for established economic zones. These findings are in line with the theoretical argument that trade theory emphasises volume of trade and population wherein an increase population increases the volume of trade and hence larger countries attract increasing volume of trade. GDP also indicates the size of the demand and supply of the market (Grubbert and Mutti, 1991; 2000; Brito and de Mello-Sampayo, 2004). Hence, we can argue that FDI inflow in India is market seeking in nature. The proximity concentration theory holds very well for the horizontal FDI as it is evident that most of the FDI in India is market seeking in nature. The elimination of trade barriers and greater openness encourages cross border investments apart from the reduction in the geographic distance and lays a foundation for greater FDI inflows between regions within the country. The uneven distribution of FDI inflows in India is a very good example of proximity concentration, intra-regional openness and agglomerations. The theoretical underpinning of the classical gravity model emphasises that trade barriers and high transportation costs increase import prices and hence these are quite antagonistic to the FDI inflow, however, trade and FDI are considered an alternative mode of foreign market penetration (Horst, 1972a,b; Caves, 1974; Brainard, 1977).

SECTION 5-CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion: Based on the empirical results and the overall findings, it can be argued that the FDI inflow in the Indian context exhibits geographic proximity. The uneven distribution of FDI inflows in India is a very good example of proximity concentration, intra-regional openness and agglomerations. A decrease in geographic distance of 5.5km from the regional headquarters increases the FDI inflow by approximately USD1Mil . This corresponds very well with the classical theory of gravity model wherein a decrease in geographical distance increases FDI inflow. Nonetheless, attributes governing this FDI inflow are peculiar due to the stable economic regime aftermath of the implementation of the liberalisation policies. LIML results at 5% and 1% levels confirm that FDI inflow is positively related to the geographic distance between regions. Population density, power requirement and literacy rate are significant in attracting FDI inflows. Studies conducted on determinants of FDI cite market size as a major determinant in attracting FDI inflow. Investigations in an American context indicate the existence of a positive relationship between market size and FDI inflow (Schmitz and Bieri, 1972; Cushman, 1985, 1988; Barrel and Pain, 1996; Blonigen and Davis, 2000; Goberman and Shapiro, 2002). Gross domestic product (GDP) is a proxy for market size as it captures the effect of income on FDI of the host country. An increase in GDP is directly proportional to the market size and hence reflects the demand for goods and services produced by multinational enterprise (MNEs). Geographic distance as a locational choice plays an imminent role in attracting MNEs). The quality of the labour plays a dominant role in geographical proximal regions and this can be gauged based on the literacy rate and its seminal dissemination across the regions. The findings from this research will serve as a beacon for the policy makers and make a contribution to the existing body of knowledge on the regional attributes responsible for FDI inflow.

5.2 Limitations: The empirical analysis is based on the panel data set of 29 states for the year 2011. The Confederation of Indian Industry (CII) classifies the states and union territories in India into 5 regions (North, West, South, East and North East). India consists of 29 states (administered by State Government). The dependent variable in this research study is log value of the total inflow of FDI (LOG_FDI). The FDI data available from the Department for Industrial Planning and Promotion (DIPP) exist in PDF format and these files are converted into Excel format and thereby consolidated cumulative data of FDI since 2000 until 2011 is collected and collated manually to bring heterogeneity in the data. The limitation with the data, due to the census of India conducted in a considerable gap of every decade. is a challenging task. However, the empirical techniques chosen in the model i.e. Limited Information Maximum Likelihood (LIML) statistical technique duly addresses problems with the selection of a small sample and the presence of weak instruments. The application of LIML instruments works very well with the sustained reforms carried out by India after the liberalisation of the economy in 1991, and this really works well in terms of stability in economic reforms and the sustained growth of economy over a period. Thus, we can conclude that LIML is a befitting choice in explaining the weak instruments and for sustained economies such as India, as it exclusively addresses the spatial attributes responsible for attracting FDI inflow.

The findings of Chapter-3 contribute to the existing literature on emerging markets and the pivotal role played by the gravity model in explaining the rationale behind the locational choice of Multinational Enterprises (MNEs).The application of LIML instruments works very well

with the sustained reforms carried by India after the liberalisation of economy in 1991, and this really works well in terms of stability in economic reforms and the sustained growth of economy over a period of time. Thus, we can conclude that LIML is a befitting choice in explaining the weak instruments and for sustained economies such as India it exclusively address the spatial attributes responsible for attracting FDI inflow and are in sync with the studies carried out on the American context wherein the existence of positive relationship between market size and FDI inflow (Schmitz and Bieri, 1972; Cushman, 1985, 1988; Barrel and Pain, 1996;Blonigen and Davis, 2000; Goberman and Shapiro, 2002). An increase in GDP directly proportion to the market size and hence reflect the demand for goods and services produced by multinational enterprise (MNEs). Geographic distance as a locational choice plays an imminent role in attracting Multinational Enterprises (MNEs). The quality of the labour plays a dominant role in geographical proximal regions and this can be gauged based on the literacy rate and its seminal dissemination across the regions. The findings from this research will serve as a beacon for the policy makers and a contribution to the existing body of knowledge on the regional attributes responsible for the FDI inflow.

The findings from Chapter-3 can be gneralised in terms of locational choice as a determinant in FDI inflow. Distinctiveness in selection of location seems to be a recurring trait in FDI inflow from certain countries. Investigations by He (2003) reveals that Japanese investors' prefer port cities whereas European and American and Taiwanese prefer local market; however, investors from Hong Kong seems to be wary of geographical and cultural proximities. The spatial concentration of FDI flows in Chinese context reflect uniqueness in choice of location. Whilst Japanese prefer northeast region to gain geographic and cultural advantage, American and Europeans prefer regions with high labour productivity and agglomerated bases (Zhao and Zhu,2000; Cheng and Stough,2006). Hence, we can argue that the proximity concentration plays a pivotal role in the locational choice of FDI .

5.3 Recommendations for Policy Makers: The quest for FDI inflow in India has been an integral part of national policy agenda and this policy is being framed by the New Economic Policy of 1991 (Jatindar et al., 2011). FDI in India is aimed at integrating its economy with that of the world economy. The significant increase in FDI in almost all sectors of the economy makes it interesting to determine the benefits of spillovers across the regions. FDI also contributes to highlighting the less developed regions and thereby aids in providing recommendations to the policy makers. The onus of bringing liberal economic reforms is to boost the economic growth of India from the current restricted access to a worldwide centre of attraction for new investments. FDI brought in India through liberal economic reforms had an impact on socio-spatial groups (Tsai, 1995). Ranjan and Agarwal (2011) through BRIC economies from 1975 to 2009 revealed that market size is a significant determinant of FDI. Additional studies by Kumar (2002), Banga (2003), Goldar (2007), Nunnenkamp and Stracke (2007), and Dhingra and Sidhu (2011) also supports that in a context like India market size is a key determinant of FDI inflow. It is imperative to acknowledge that FDI encourages industrial sectors to form linkages in specific geographic locations and aids in enhancing firm capabilities through the diffusion of technology. Hence, policy makers must ensure the encouragement of sectors which are beneficial to the economy based on the geographic locations. For instance, the North East of India is abundant with natural resources whereas the North of India is a major manufacturing hub, and South of India is an IT hub, these geographic locations thereby could benefit immensely from sector specific FDI inflows. Proactive regional development policies could be immensely helpful in encouraging less developed regions, and at this juncture establishment of Special Economic Zones could serve as a viable solution for the expansion of regional development.

5.4 Recommendations for the Central Bank i.e. Reserve Bank of India:

With the advent of globalisation in emerging economies, an increasing number of MNEs are contemplating the locational choice of FDI and embracing technological advancement. From the perspectives of the gravity model, the rationale behind the locational choice is to benefit from the different factor production stages; this work is very much in an economy which relies on technology for production. The factor intensities play a prominent role in factor concentration. Firms tend to exploit these factors in two ways. One way is to benefit from capital intensive factor through choice of headquarters and labour-intensive factors by focusing on plant activities (Helpman, 1984; Markusen, 1984; Helpman and Krugman, 1985; Ethier and Horn, 1990). The factor-concentration theory works very well in terms of vertical FDI. India provides a great platform for vertical FDI wherein MNEs can fragment the production process in order to benefit from economies of scale. Apart from this, an element of horizontal FDI can be addressed as well. The choice of FDI inflow is dependent on higher transportation costs and trade barriers as these lead to a decrease in economies of scale, hence, firms opt for investing in larger foreign markets in order to reap the benefits of larger economies of scales and minimise transportation costs. This argument also supports the market size hypothesis very well. In these conditions firms can capitalise on scale advantages and minimise transportation costs. The proximity concentration theory holds very well for the horizontal FDI as it is evident that most of the FDI in India is market seeking in nature. It is recommended that RBI should promote industries which are included in both horizontal and vertical FDI through approval routes i.e. automatic routes and government routes. The Reserve Bank of India can exercise its regulatory and approval authority to encourage entry routes of both horizontal and vertical FDI for the holistic development of the Indian economy.

5.5 Avenues of further research

FDI inflow and regional attributes have limitations due to the availability of data of FDI inflow received by individual states in India, however, this also opens up avenues of further research on the country of origin of FDI and the regional impact of these FDI regions in India. The country of origin as a variable can be introduced to conduct a robustness test. The data obtained on the FDI origin of investing countries from Bloomberg Database can be very useful in conducting the Instrumental Variables regression. It is inferred that countries with the FDI prefer a locational choice which exhibits population density due to the ease of access in the availability of required manpower. The negative correlation with the geographic distance also supports the theory of gravity model i.e. the FDI increases from the countries which are geographically proximal with the location. For instance, India attracts maximum FDI from Mauritius as a destination and it is geographically very close to India. Studies conducted by Timbergen (1962) concluded that the flow of trade between countries is directly related to the economic size and indirectly related to the distance between them. It emphasised that the countries which are geographically proximal determine the flow of trade.

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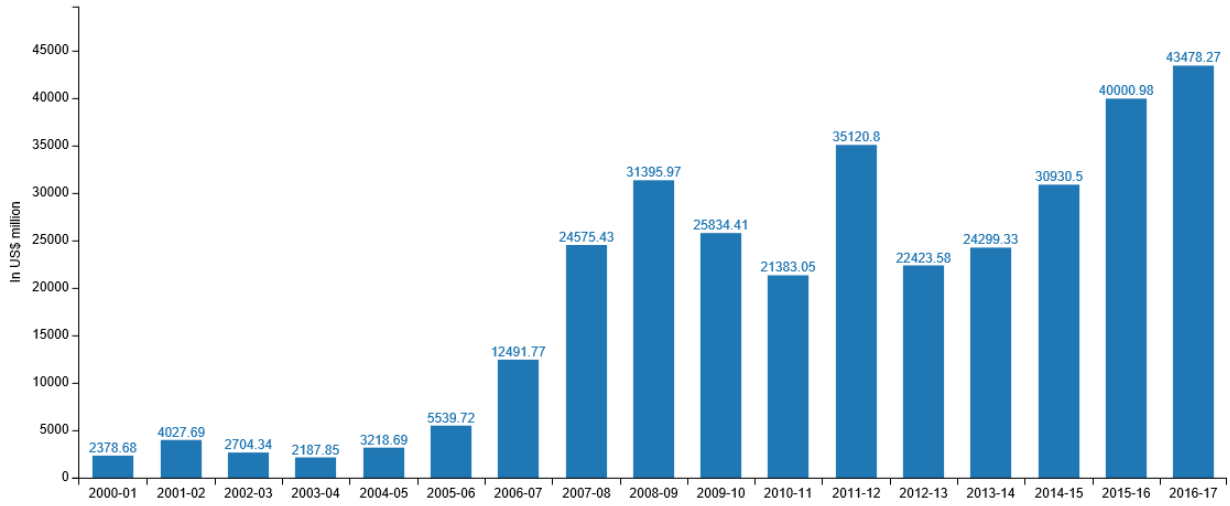
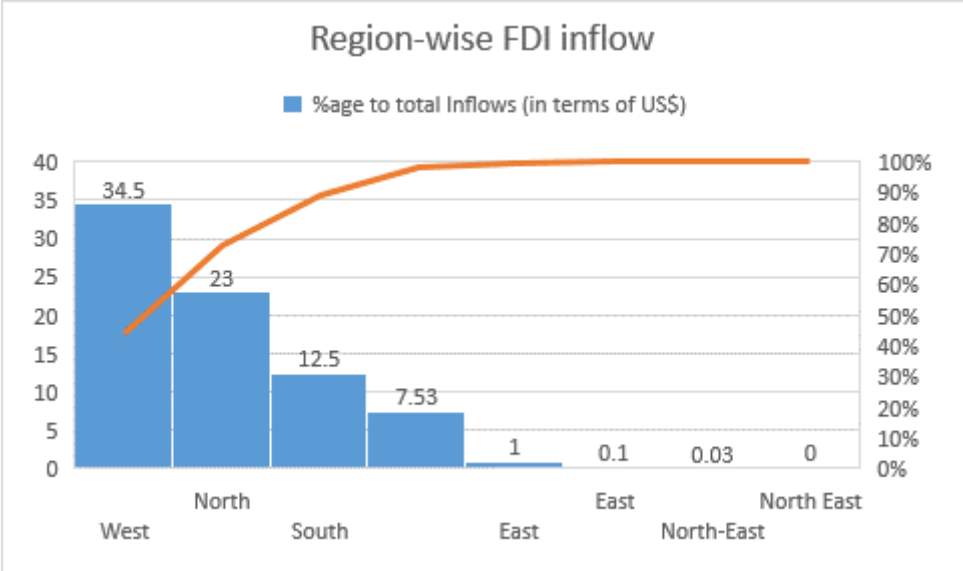
5.0 Appendices:

Graph.01- FDI Equity Inflows (2000-01 to 2016-17)



Source: Official Website-Government of India (www.data.gov.in)

Graph.02 : Pareto chart-Region-wise FDI inflow



Source: Created by author.

Table 01. Region-wise classification of States and Union Territories

Sl No	Region	Category	States
1	North	State	Haryana
		State	Himachal Pradesh
		State	Jammu and Kashmir
		State	Punjab
		State	Rajasthan
		State	Uttar Pradesh
		State	Uttarakhand
		State/Union Territory	Chandigarh
		State/Union Territory	Delhi
2	West	State	Goa
		State	Gujarat
		State	Maharashtra
		State	Madhya Pradesh
		Union Territory	Dadra-Nagar Haveli
		Union Territory	Daman and Diu
3	South	State	Andhra Pradesh
		State	Karnataka
		State	Kerala
		State	Tamil Nadu
		State	Telangana
		Union Territory	Puducherry
4	East	State	Bihar
		State	Jharkhand
		State	Odisha
		State	West Bengal
		Union Territory	Andaman
		State	Chhattisgarh
5	North East	State	Arunachal Pradesh
		State	Assam
		State	Manipur
		State	Meghalaya
		State	Mizoram
		State	Nagaland
		State	Sikkim
		State	Tripura

Source: Created by author.

Table 02. Region-wise cumulative FDI Equity Inflows (April 2000-December 2015)

Region-wise cumulative FDI Equity Inflows (April 2000-December 2015)					
S. No.	***RBI's - Regional Office2***	***State covered***	***Region***	***Cumulative Inflows (April '00 - December '15)***	***%age to total Inflows (in terms of US$)***
1	MUMBAI	**MAHARASHTRA, DADRA and NAGAR HAVELI, DAMAN and DIU**	**West**	386,778 **-78,334**	29
2	NEW DELHI	**DELHI, PART OF UP AND HARYANA**	**North**	318,153 **-60,056**	22
3	CHENNAI	**TAMIL NADU, PONDICHERRY**	**South**	116,790 **-21,282**	8
4	BANGALORE	**KARNATAKA**		104,004 **-19,516**	7
5	AHMEDABAD	**GUJARAT**	**West**	63,304 **-12,518**	5
6	HYDERABAD	**ANDHRA PRADESH**	**South**	54,291 **-10,798**	4

7	KOLKATA	**WEST BENGAL,**	**East**	20,386	1
		SIKKIM,	**North East**	**-3,867**	
		ANDAMAN and	**East**		
		NICOBAR			
		ISLANDS			
8	CHANDIGARH	**CHANDIGARH,**	**North**	6,509	0.5
		PUNJAB,		**-1,354**	
		HARYANA,			
		HIMACHAL			
		PRADESH			
9	JAIPUR	**RAJASTHAN**	**North**	7,063	0.5
				(1,306**)**	
10.	KOCHI	**KERALA,**	**South**	6,617	0.5
		LAKSHADWEEP		**(**1,283**)**	
11	BHOPAL	**MADHYA**	**West**	6,461	0.5
		PRADESH,		**(**1,273**)**	
		CHATTISGARH	**East**		
12	PANAJI	**GOA**		3,984	0.3
				(841**)**	
13	KANPUR	**UTTAR**		2,876	0.2
		PRADESH,UTTRANCHAL		**(**549**)**	
14	BHUBANESHWAR	**ORISSA**	**East**	1,995	0.1

				(403**)**	
15	PATNA	**BIHAR,**		538	0.03
		JHARKHAND		**(**93**)**	
16	GUWAHATI	**ASSAM,**	**North-**	423	0.03
		ARUNACHAL	**East**	**(**90**)**	
		PRADESH,			
		MANIPUR,			
		MEGHALAYA,			
		MIZORAM,			
		NAGALAND,			
		TRIPURA			
17	JAMMU	**JAMMU and**	**North**	26	0.00
		KASHMIR		(4)	
18	REGION NOT INDICATED			323,871	23
				(64,390**)**	
SUB. TOTAL				**1,424,067**	
				-277,954	
19	**RBI'S-NRI SCHEMES**			533	-
	(from 2000 to 2002)			**(121)**	
GRAND TOTAL				**1,424,600**	**-**
				-278,076	

Source: FDI Statistics, Department of Industrial Planning and Promotion (DIPP)-2016

Table 03. Sector-wise FDI Equity Inflows from April 2000-December 2015

Sl.No	*Sector*	*Amount of FDI Inflows*		*%age of Total Inflows*
		(In Rs crore)	*(In US$ million)*	
1	SERVICES SECTOR	240,569.48	48,160.88	17.33
2	CONSTRUCTION DEVELOPMENT: Townships, housing, built-up infrastructure and construction-development projects	113,882.02	24,179.86	8.70
3	COMPUTER SOFTWARE and HARDWARE	108,136.16	20,419.28	7.35
4	TELECOMMUNICATIONS	91,027.32	18,129.83	6.52
5	AUTOMOBILE INDUSTRY	76,361.60	14,318.27	5.15
6	DRUGS and PHARMACEUTICALS	67,388.74	13,446.82	4.84
7	CHEMICALS (OTHER THAN FERTILIZERS)	57,719.75	11,627.74	4.18
8	TRADING	61,225.16	10,743.85	3.87
9	POWER	51,145.64	10,257.68	3.69

10	HOTEL and TOURISM	47,093.92	8,839.42	3.18
11	METALLURGICAL INDUSTRIES	42,740.62	8,788.59	3.16
12	CONSTRUCTION (INFRASTRUCTURE) ACTIVITIES	42,109.96	7,099.32	2.55
13	FOOD PROCESSING INDUSTRIES	39,453.72	6,695.26	2.41
14	PETROLEUM and NATURAL GAS	32,419.99	6,640.13	2.39
15	INFORMATION and BROADCASTING (INCLUDING PRINT MEDIA)	23,457.87	4,553.98	1.64
16	NON-CONVENTIONAL ENERGY	22,830.26	4,185.25	1.51
17	ELECTRICAL EQUIPMENTS	20,591.73	4,147.65	1.49
18	INDUSTRIAL MACHINERY	20,555.43	3,844.74	1.38
19	HOSPITAL and DIAGNOSTIC CENTRES	18,553.88	3,409.56	1.23
20	CONSULTANCY SERVICES	16,877.77	3,246.50	1.17
21	CEMENT AND GYPSUM PRODUCTS	14,725.14	3,101.44	1.12
22	MISCELLANEOUS MECHANICAL and ENGINEERING INDUSTRIES	14,676.49	2,993.45	1.08
23	FERMENTATION INDUSTRIES	12,814.53	2,365.15	0.85
24	MINING	12,022.36	2,215.41	0.80

25	RUBBER GOODS	11,417.48	2,031.52	0.73
26	SEA TRANSPORT	9,754.39	1,876.51	0.68
27	AGRICULTURE SERVICES	9,235.50	1,838.37	0.66
28	TEXTILES (INCLUDING DYED,PRINTED)	9,325.06	1,810.16	0.65
29	PORTS	6,730.91	1,637.30	0.59
30	ELECTRONICS	8,072.18	1,621.49	0.58
31	PRIME MOVER (OTHER THAN ELECTRICAL GENERATORS)	7,657.45	1,413.02	0.51
32	EDUCATION	6,554.10	1,209.40	0.44
33	SOAPS, COSMETICS and TOILET PREPARATIONS	6,055.01	1,106.72	0.40
34	PAPER AND PULP (INCLUDING PAPER PRODUCTS)	5,455.44	1,087.39	0.39
35	MEDICAL AND SURGICAL APPLIANCES	5,556.64	1,035.99	0.37
36	MACHINE TOOLS	4,310.21	832.51	0.30
37	DIAMOND,GOLD ORNAMENTS	4,044.05	751.37	0.27
38	CERAMICS	3,594.90	741.37	0.27
39	RAILWAY RELATED COMPONENTS	3,886.05	705.07	0.25
40	AIR TRANSPORT (INCLUDING AIR FREIGHT)	3,041.98	612.53	0.22

41	VEGETABLE OILS AND VANASPATI	3,154.77	587.48	0.21
42	PRINTING OF BOOKS (INCLUDING LITHO PRINTING INDUSTRY)	3,047.16	557.69	0.20
43	FERTILIZERS	2,993.00	554.83	0.20
44	GLASS	2,534.77	486.60	0.18
45	RETAIL TRADING	2,746.83	459.64	0.17
46	AGRICULTURAL MACHINERY	2,184.74	422.96	0.15
47	COMMERCIAL, OFFICE and HOUSEHOLD EQUIPMENTS	1,560.86	316.15	0.11
48	EARTH-MOVING MACHINERY	1,613.78	309.74	0.11
49	SUGAR	1,110.62	188.51	0.07
50	SCIENTIFIC INSTRUMENTS	977.20	174.50	0.06
51	LEATHER,LEATHER GOODS AND PICKERS	828.12	156.73	0.06
52	TIMBER PRODUCTS	789.11	140.19	0.05
53	BOILERS AND STEAM GENERATING PLANTS	804.93	138.51	0.05
54	TEA AND COFFEE (PROCESSING andWAREHOUSING COFFEE and RUBBER)	505.49	109.62	0.04
55	DYE-STUFFS	438.88	77.71	0.03

56	INDUSTRIAL INSTRUMENTS	361.16	74.94	0.03
57	PHOTOGRAPHIC RAW FILM AND PAPER	273.76	67.29	0.02
58	GLUE AND GELATIN	209.70	37.51	0.01
59	COAL PRODUCTION	119.19	27.73	0.01
60	MATHEMATICAL,SURVEYING AND DRAWING INSTRUMENTS	39.80	7.98	0.00
61	DEFENCE INDUSTRIES	24.84	5.02	0.00
62	COIR	22.05	4.07	0.00
63	MISCELLANEOUS INDUSTRIES	44,655.60	9,328.09	3.36
	Sub Total	**1,424,067.24**	**277,954.25**	
64	**RBI's- NRI Schemes (2000-2002)**	**533.06**	**121.33**	
Grand Total		**1,424,600.30**	**278,075.58**	

Source: FDI Statistics, DIPP

Note: Amount in Indian National Rupee (INR) Crores (USD $ in Million)

Services Sectors includes Financial, Banking, Insurance, Non-Financial/Business, Outsourcing, RandD,Courier, Tech, Testing and Analysis