



Agglomeration Effect and the Regional Inflows of FDI

Dr. Manjari Chattopadhyay¹

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Abstract: The present paper attempts to find out the role of the regional characteristics (stereotypes) in causing the regional disparities in the FDI Inflows in India. To this end, we assume a functional relationship between the state-specific FDI inflows and the state-specific set of explanatory variables (X). We then estimate the proposed relationship in a panel-type framework. Although the coefficients show the desired signs, all are not statistically significant at the desired level; the per-capita stock of FDI at the state level comes out to be the most important variable influencing the inflows. This is a finding in line with the recent studies involving regional distribution of FDI inflows which show that regions with higher average level of FDI stocks are more likely to attract further investments-an effect which is known as the *agglomeration* effect in the literature. Statistical results from several studies focusing on developing economies strongly buttress the argument that foreign investors are inclined to favour such locations that could minimize information costs and offer a variety of agglomeration economies.

Keywords: FDI Inflows, Agglomeration Effect, Random Effect model

¹ Assistant Professor, Chandrapur College (Affiliated to the University of Burdwan, West Bengal)



I. Introduction

According to the International Monetary Fund (IMF), Foreign Direct Investment (FDI), a recent buzzword of trade policy, is a concept applied to *such investments as are made with the objective of acquiring long-term interest from enterprises operating beyond the bounds of the investor's economy*. The investment is direct insofar as the prospective investor, whether an individual or a company or group of entities, seeks to control, manage, or have significant influence over the foreign enterprise. FDI is a major source of external finance to the host countries, which means that countries with limited capital resources can garner finances from wealthier countries from across the national borders.

FDI comes with fewer conditions for the receiving country than other forms of foreign investments like foreign collaboration, inter-government loans and loans from international institutions etc. and has thus played a special role in the context of stabilization of the Asian financial crisis of 1997-98 (Cho, 2003). Also, it has played an important role in the process of globalization during the past two decades. The rapid expansion in FDI by multinational enterprises since the mid-eighties has helped enhance the productivity and income growth of the host countries by providing access to superior technologies and management expertise at the macro level (OECD, 2002); at the micro level it has been a source of non-debt-creating external finances. While domestic investments add to the capital stock in an economy, FDI plays a complementary role in the overall capital formation and thus supports in filling the gap between domestic savings and investment. In the backdrop of the ongoing process of global integration, controls and restrictions over the entry and operations of foreign firms are thus, gradually being replaced by selective policies aimed at FDI inflows, like incentives, both fiscal and in kind (Banga, 2003).

FDI inflows in India have been rising steadily since the 1990's. As per the IMF's Global Financial Stability Report, April 2012, India has emerged as one of the major beneficiaries of FDI flows among the emerging market economies in the last few years². However, as for the distribution of

total FDI inflows within the country, these have been found to be heavily concentrated, selectively in a few states (Basu, 2005), (Purfield, 2006), (Mukim & Nunnenkamp, 2012). The liberal policy measures have in fact intensified the competition among the states for bringing in more FDIs. This has spawned a sort of *locational tournaments*, in which the states find themselves locked in stiff competitions for the largest chunk, and naturally adopt various incentive devices like the offering of land and public utilities at subsidized prices, to outsmart one another. The result of the game obviously depends on the bargaining capacity of the players, but no less on their ability, or necessity as well, to cooperate with each other for keeping the competition as far as possible on a low key. Nevertheless, quite a few states end up incurring substantial administrative and promotional costs in course of the tournament and only a few can expect to have a potentially positive result from the tournament. The locational tournaments seem to wield a significant influence over wide interstate variations in FDI inflows in that they have made the distribution highly skewed for a few states

While the economically advanced states, like Maharashtra, Delhi, Karnataka, Tamil Nadu, Gujarat, and Andhra Pradesh have benefited by the bulk of the inflows, states like Bihar, Uttarpradesh, and Orissa have only got a trickle. On studying the data provided by the Regional offices of the Reserve Bank of India, it is evident that the upper 50% of the regions accounted for more than 90% of the inflows in the period 2000-2018.

The present paper attempts to find out in this context the role of the regional characteristics (stereotypes) in causing these regional disparities (in the Inflows of FDI). To this end, we assume a functional relationship between the state-specific FDI inflows and the state-specific set of explanatory variables (X). We then estimate the proposed relationship in a panel-type framework. Although the coefficients show the desired signs, all are not statistically significant at the desired level; the per-capita stock of FDI at the state level comes out to be the most important variable influencing the inflows. This is a finding in line with the recent studies involving regional distribution of FDI inflows which show that regions with higher average level of FDI stocks are more likely to attract further investments-an effect

² India was the fourth-largest recipient of FDI in terms of projects started in 2012, and in terms of value, it accounted for 5.5% of global FDI. Although the number of jobs declined slightly in

2012 (due to a drop in industrial projects), India still accounts for 9.4% of jobs created by FDI around the world (www.ey.com/attractiveness).



which is known as the *agglomeration* effect in the literature. In Marshall's view agglomeration engenders economies that are external to a firm but internal to a small geographic area—a "locality". Today these external economies are known to encompass specialized labour markets and supplier networks as well as knowledge spillovers (Guimaraes, Figueiredo, & Woodward, 2000)³. Statistical results from several studies focusing on developing economies strongly buttress the argument that foreign investors are inclined to favour such locations that could minimize information costs and offer a variety of agglomeration economies (He, 2002)⁴. The next section lists the list of variables.

1. The list of explanatory variables:

In this section, we figure out the explanatory variables associated with each determinate of FDI as proposed in (8).

Infrastructure: Availability of quality infrastructure, particularly, that of transportation and telecommunications, is an important determinant of FDI. A good communication system facilitates easy access to inputs and minimizes the cost of distribution of the finished products, as well. The previous literature has shown the positive impact of infrastructure facilities on FDI inflows ((Wheeler & Mody, 1992), (Kumar, 1994), (Loree & Guisinger, 1995), (Asiedu, 2002)). A region having a good road and rail route network is likely to attract more FDI inflows compared to one having a worse network of the same. FDI which comes mainly in the service sector requires an uninterrupted supply of power. It does not depend

³ In a well-known passage from the *Principles of Economics*, Alfred Marshall wrote "When an industry has thus chosen a locality for itself, it is likely to stay there for long: so great are the advantages which people following the same skilled trade get from near neighbourhood to one another.....Employers are apt to resort to any place where they are likely to find a good choice of workers with the special skill which they require.....The advantages of variety of employment are combined with those of localized industries in some of the manufacturing towns, and this is a chief cause of their continued growth".

⁴ Though per capita FDI stock comes out as most important determinate of FDI; the per capita NSDP, tax rate and road density are also crucial in deciding investment region of FDI.

too much on physical communicational infrastructure (like rail or road) but heavily depends on energy available in a region. Availability of electricity is thus an important determinant of FDI; the states with serious power shortage will receive little FDI inflows⁵. As it is always difficult to make any qualitative assessments, the quantities of the infrastructural variables are in general, supposed to be representative of their qualities as well. Another difficulty in dealing with this variable (infrastructure) is the complexity and *multidimensionality* inherent in this. It is to be pointed out; in the present context we are considering only the transport infrastructures and the basic infrastructures (e.g. availability of electricity)⁶ and not the communication infrastructures (e.g. phone lines and broadband internet connectivity).

Labour conditions: Investments flow into regions having an abundant supply of cheap but efficient labour. According to (Dunning, 1998), foreign firms who are completely unaware of the quality of labour, consider higher wage as a proxy for the skill of labour. Thus a higher-wage region might also attract a higher level of foreign investment as shown in studies conducted by (Head, Ries, & Swenson, 1999), (Thiran & Yamawaki, 1995), (Guimaraes, Figueiredo, & Woodward, 2000) and (Pelegrín, 2003). The possible impact of the level of wages in effecting the inflows is thus ambiguous. As a cost of labour, the lower the wage rate, the higher should the level of inflows; as a proxy for the skill of labour, though, the relationship is exactly the opposite. The present study uses literacy rate and wage rate as factors representing the labour conditions of a specific region. The relevance of wage costs, on which previous literature has focused, is "highly sensitive to small alterations in the conditioning information set" in cross-country studies as shown in the Extreme Bounds Analysis of (Chakrabarti, 2001). But even if higher wages discourage (vertical) FDI flows at the host country level, location choices by foreign investors within the low-wage countries such as India are hardly to be affected as the regional gaps in wages are small compared to the country-specific gaps, i.e. between the host and the foreign countries.

⁵ See for example (Ghosh & De, 2005).

⁶ See for example a recent study by (Buccellato & Santangelo, 2009)



FDI stock: The stock of FDI, i.e., cumulative sum of year-wise FDI inflows is the most important factor causing the regional clustering/concentration in the former. There is a tendency of industries to concentrate in areas where an established set-up already exists. This is referred to as the *agglomeration effect* in the literature. *Agglomeration economies* emerge when there are some positive externalities in collocating near other economic units due to the presence of knowledge spill-over's, specialised labor markets and supplier network (Krugman, 1991). According to (He, 2002), foreign firms, with an intention to minimize *information costs* and other uncertainty of investments, prefer regions where the level of investment is already high. Higher stocks (of FDI) bode well as a signal of profitability for the respective regions to the prospective (foreign) investors. New firms also get external benefits in the form of good supply of inputs from these regions (where FDI stock is very high) due to the pre-existing industrial set up built up by other firms. Also products produced by some firms can be used as inputs in some other firms. Pre-existing set up also helps the new firms escape the huge fixed cost of setting up an infrastructure and reap the benefits of increasing returns to scale. The theory of "learning curve"⁷ also suggests that it is beneficial for the existing firms to invest in the regions having higher per-capita FDI stocks.

Market Size: While determining the suitable region for investment, the foreign firms consider market size as one important determinant. A large market on the one hand ensures a larger demand for the products and on the other, an easy and larger supply of inputs of production, too. Now, the foreign firms who are unaware of the size of market consider state domestic product as a representative of market size. A higher state domestic product in a specific region implies a larger market in the concerned region. Also, as domestic investment is high in that market, it gives signal that investment is profitable in that market⁸.

⁷ "Learning Curve" relates to the amount of inputs needed by a firm to produce each unit of output to its cumulative output.

⁸ (Kravis & Lipsey, 1982) found a positive relationship between the market size in host nations and the location decision of US multinationals. (Anitha, 2012) showed the same thing in the context of India.

In this context we have to remember that by large market we mean where investment or business is large. A market which is large by area is not helpful for this purpose. Now, to eliminate the affect of size of the area, we have considered per capita net state domestic product (NSDP) as an explanatory variable influencing the inflows of FDI.

Industrial orientation: Industrial orientation indicates industrial infrastructure of a particular region. According to (Dunning, 1993) the availability of natural resources in particular region is a determinant of FDI; as natural resources like coke, minerals, and raw materials are used as resources of production. Luo, Laijun, B, Chang, & Yuze (2008) have shown that regions with established industrial set-up attract FDI; Siddarthan (2006) emphasized on the similar point in the context of India. It is worth mentioning here that the contribution of the Services Sector in India has increased a lot in the last few years. This sector provides services of nature of final consumption as well as of intermediate nature, the latter accounting for a major share. Substantial parts of services such as transport and communications are in the form of intermediate inputs for production of other goods and services. The FDI inflows in the service sector have been phenomenal in the last few years⁹. The factors used in this paper as measures of industrial infrastructure of a specific region are the respective outputs from the three sectors, viz., mining, industry and service.

Policy environment: It is really essential for the states to formulate appropriate policy measures so as to attract the investors. The previous literature shows the impact of government policies on FDI inflows into a host country ((Blomstrom & Kokko, 2003), (Schneider & Frey, 1985) (Loree & Guisinger, 1995) (Taylor, 2000) (Kumar, 2002b)). States generally do give many types of incentives

⁹ The data released by National Association of Software and Services Companies (NASSCOM) show that inflows of FDI into the service sector registered an increase of 5% to \$ 3.6 billion during the period of April- October 2012 although as a whole the overall FDI inflows declined by about 27% in 2012. The telecommunication, computer hardware and software and other service sectors have in fact attracted near about 50 percent of total FDI flows in the post-liberalization period.



to attract the investors in an effort to outsmart the others (states). Tax exemption, simpler tax structure, single window system for getting license or other permission as required before the start of the business are some of the incentives as offered by the states from time to time. We have taken the state tax rate as an explanatory variable for representing policy environment in a particular region. Due to lack of data, however we have used state's own tax revenue/GDP as a proxy of its tax rate. The intuition is that own tax revenue will be higher (lower), the higher (lower) the tax rate. To nullify the potential region effect, we divide the own tax revenue by the corresponding level of GDP.

There are other factors, too, viz., the political stability of a state government and the central-state financial relationship, in particular. The non-existence of a strong and stable government as well as a sound federal structure renders the regions more vulnerable to risks which reduce the incentive to invest to a great extent (Basant & Saha, 2005)¹⁰.

II. Data and Results

A state-level dataset of India covering 31 states and union territories over the period 2001- to 2018 has been taken as the basis of the empirical analysis carried out in this paper. Based on the data on FDI inflows provided by the regional offices of the Reserve Bank of India, the states have been combined into 16 groups as per the data on FDI inflows provided by the regional offices of the Reserve Bank of India.

Accordingly, region Mumbai includes Maharashtra, Dadar Nagar and Daman & Diu; Chennai includes Tamil Nadu, Pondicherry; Kochi includes Kerala, Lakshadweep; Kanpur includes Uttar Pradesh, Uttarakhand; Patna includes Bihar Jharkhand; Bhopal includes Madhya Pradesh, Chattisgarh; Guwahati includes North-Eastern Region states Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura; Kolkata includes West Bengal, Sikkim, Andaman & Nicobar Islands; Chandigarh includes Chandigarh, Punjab, Haryana and Himachal Pradesh, and New Delhi includes Delhi, part of Uttar Pradesh and Haryana. However, state specific data are available for Gujarat, Karnataka, Goa, Andhra Pradesh, Orissa and Rajasthan and regional

correspondence to these states are Ahmedabad, Bangalore, Panaji, Hyderabad, Bhubaneshwar, Jaipur, respectively. Even, as given above, a large number of regions consists of one major state and other small states for which FDI is either zero or very negligible. So these regions are very much representative of one major state; e.g., Maharashtra, Tamilnadu, Kerala etc. For the NRI transfers from abroad; state specific data is not available. These figures are given as 'regions not indicated' in RBI data and we have not consider these figures.

The data on the explanatory variables used for the empirical analysis has been obtained from multiple sources. Information on per capita income and variables relating to economic structure has been obtained from the National Accounts Statistics (NAS) and the Handbook of Statistics on the Indian Economy published by the Central Statistics Office (CSO) of the Government of India (GoI) and the Reserve Bank of India, respectively. The data on the infrastructural variables are taken from the Ministry of Road Transport And Highways, GoI and Annual Statistical Statements, published by M/o Railways, Railway Board. The data on daily wages per worker have been collected from www.indiastat.com. The data on literacy rates and population density have been worked out from the Census of India. The data on tax revenue of the Indian states have been collected from various issues of the RBI Report 'State Finances: A Study of Budgets'.

¹⁰ But due to lack of data we have not considered risk factor as an explanatory variable in the empirical analysis of this paper.



The year-wise total and per-capita FDI equity inflows for the RBI Regional centers have been presented in Table 1 below.

Table 1. Year-wise FDI Inflows (Crores)																		
Rbi Regions	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ahmedabad	109	151	917	611	666	1768	5220	12747	3876	3294	4730	2676	5282	9416	14667	22610	13457	12618
Bangalore	1348	795	927	1131	1818	3606	6136	9143	4852	6133	7235	5553	11422	21255	26791	14300	55334	46963
Bhopal	13	6	35	69	43	115	184	209	255	2093	569	1208	708	601	518	515	181	224
Bhubaneswar	0	0	0	0	316	32	23	42	702	68	125	285	288	56	36	83	415	483
Chandigarh	6	84	77	13	378	38	144	0	1038	1892	624	255	562	234	177	39	697	4374
Chennai	1660	90	604	358	1190	5618	3623	7757	3653	6115	6711	15252	12595	23361	29781	14380	22354	18164
Guwahati	6	3	19	13	0	3	52	176	51	37	5	27	4	29	66	15	82	48
Hyderabad	338	243	353	748	1057	3049	3939	5406	5710	5753	4039	6290	4024	8326	10315	14767	8037	23882
Jaipur	5	1	2	5	3	249	478	1656	149	230	161	714	233	3237	332	1111	752	2553
Kanpur	0	0	0	0	0	60	12	0	227	514	635	167	150	679	524	50	578	234
Kochi	66	67	45	34	58	106	165	355	606	167	2274	390	411	1418	589	3050	1339	1807
Kolkata	87	178	85	467	408	591	1752	2089	531	426	1817	2319	2659	1464	6220	332	1409	8531
Mumbai	5137	236	1355	3183	4290	19464	29599	57066	39409	27669	44664	47359	20595	38933	62731	131980	86244	80013
New Delhi	5460	62	2123	3718	4565	12108	12731	7943	46197	12184	37403	17490	38190	42252	83288	39482	49366	70485
Panaji	16	13	169	101	34	352	90	134	808	1376	181	47	103	211	117	555	279	111
Patna	0	0	1	0	0	1	0	0	0	25	123	41	9	68	272	69	64	22
Table 1. 1 Year-Wise Per-Capita FDI Inflows (Crores)																		
Rbi Regions	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Ahmedabad	21	107	174	113	121	313	905	2161	643	534	751	415	801	1395	2126	3208	1870	1717
Bangalore	256	182	169	203	319	621	1036	1514	788	976	1129	850	1716	3134	3879	2034	7733	6450
Bhopal	2	1	4	8	5	13	20	22	26	212	56	117	68	56	48	47	16	20
Bhubaneswar	0	0	0	0	80	8	6	10	166	16	29	64	63	12	7	17	80	91
Chandigarh	1	160	14	2	67	7	24		168	300	97	39	85	35	26	6	99	610
Chennai	258	15	91	53	17	811	515	108	504	831	899	201	163	299	375	1788	274	219



		2		4		7			2	7	1	7		0	5						
Guwahati	1	1	5	3		1	12	39	11	8	1	5	1	5	10	2	11	6			
Hyderabad	45	32	46	95	13	2	373	474	639	663	656	453	692	434	882	107	3	1509	807	235	7
Jaipur	1	0	0	1	1	1	40	75	252	22	33	23	98	31	412	41	132	86	284		
Kanpur	0	0	0	0	0	0	3	1		11	25	30	8	7	33	26	3	30	12		
Kochi	21	21	14	10	17	17	31	47	100	169	46	614	104	108	369	151	775	336	449		
Kolkata	11	22	10	54	47	47	66	192	224	56	44	183	229	258	139	580	30	127	754		
Mumbai	541	24	13	31	41	41	184	274	517	349	240	379	394	167	310	490	1011	648	590		
New Delhi	422	22	15	25	30	30	770	778	467	261	663	195	880	185	197	376	1723	208	288		
	2	77	19	57	19	19	2	9	3	40	0	75	3	13	54	01	3	54	49		
Panaji	119	10	11	72	23	23	242			528	884	114			127			160			
		31	70	0	7	7	609	893		9	8	3	292	630	0	693	3239	4	629		
Patna	0	0	0	0	0	0	0	0	0	0	2	9	3	1	5	20	5	5	2		

Estimation in a panel framework:

We form a panel stacking the year-wise data for sixteen RBI regions for the period 2001-2018 and apply the “Random Effect Panel Regression Model” to estimate the coefficients. Use of a panel dataset raises the number of observations and enhances the degrees of freedom and efficiency of the estimators considerably. The present paper prefers the REM to the Fixed Effect Model (FEM) because the states here are grouped mainly on the basis of their geographical location and, hence, they are likely to be heterogeneous within a group in terms of their socio-economic-political structure. Similarly, different groups of states also seem to be heterogeneous in nature and the group specific effects are unlikely to be systematic. Further, since there are only 192 observations, the FEM will suffer from the problem of considerably low degrees of freedom as it requires estimating state specific parameters to capture individual effects. On the other hand the REM does not suffer from such problem as it does not require estimating separate parameters to characterize the individual states. Besides, the REM also retains the observed characteristics that remain constant for each individual, but they are dropped in the FEM.

The Z-statistics of the individual coefficients computed on the basis of robust standard errors show (Table 2) that the while the coefficients of per-capita stock of FDI and road density are statistically significant at 1% and 5 % level of significances respectively, the coefficients of per-capita NSDP and tax rate are significant at a level of 10%. The signs of the estimated coefficients for most of the variables are in accordance with the a priori expectation except literacy rate, though the latter turns out to be statistically insignificant. The

importance of *agglomeration* effects is manifest by the high level of significance of per-capita stock of FDI. This confirms the hypothesis that cumulative FDI flows in a state does have a significant *demonstration effect* on the decision making of new FDI entrants, or in other words, new foreign investments tend to enter into areas having already high levels of FDI flows. As for the market size, the coefficient of Per-capita NSDP is positive and has an explanatory power as an indicator of regional purchasing power as well as the level of economic development in a state. So far as the effect of infrastructure is concerned, road route density is found to have a significantly positive effect on FDI inflows while the effects of railway transportation and per-capita electricity availability turn out to be statistically insignificant. Both the variables representing labour market conditions, viz., wage rate and literacy rate are found to be statistically insignificant. The point that the coefficient of literacy rate turns out to be negative (though statistically insignificant) indicates that level of basic education has little effect in attracting FDI flows; this is reflected in the fact that some states with very high literacy rates, viz., Andaman & Nicobar Islands, Himachal Pradesh, Mizoram, Puducherry, Sikkim and Tripura do not attract much FDI flows. The coefficient of State’s own tax revenue as per cent of NSDP is negative and significant at 10% level of significance which supports the argument that FDI prefers states with lower tax rates. Earlier it was shown by (Kumar, Globalization and Quality of Foreign Direct Investment, 2002a), (Mukherjee, 2011) that a country’s ability to attract FDI is affected by policy factors such as tax rates, investment incentives, performance requirements etc.



Group Variable	Region			
No. of Observations	192			
No. of Groups	16			
Explanatory variables	Coefficient	Std. Err.	z	P> z
<i>Per-capita Stock of FDI</i>	0.105	0.028	3.78*	0.000
<i>Per-capita NSDP</i>	0.017	0.010	1.66***	0.096
<i>Service Sector Output</i>	0.000	0.003	0.010	0.989
<i>Manufacturing Sector Output</i>	0.007	0.012	0.600	0.547
<i>Mining Sector Output</i>	-0.014	0.038	-0.380	0.705
<i>Road Route Density</i>	0.164	0.082	2.01**	0.044
<i>Rail Route Density</i>	0.000	0.001	0.250	0.805
<i>Tax Rate</i>	-112.061	84.507	-1.33***	0.185
<i>Literacy Rate</i>	-1720.210	2062.554	-0.830	0.404
<i>Wage Rate</i>	-0.636	4.207	-0.150	0.880
<i>Per-capita Availability of Electricity</i>	-0.024	0.047	-0.510	0.611
<i>_Constant</i>	1273.350	1942.167	0.660	0.512
R Square	Within	0.24		
	Between	0.98		
	Overall	0.6		
Wald Chi Sq. (11)	277.79			
Prob> Chi Sq.	0			

* indicates significance at 1% level; ** indicates significance at 5% level; *** indicates significance at 10% level.

Policy Implications:

The FDI inflows in India have been marked by strong regional concentration. While the economically advanced states, like Maharashtra, Delhi, Karnataka, Tamil Nadu, Gujarat, and Andhra Pradesh have availed the bulk of the inflows, states like Bihar, Uttarpradesh and Orissa have only got a trickle.

The present analysis arrives at the conclusion that while the cumulative stock of year-wise FDI inflows is an important and significant determinant of yearly (FDI) inflows, the per capita NSDP, tax rate and road density are also crucial. *Agglomeration effect*, which is indicated by per capita FDI stock, comes out as the most important explanatory variable.

The presence of strong agglomeration effect indicates that the states already rich in FDI flows tend to receive more of them which make it more difficult for the other states to attract fresh

investments¹¹. In view of this difficulty, a conscious and coordinated effort at the national and the state government levels would be essential to make the laggard states more attractive to FDI flows. The direct method to achieve this objective may be to design the national FDI policy in such a way that a sizeable portion of FDI inflows move into the laggard states. The indirect way is to provide a boost to the overall economy of the less advanced states and, more importantly, to enhance the infrastructural base, the road infrastructure in particular.

¹¹ There are however cases where MNEs have shown investment interest in states with lower FDI penetration, such as, POSCO and Arcelor-Mittal in Orissa and Bhatinda refinery (a joint venture of Hindustan Petroleum Corp (HPCL) and Mittal Energy Investment Pte Ltd) in Punjab.



First, as regards the direct method, reference may be drawn to the case of China which, after liberalising the FDI flows in the 1970s, had had a similar experience like India. The regional disparity between China's coastal belt and its interior had increased since the country had introduced the "Open Door Policy" in 1978 (Luo, Lajun, B, Chang, & Yuze, 2008). As a result, a few world class industrial clusters concentrated in five coastal Chinese provinces flourished at the expense of the Chinese hinterland; the previously opened regions were preferred to the hinterland by subsequent FDIs. The Chinese government brought about an important policy change in this perspective which was to raise the entry requirements for FDI into the coastal belt with a view to securing high value investments while encouraging labour intensive investments in the interior. Not surprisingly, the move has made some fundamental changes in the business strategies and operational policies adopted by the MNEs since the late 1990s. In view of the Chinese experience, similar set of policies may be considered in the Indian context so as to ensure the inflows to states (regions), hitherto neglected and thus wiping out the burgeoning gap between these (neglected regions) and the advanced states receiving the bulk of FDI inflows in the country. Setting up of Special Economic Zones (SEZ) and Export Processing Zones (EPZ) in the FDI-deficient backward regions are likely to be effective in diverting the investment flows to these regions as these are built on the notion of promoting industry in the said regions by means of provision of a quality infrastructures along-side large-scale tax exemptions and relaxations of labour laws prevailing in the country¹².

¹² Special Economic Zones (SEZs) are contained geographic regions within countries- a demarcated area of land- used to encourage industry, manufacturing, and services for export and are typically characterized by more liberal laws and economic policies than a country's general economic laws. While assessing the impacts of SEZs on Chinese economy, (Wang, 2013) has found that the SEZ program has increased FDI through firm relocation, and has not crowded out domestic investment. With dense investment in the targeted municipalities, the SEZ has achieved *agglomeration economies* and has generated wage

Second, as regards the indirect method, it has been observed that size of the per-capita NSDP has had a significant positive impact on FDI flows. Per capita NSDP has an explanatory power both as an indicator of regional purchasing power and the level of economic development in a state. The significance of Per-capita NSDP clearly indicates that FDI flows to India are market seeking in nature. Also, the impact of road connectivity turns out to be positive and statistically significant. This clearly implies foreign investors' preferences for states having a strong infrastructural base. The policy environment of a state is an important determinate in this respect; a state having a positive perception about FDI may create an ambience conducive to foreign inflows by forming a low and easy tax-structure or by announcing (tax) exemptions. The basic infrastructural set-up once being built-up and an investment-friendly stance being taken by the governments, FDI will start flowing into the respective states if the size of the market is adequate; the mere availability of a cheaper or skilled labour force or of natural resources can hardly ensure any (FDI) inflows into these (backward) regions.

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