

## **Dynamics of Inter-States Variation of Foreign Direct Investment Inflows in India**

**\*Dr. Manoj Kumar Sinha**

**\*\*Dr. Rajiv Nayan**

### **Abstract**

*With globalisation, flows of Foreign Direct Investment (FDI) in India have been increasing since 1991, in an overall sense. However the FDI inflows into different States in India have not grown uniformly. The purpose of the paper is to study the dynamics of inter-state or regional variation of FDI inflows in India. The paper used the ranking method, Bodenhorn's mobility and turnover and Herfindahl-Hirschman Index for measuring inter-state variation of FDI inflows. The period of study is 1991-2016.*

*The results show that more than 85 percent FDI inflow in India is concentrated in five states - Maharashtra, Delhi, Bangalore, Tamil Nadu and Gujarat. Maharashtra is getting more than 25 percent of FDI inflows in India. Remaining states are receiving less than 15 percent. The competition among Indian states is declining at the rate 9.5 percent per annum. The concentration of FDI inflows in a few states is increasing at the rate of 2.4 percent per annum. North-East states are receiving almost negligible amount of FDI. Government should undertake the survey to identify the potentiality of each state or regions to attract FDI. Government should devise the policy based on this potentiality inculcating attractive elements. So that foreign investors feel to invest in a particular state or the region. The state governments on their part should initiate reform measures to create conducive environment for the inflow of FDI.*

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**Keywords: Concentration, Competition, Dominance, Globalization, Indian States**

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\*Assistant Professor, Department of Commerce, PGDAV College, University of Delhi, Nehru Nagar, Delhi - 110065. Email: mksinhadu@gmail.com. (Corresponding Author).

\*\*Assistant Professor, Department of Commerce, Ramanujan College, University of Delhi, E-mail: rajivnayan32@gmail.com

## **I. Introduction**

Globalization, WTO and Balance of Payment (BOP) crisis forced India for liberalizing and opening up of Indian economy for import of foreign capital in the form of foreign direct investment (FDI). The most recent consolidated Indian FDI policy permitted 100 percent of FDI in the majority of sectors under the automatic route.

The natures of conditions to which foreign investors may be subject prior to approval include requirements concerning the minimum lock-in periods or capitalizations. On the other hand, the only prohibited sectors for non-resident investors are: multi-brand retailing, lottery, manufacturing of tobacco related products, atomic industry, railways, chit fund, trading in transferable rights and Nithi company (DIPP, 2016). All these highly protected sectors are considered of national interest by the Indian government. However, entrance of MNCs not only may create a monopoly in some of the highly protected industries, but it can also lead to allocation of enormous economic powers to limited foreign investors (Kumar, 1994). Liberalization of these sectors carries both risks and benefits. While relaxations of the FDI policy will ultimately increase inflows, it can also create disturbances for local businesses and can drag them into bankruptcy if they are not able to withstand competition from their foreign counterparts. The most recent proposed significant change in the FDI policy relates to the retail sector which was aimed at attracting many large multi-brand MNCs across the world. Within the framework of globalization, India's liberalized foreign investment policy and inter-states competition for attraction of FDI in their respective states, the objectives of the paper are:

### **Objectives of the Study**

1. To analysis the overall trends of foreign direct investment in India.
2. To study dynamics of inter-states variations of foreign direct investment flows in India

## **II. Trends of Foreign Direct Investment in India**

### **II.1 Overall Trends of FDI in India**

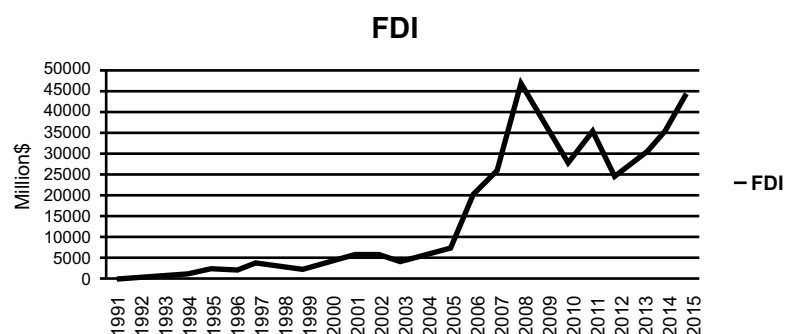
With the liberalization and structural reforms of Indian economy since 1991, there has been a marked shift in the magnitude of foreign capital flows to India during the 1990s and 2000s, reflecting the growing confidence among international investors. There has been a manifold increase of FDI inflow in India since 1991. The amount of FDI inflows was mere \$ 74 million 1991 and these FDI inflows have reached to \$ 44208 million in 2015. This is more than 597 times increasing in the FDI inflows into from 1991 to 2015 (table 1).

**Table 1: Trends of FDI in India (US \$ current Prices in Millions)**

Year	FDI	GDP	FDI as Percent of GDP
1991	75	283967.7	0.026
1992	252	285176.4	0.088
1993	532	278384	0.191
1994	974	318925.1	0.305
1995	2151	361957.2	0.594
1996	2525	381492.8	0.662
1997	3619	414237.5	0.874
1998	2633	416885.4	0.632
1999	2168	444434.8	0.488
2000	3588	458561.1	0.782
2001	5477.6	473441.7	1.157
2002	5629.7	494986.7	1.137
2003	4321.1	579668.7	0.745
2004	5777.8	701347.4	0.824
2005	7621.8	820980	0.928
2006	20327.8	929215.2	2.188
2007	25349.9	1182321	2.144
2008	47102.4	1268588	<b>3.713</b>
2009	35633.9	1311852	2.716
2010	27417.1	1668768	1.643
2011	36190.5	1892420	1.912
2012	24195.8	1869210	1.294
2013	28199.4	1936088	1.457
2014	34582.1	2054942	1.683
2015	44208	2219669	1.992

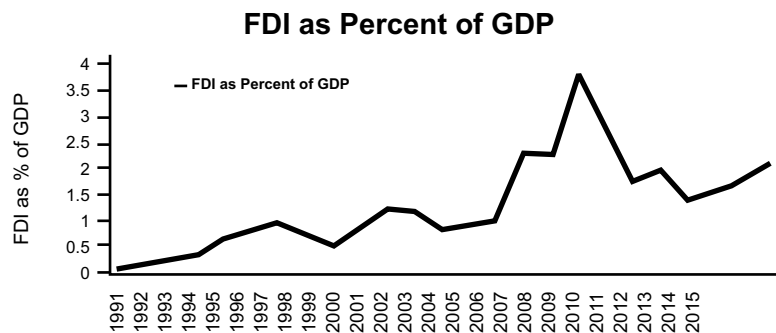
Source: <http://unctadstat.unctad.org>

**Figure 1: Trends of Foreign Direct Investment in India during 1991 - 2015**



The line graph of FDI inflows in India has also been drawn for the said periods. The line graph also shows the trend and pattern of FDI inflows in India. This line shows that how FDI inflows in India have reached to \$ 44208 million in 2015 (Murthy and Sinha, 2013) (Figure 1).

**Figure 2: Trend of FDI as Percentage of GDP in India**



FDI as percentage of GDP has been showing increasing trends since liberalization of Indian economy. It reached at the peak in 2008. Impact of global financial crisis has been also seen, consequently FDI inflows in India started declined till 2012. After that Indian government new initiatives and reforms leads to increase FDI inflows in India (Figure 2).

## II.2 Regional/State-wise Trend of FDI in India

The overall value of the investment proposals and their approval by the government has increased substantially since the adaptation of new economic policies in 1991. Region-wise, economically advanced states have attracted lion's share of FDI inflows in India. Maharashtra is the top leading destination/region for FDI accounted for more 35 percent of overall FDI in India during 1991-2016. Maharashtra attracted more 50 percent FDI in 2016. Top five states, viz., Maharashtra, Delhi and NCR, Tamil Nadu, Karnataka and Gujarat together accounted for over 85 percent of FDI in India during the period 1991 to 2016 reflecting distinct sign of FDI concentration at the state level. West Bengal was the leading destination for FDI in 1991, but subsequently FDI flows significantly declined and reached to below one percent in 2016 (table 3).

**Table 2: Region/Statewise attraction of FDI in India (Million Rupees)**

Center	States	1991	1996	2001	2006	2011	2016	Total
Mumbai	Maharashtra, D&N Haveli, Daman & Diu	127.5	36292.1	58748.42	159073.2	4172200	973849.85	5236770.1
New Delhi	Delhi	211.	26440.1	9709.93	97848.07	313543	375747.44	3725571.5
Hyderabad	Andhra Pradesh	20.8	9089.5	5142.91	25174.72	44366	124690.88	790457.39
Bangalore	Karnataka	17.2	34233.9	12995.1	28192.09	65925.9	121241.42	1364918.4
Ahmedabad	Gujarat	95.2	8489.1	61860.83	16387.57	50898.1	76227.7	882820.06
Chennai	Tamil Nadu, Pondicherry	29.1	36361.7	46778.19	51925.27	60473.4	58937.2	1479112.6
Kochi	Kerala, Lakshadweep	28.9	4233	1885.27	944.49	17353.3	23208.06	102713.21
Jaipur	Rajasthan	80.5	805.6	559	2308.53	1038.29	8163.86	108744.75
Kolkata	WB, Sikkim, A& N Islands	339.1	10296.1	3122.93	2882.89	17611	6695.12	299652.49
Bhopal	MP, Chattisgarh	68.5	8937.2	366.53	749.42	7087.85	3211.22	166378.84
Kanpur	UP, Uttranchal	313.2	15090.5	6242	556.15	6701.6	1320.18	95199.987
Chandigarh`	Chandigarh, HP, Punjab, Haryana	12	10941	2344.3	848.63	7021.63	672.82	148472.82
Panaji	Goa	56	1854.7	3491.28	3508.82	1288.48	378.74	47084.98
Guwahati	North East States	1	25	6	3	408.51	331.14	5127.15
Bhubaneswar	Orissa	65	8109.5	2422.1	1035.94	1368.51	297.06	102588.82
Patna	Bihar, Jharkhand	3	499.3	316.69	6	581.39	126.85	14373.27

Source: SIA Newsletter

**Table 3: Percentage of Regional/State-wise FDI distribution in India**

Center	States	1991	1996	2001	2006	2011	2016	Total (1991-2016)
Mumbai	Maharashtra, D&N Haveli, Daman & Diu	8.68	17.14	27.20	<b>40.64</b>	<b>41.19</b>	<b>54.86</b>	<b>35.94</b>
New Delhi	Delhi	14.38	12.49	4.50	25.00	30.96	21.17	25.57
Hyderabad	Andhra Pradesh	1.42	4.29	2.38	6.43	4.38	7.02	5.43
Bangalore	Karnataka	1.17	16.17	6.02	7.20	6.51	6.83	9.37

Ahmedabad	Gujarat	6.48	4.01	<b>28.64</b>	4.19	5.03	4.29	6.06
Chennai	Tamil Nadu, Pondicherry	1.98	<b>17.18</b>	21.66	13.27	5.97	3.32	10.15
Kochi	Kerala, Lakshadweep	1.97	2.00	0.87	0.24	1.71	1.31	0.70
Jaipur	Rajasthan	5.48	0.38	0.26	0.59	0.10	0.46	0.75
Kolkata	WB, Sikkim, A& N Islands	<b>23.10</b>	4.86	1.45	0.74	1.74	0.38	2.06
Bhopal	MP, Chattisgarh	4.67	4.22	0.17	0.19	0.70	0.18	1.14
Kanpur	UP, Uttranchal	21.33	7.13	2.89	0.14	0.66	0.07	0.65
Chandigarh`	Chandigarh, HP, Punjab, Haryana	0.82	5.17	1.09	0.22	0.69	0.04	1.02
Panaji	Goa	3.81	0.88	1.62	0.90	0.13	0.02	0.32
Guwahati	Assam, AP, Manipur, Meghalaya, Mizoram, Nagaland, Tripura	0.07	0.01	0.00	0.00	0.04	0.02	0.04
Bhubaneshwar	Orissa	4.43	3.83	1.12	0.26	0.14	0.02	0.70
Patna	Bihar, Jharkhand	0.20	0.24	0.15	0.00	0.06	0.01	0.10
Total		100	100	100	100	100	100	100

Source: Authors' estimation

The FDI policy in India was liberalized in the early 1990s as a part of economic reforms to attract the foreign capital and also to take advantage of the spillover technology and knowledge. It is, therefore, essential to derive maximum benefit from the FDI flows. The overall value of the investment proposals and their approval by the government has increased substantially since the adaptation of new economic policies in 1991. Region-wise, economically advanced states have attracted lion's share of FDI inflows in India. This leads to increase in regional inequality among Indian states. The states that are more efficient received less of FDI flows. It points towards non economic forces in operation that influence FDI flows and regional development (Murthy and Sinha, 2014). Government should modify/change its FDI policy in such a manner which leads to provides equitable investment opportunities across Indian states and ensure that the rising FDI flows do not lead to an increase in regional inequality (Sinha, ed. 2017).

### III. Literature Review

According to Archana, Nayak & Basu (2014) the estimated overall FDI has a positive impact on labour productivity and employment for the period (1991-2004). However, across states FDI is more productive only when the states have more absorptive power and also labour productivity is growing only at the expense of employment.

The private investment driven economic growth is persistently diversified in nature among the Indian states according to Mallick (2011). According to him the private investment depends upon physical infrastructure, quality of governance, availability of finance, economic uncertainty and labour productivity along with the state specific factors.

Chatterjee, Mishra and Chatterjee (2013) founded that infrastructure does not determine the locations of FDI investment projects. Instead, level and variability in profitability of the existing firms were the two factors which have significant influence in deciding investment locations at the state level. Higher profitability of the existing enterprises brings in more FDI into a state, while greater variability in it reduces the same.

Kumbar and Vasudev (2017) founded that economically advanced states have attracted the lion's share of FDI flows. The top 6 states of India viz. Maharashtra, Delhi, Karnataka, Tamil Nadu, Gujarat and Andhra Pradesh together accounted over 70% of FDI equity flows in the post liberalization period.

Panigrahi, Patra & Satpathy (2015) states that concentration of FDI in few selected states, like Tamilnadu, Maharashtra, Karnataka and New Delhi, reflects the location preference of the foreign investors to do business in India. The region with high volatility in the pre-recession period can't continue to maintain as a preferred location during the post recession period. Whereas the region with a low volatility in the pre-recession period is able to collect a higher FDI in the post-recession period and thus promoted to a higher rank. Similarly regions like Mumbai, New Delhi are projected to lose share of FDI in the country where as Bangalore, Chennai and Ahmadabad may get a higher share of FDI inflow.

#### **IV. Data and Research Methodology**

Data Sources: The states-wise FDI data for the study has been collected from online statistics <http://dipp.nic.in>, SIA Newsletter, Department of Industrial Policy and Promotion, Ministry of Commerce and Industry, GOI. The state-wise state domestic products data collected from Reserve Bank of India (RBI) website ([www.rbi.org.in](http://www.rbi.org.in)). The data of GDP and FDI in India collected from online statistics of United Nations Conference on Trade and Development (UNCTAD). The period selected for the study is 1991-2016.

#### **Dominance Patterns**

According to the most recent consolidated Indian policy, 100 percent of FDI is allowed in the majority of sectors under the automatic route. India has been competing with various all the industrialized countries including China for attracting FDI in India. For this India has offered a number of

incentives, through 'Make-in-India' policy, to the foreign investors in the recent past. Indian states have also been liberalizing their industrial policy for attracting FDI in their respective states. Each state is also offering a number of incentives and investors-friendly environment to foreign investors for FDI investment in its state. This represents a state of competition amongst Indian states for attraction of FDI in their respective states. It is normally not possible for any single state to dominate in term of attraction of FDI during period 1991 to 2016. Even if a state is not at top in one or more years it should be possible to capture the dominating position for attraction of FDI in the state. It is interesting to know whether there is any dominant state or a constant flux in the ranking of Indian states. Dominance can be studied in three ways:

The rankings patterns, which is a discrete measure of dominance.

Index of Rank Dominance (IRD) which is a relative dominance measure by ranks, (Murthy, 2011). This is measure of continuous dominance.

Bodenhorn's measure of competition.

The index of rank dominance (IRD) is an innovative measure which tells us a coefficient that expresses the degree of dominance of an ordinal measure such as rank. IRD has further refined as a relative- Relative Index of Rank Dominance (RIRD), which measures dominance in a relative sense. This gives the proportionate weight of the rank dominance index.

## Index of Rank Dominance

Amongst the top five Indian states which have the dominant position (i.e. highest rank) for the longest period is estimated with the help of index of rank dominance (Murthy, 2011).

$$I_{RD} = \frac{\sum_{i=1991}^{2016} (Rank\ Score)_i}{Maximum\ Rank\ Score \times No.of\ Years}$$

$I_{RD}$  = is the index of Rank Dominance.

Rank Score = 5, 4, 3... (In decreasing order of rank).

There are four properties of this new index:

The value of  $I_{RD}$  lies between 0 and 1, that is,

$$0 < I_{RD} < 1$$

$I_{RD}$  measures in relative terms the position of the most dominant state over period from 1991 to 2016 for attracting FDI. The value of  $I_{RD}$  lies between zero and one but never become zero because in this index, the states included must be at least one time be placed in the top five positions over the



period 1991 to 2016. The maximum value of  $I_{RD}$  shall be one provided a state has been at top position in all years from 1991 to 2016 for attracting FDI in the state.

1. IRD is a measure of continuous dominance.
2. RIRD enables measuring the relative continuous dominance.
3. IRD is a measure that applies to panel data. That is it measures the dominance and amongst 'N' countries over a time periods of 'T' years.

### **Mobility and Turnover**

This is as a sum of rank changes among the top Indian states. Mobility is a churning in rank position of the leading FDI recipient states in India. It means changes in rank position within leading states. This mobility and turnover are based on Bodenhorn, et al. (1990). The measure of turnover as the change in rank of the FDI recipient states belonging to below the leading states and replace the states belonging to the leading FDI recipient states (Heggstad and Rhoades, 1976).

In mobility and turnover the changes in rank of current year are with respect to previous year. These measure the competition amongst the states in India. Measure of mobility and turnover over the periods 1991 to 2016 are calculated and the significance of their difference are tested. This is done with a view to understand whether dominance pattern of Indian states has changed, Murthy and Deb (2008). Mobility and Turnover is the primary dependent variable. States are ranked by FDI inflows in states from largest to smallest for each year, then summing the rank changes among the leading FDI recipient states in India in each year. Mathematically it can be stated as:

$$\text{Mobility and Turover} = \sum [R_i(t) - R_i(t-1)]$$

$R_i(t)$  is the rank of particular states receiving FDI in current year and  $R_i(t-1)$  is the rank of that states in the immediate previous year in terms of receiving FDI.

Herfindahl-Hirschman Index of Concentration

Herfindahl-Hirschman Index (HHI) is a commonly accepted measure of the market concentration. It is calculated by squaring the market share of each FDI recipient state and then summing the resulting number (Murthy and Deb, 2008). The HHI is expressed as:

$$HHI = \sum_{i=1}^N S_i^2$$

Where ' $S_i$ ' is the market share of FDI recipient state ' $i$ ' in the market and ' $N$ ' is the number of the states. This index is range from  $1/N$  to one, where ' $N$ ' is the

number of commodities.

A HHI index below 0.01 indicates a highly competitive.

A HHI index below 0.1 indicates not concentrated.

A HHI index between 0.1 to 0.18 indicates low concentration.

A HHI index above 0.18 to 0.30 indicates moderate concentration.

A HHI index above 0.30 indicates high concentration.

## V. Results and Empirical Analysis

### Ranking Patterns of FDI Recipient Indian States

Ranking patterns explain the position of particular FDI recipient state in quantitative and relative terms. The state at higher rank is possible only because of higher value of FDI inflows in the state. Table 4 and table 5 explain overall changes in the ranks of FDI recipient Indian states during 1991-2016. This gives a bird's eye view about which states receiving higher FDI inflows and which states receiving lower FDI inflows and also explaining about the changes in the position of ranks of the states. Dynamics of changes of ranks and positions of Indian states are much higher during 1991-2003. However, this dynamics of changes in ranks of Indian states have been moving towards stable pattern amongst FDI recipient states during 2004-2016.

**Table 4 : Change in Ranks of FDI Recipient States in India during 1991-2003**

Center	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Mumbai	4	6	1	1	2	2	1	4	1	1	2	2	1
New Delhi	3	4	2	3	1	4	2	7	2	5	5	6	3
Hyderabad	12	9	7	5	9	8	6	5	7	4	7	7	8
Bangalore	13	7	12	9	4	3	8	1	4	3	4	1	5
Ahmedabad	5	1	5	4	10	10	7	2	6	11	1	4	7
Chennai	10	3	4	6	3	1	5	3	3	2	3	5	2
Kochi	11	8	15	15	15	12	15	14	13	7	12	13	11
Jaipur	6	12	9	10	11	14	9	13	14	10	13	8	13
Kolkata	1	11	10	2	5	7	11	6	11	6	9	9	6
Bhopal	7	10	6	8	12	9	3	8	5	9	14	11	14
Kanpur	2	5	11	12	7	5	12	11	9	8	6	10	9
Chandigarh'	14	2	8	7	8	6	10	9	8	12	11	3	4
Panaji	9	13	14	13	13	13	13	12	15	13	8	12	10
Guwahati	16	16	16	16	14	16	16	16	16	15	16	15	12
Bhubaneshwar	8	15	3	11	6	11	4	10	12	16	10	16	16
Patna	15	14	13	14	16	15	14	15	10	14	15	14	15

Source: Authors' estimation

**Table 5: Change in Ranks of FDI Recipient States in India during 2004-2016**

Center	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Mumbai	1	2	1	1	1	1	1	1	1	1	2	2	1
New Delhi	2	1	2	2	4	2	2	2	2	2	1	1	2
Hyderabad	4	7	5	4	5	4	5	6	5	5	5	6	3
Bangalore	3	3	4	3	3	3	4	3	4	4	4	4	4
Ahmedabad	6	8	6	7	2	5	6	5	6	6	6	5	5
Chennai	9	5	3	5	6	6	3	4	3	3	3	3	6
Kochi	12	13	11	10	9	8	13	8	9	10	9	8	7
Jaipur	14	14	9	11	8	13	14	14	11	11	7	12	8
Kolkata	8	9	8	6	7	12	10	7	7	7	8	7	9
Bhopal	11	12	13	8	13	10	8	9	8	8	10	10	10
Kanpur	7	6	14	14	16	14	11	11	13	12	11	9	11
Chandigarh	5	4	12	9	11	11	7	10	10	9	12	13	12
Panaji	10	11	7	12	10	7	9	13	15	13	14	14	13
Guwahati	13	16	16	15	12	15	15	16	16	16	16	15	14
Bhubaneshwar	15	10	10	13	14	9	12	12	12	14	13	16	15
Patna	16	15	15	16	15	16	16	15	14	15	15	11	16

Source: Authors' estimation

### Index of Rank Dominance

Indian states have been consistently offering a number of incentives through liberalizing their industrial policies in order to attracting more of FDI inflows in their respective states since 1991. There is a policy competition across the Indian states for attraction of FDI in respective states. So we are assuming that FDI inflows in India have been evenly distributed across the Indian states.

However, the result is not as per the expectation. FDI inflows in India are concentrated in a few states only. The most dominating Indian state is Maharashtra. The next dominating states are Delhi and Bangalore. The relative index of rank dominance (RIRD) shows that FDI inflows in Indian states are top heavy. Maharashtra is receiving more 25 percent of FDI inflows in India. The first five states which include mainly Maharashtra, Delhi, Bangalore, Tamil Nadu and Gujarat are receiving more than 85 percent of FDI inflows in India during the period 1991-2016. Others remaining states are receiving less than 15 percent of FDI inflows in India. There is no FDI inflows in North-East States (table 6).

**Table 6: Dominance Pattern of Top Five FDI Recipient States during 1991-2016**

Center	States Covered	Total	IRD	RIRD
<b>Mumbai</b>	Maharashtra, D&N Haveli, Daman & Diu	112	0.861538	0.285714
<b>New Delhi</b>	Delhi	85	0.653846	0.216837
<b>Bangalore</b>	Karnataka	57	0.438462	0.145408
<b>Chennai</b>	Tamil Nadu, Pondicherry	54	0.415385	0.137755
<b>Ahmedabad</b>	Gujarat	28	0.215385	0.071429
<b>Hyderabad</b>	Andhra Pradesh	19	0.146154	0.048469
<b>Chandigarh`</b>	Punjab, Haryana, Chandigarh, HP	12	0.092308	0.030612
<b>Kolkata</b>	WB, Sikkim, A& N Islands	10	0.076923	0.02551
<b>Kanpur</b>	Uttar Pradesh and Uttranchal	6	0.046154	0.015306
<b>Bhubaneshwar</b>	Orissa	5	0.038462	0.012755
<b>Bhopal</b>	Madhya Pradesh and Chhattisgarh	4	0.030769	0.010204
		<b>Total</b>	3.015385	1

Source: Authors' estimation

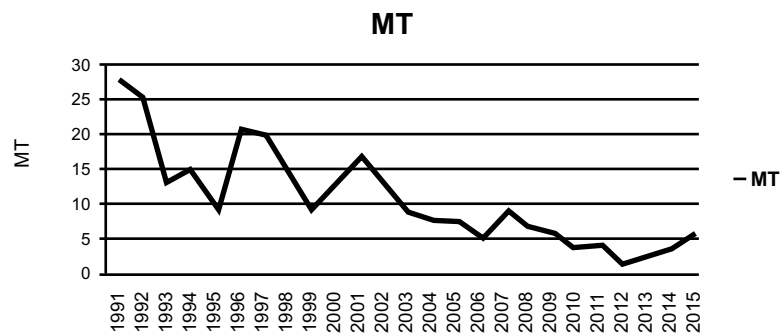
The mobility and turnover measures the competition among the Indian states for attraction of FDI inflows in their respective states. Higher the value of mobility and turnover means high competition across the states and consequently FDI is evenly distributed across Indian states and vice-versa. The result shows the mobility and turnover is high across the states during the 1991-2003 than that of during later period 2004-2016. This indicates that there was competition among the states during initial phase of internationalization of India. This competitive environment among the states reduced during later periods. This means FDI is concentrated in a few states only. The highest mobility and turnover is 27 in 1992 and lowest is one in 2013. This is also evident from figure 3. Overall average mobility and turnover is around 10 during 1991-2016 (table 7).

**Table 7: Bodenhorn's Mobility and Turnover of FDI Recipient States in India during 1991-2016**

Year	Mobility & Turnover
1992	27
1993	24
1994	12
1995	14
1996	8
1997	20
1998	19
1999	14
2000	8
2001	13
2002	16
2003	12
2004	8
2005	7
2006	7
2007	4
2008	8
2009	6
2010	5
2011	3
2012	3
2013	1
2014	2
2015	3
2016	5
Average	9.96

Source: Authors' estimation

**Figure 3: Mobility and Turnover of FDI Recipient States in India**



The compounding annual growth rate (CAGR) is 9.5 percent which is statistically significant but sign is negative. It means the competition across the states for attraction of FDI inflows has been declining at the rate of 9.5 percent per annum (table 8). Consequently, FDI inflow is limited to a few states only. This leads to increase economic and capitals inequality amongst the states.

**Table 8: Regression Statistics of Mobility and Turnover of FDI Recipient States 1991-2016**

<i>Regression Statistics</i>					
Multiple R	0.858				
R Square	0.736				
Adjusted R Square	0.724				
Standard Error	0.429				
Observations	25				

<i>ANOVA</i>					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	11.805	11.805	64.098	0.000
Residual	23	4.236	0.184		
Total	24	16.041			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	192.991	23.853	8.091	0.000
Year	-0.095	0.012	-8.006	0.000

Source: Authors' estimation

### **Competition and Concentration of FDI in Indian States**

The international patterns of FDI are governed by the new economic order based on free flow of capital along with technology and managerial resources. The process of globalization has aided such international FDI flows. It is important that the capital flows in the form of FDI consistently flow to the most desirable regions/locations which have unutilized resources of the world. These regions need to receive an equitable distribution of FDI. Hence, these regions should receive FDI in such a manner so as to ensure optimum allocation of resources. This could happen only if the concentration of FDI is low or FDI is well distributed. It is therefore apparent that there is a strong relationship between FDI flows and concentration pattern. The expectation is that the FDI flows would be uniformly distributed across the Indian states to enable a rational distribution of resources. It implies that the concentration of FDI inflows should be low amongst the Indian states (Sinha, 2013).

The value of concentration of FDI inflows in Indian states lies between

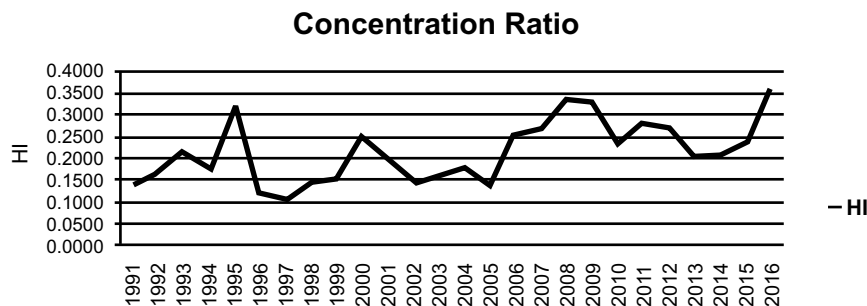
0.1047 and 0.3585. The minimum value is 0.1047 in 1997 implies low concentration while maximum value is 0.3585 in 2016 implies high concentration of FDI inflows in a few states. Overall average value is 0.2162 during the period 1991-2016 indicates moderate concentration of FDI inflows in the states (table 9). The figure 4 clearly showing that value of concentration ratio is between low and moderate during 1991-2005. However, value of concentration ratio is between moderate and high during period 2005-2016. This implies that during initial phase of internationalization of India, there was competition amongst Indian states for attraction of FDI inflows in their respective states. However the FDI inflows is limited and concentrated in a few states only in later part of the period. This leads to increase economic resource inequality among the states/regions. The compounding annual growth rate (CAGR) is 2.4 percent which is statistically significant and sign is positive. It means the concentration of FDI inflows is increasing at the rate of 2.4 percent per annum in a few states (table 10). So the competition among Indian states is declining in spite of policy incentives and investor-friendly attitude of all the states for attracting investment in their states.

**Table 9: Herfindahl-Hirschman Index of Concentration of FDI in the Indian States**

Year	HHI Concentration Ratio
1991	0.1411
1992	0.1700
1993	0.2211
1994	0.1725
1995	0.3259
1996	0.1180
<b>1997</b>	<b>0.1078</b>
1998	0.1441
1999	0.1572
2000	0.2612
2001	0.2108
2002	0.1450
2003	0.1599
2004	0.1734
2005	0.1375
2006	0.2565
2007	0.2648
2008	0.3343
2009	0.3318
2010	0.2320
2011	0.2785
2012	0.2743
2013	0.1998
2014	0.2103
2015	0.2346
<b>2016</b>	<b>0.3585</b>
<b>Average</b>	<b>0.2162</b>

Source: Authors' estimation

**Figure 4: Herfindahl-Hirschman Index of Concentration of FDI in the Indian States**



**Table 10: Regression Statistics of HHI of Concentration of FDI in the Indian States**

<i>Regression Statistics</i>					
Multiple R	0.534				
R Square	0.286				
Adjusted R Square	0.256				
Standard Error	0.293				
Observations	26				

<i>ANOVA</i>					
	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	0.823	0.823	9.596	0.005
Residual	24	2.057	0.086		
Total	25	2.880			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	-49.101	15.339	-3.201	0.004
Year	0.024	0.008	3.098	0.005

Source: Authors' estimation

## VI. Conclusion and Policy Suggestions

With globalisation, flows of foreign direct investment (FDI) in India have been increasing since 1991, in an overall sense. However the FDI inflows into different States in India have not grown uniformly (Murthy and Sinha, 2014). More than 85 percent FDI inflow in India is concentrated in five states - Maharashtra, Delhi, Bangalore, Tamil Nadu and Gujarat. Maharashtra is getting more than 25 percent of FDI inflows in India. Remaining states are receiving less than 15 percent. The competition among Indian states is declining at the rate 9.5 percent per annum. The



concentration of FDI inflows in a few states is increasing at the rate of 2.4 percent per annum. North-East states are receiving almost negligible amount of FDI.

Overall FDI inflows in India have been significantly increased since 1991. Region-wise, economically advanced states such as Maharashtra, Delhi, Gujarat etc. have attracted lion's share of FDI inflows in India. This leads to increase in regional inequality among Indian states. The states that are more efficient in term of state domestic products (SDP) received less of FDI flows. It points towards non-economic forces in operation that influence FDI flows and regional development (Murthy and Sinha, 2014).

### **Policy Suggestions**

Following policy measures maybe worthwhile and result in the fair distribution of FDI in the country:

- Government should modify/change its FDI policy in such a manner which leads to provides equitable investment opportunities across Indian states and ensure that the rising FDI flows do not lead to an increase in regional inequality (Sinha, ed. 2017).
- Government should undertake the survey to identify the potentiality of each state or regions to attract FDI. The potential may be in the form of strong concentration of manufacturing activities, abundance of natural resources, highly skilled labour force, locational advantages i.e. ports, airports, railways and road connectivity etc.
- Government should devise the policy based on this potentiality inculcating attractive elements. So that foreign investors feel to invest in a particular state or the region.
- The state governments on their part should initiate reform measures to create conducive environment for the inflow of FDI.

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