CHAPTER V

REGIONS WITH HIGH INFLOW OF FDI (RHIF) IN INDIA

5.1 Introduction

The liberalization regime in the country, initiated in the beginning of 1990s, brought remarkable transformation in the structure of FDI in India. The influential liberalization policy played a key role, along with other factors, in enhancing the FDI inflow to India to \$236.69 million in the year 2000, from a meager inflow worth \$75 million in 1991. The liberalization strategy also had a hand in elevating the country's FDI stock of mere \$1731.81 million in 1991 to a record altitude of \$16338.95 million in 2000.

This chapter intends to analyze the determinants and role of FDI inflows in India at the macro level i.e. at the regional level. This lends a hand in understanding the dynamics of region-specific variation in the determinants and role of FDI inflows to the country and renders scope for initiating relevant policies. Apart from recording aggregate FDI inflows coming to the country, it is computed on region-wise also. Thus 17 regions in India receive FDI as specified by the quarterly fact sheets on FDI by the Department of Industrial Policy and Promotion (DIPP). The following table (Table 5.1) presents the details of the 17 regions which received FDI inflows in India from April 2000 to March 2016.

	Distribution of FDI Inflows across India								
Rank	Region	State/UT included in Regions	Percent of FDI Received	Classification on the Basis of FDI Volume					
1	Mumbai	 Maharashtra Dadra and Nagar Haveli Daman and Diu 	29	Regions with High Inflow of FDI (RHIF)					
2	New Delhi	 NCT of Delhi Some parts of Uttar Pradesh and Haryana 	22	Total Inflow of FDI = 74 Per cent					
3	Chennai	 Tamil Nadu Pondicherry 	7						
4	Bangalore	Karnataka	7						
5	Ahmedabad	Gujarat	5						
6	Hyderabad	Andhra Pradesh	4						
7	Kolkata	 West Bengal Sikkim Andaman & Nicobar 	1						
8	Chandigarh	 UT of Chandigarh Punjab Haryana Himachal Pradesh 	0.5						
9	Jaipur	Rajasthan	0.5						
10	Kochi	 Kerala Lakshadweep 	0.5						
11	Bhopal	 Madhya Pradesh Chhattisgarh 	0.5						
12	Panaji	Goa	0.3						
13	Kanpur	 Uttar Pradesh Utharakhand 	0.2	Regions with Low Inflow of FDI (RLIF)					
14	Bhubaneshwar	Odisha	0.1	Total Inflow of FDI =					
15	Guwahati	 Assam Arunachal Pradesh Manipur Meghalaya Mizoram Nagaland Tripura. 	0.03	0.36 Per cent					
16	Patna	 Bihar Jharkhand 	0.03						
17	Jammu	Jammu and Kashmir	0						
18	Region not Indicated	Nil	23						

Table 5.1Distribution of FDI Inflows across India

Source: Quarterly Fact Sheet on FDI, Department of Industrial Policy and Promotion (DIPP), March 2016 Note: The per cents of FDI inflow is from April 2000 to March 2016. As shown in Table 5.1, the various regions which receive FDI inflows are, Mumbai, Delhi, Bangalore, Chennai, Ahmedabad, Hyderabad, Kolkata, Kochi, Jaipur, Chandigarh, Bhopal, Panaji, Kanpur, Bhubaneshwar, Patna, Guwahati and Jammu and Kashmir. FDI coming to these regions are recorded in the RBI regional offices functioning there. To some regions, two or more states and UTs are attached for the purpose of recording FDI inflows as if Mumbai region includes not only the state of Maharashtra, but also the UTs of Dadra and Nagar Haveli and Daman and Diu.

In this study, the regions have been categorized in to high and low FDI Regions on the basis of the volume of FDI received by them during April 2000 to March 2016. Accordingly, the regions of Mumbai, Delhi, Bangalore, Chennai, Ahmedabad and Hyderabad are in the first six positions respectively in terms of their receipt of FDI and they are termed as 'Regions with High Inflow of FDI (RHIF)'. Likewise, the regions of Kanpur, Bhubaneshwar, Patna and Guwahati are described as 'Regions with Low Inflow of FDI (RLIF)'. The regions like Kolkata, Kochi, Chandigarh, Bhopal, Jaipur and Goa which received moderate FDI inflows during the period, have not been considered for analysis in this study.

DIPP's FDI factsheet in March 2016 discloses that 74 per cent of the total FDI inflows came to India has gone to RHIF, while the RLIF could receive only 0.36 per cent. These facts direct towards the aspect of wide regional disparity prevailing in the distribution of FDI within the territory of India as mentioned by Mukherjee (2011) and Chatterjee et al. (2013). Despite of the huge volume of FDI came to India so far as a part of its open policy mindset, a principal portion of the country's regions lying untapped by foreign investment, and such circumstances have caused imbalance in the country's economic

growth. The disparity in the regional distribution of FDI inflows within the country forms the basis of our study as it gave us insight to appraise suitably the magnitude of FDI inflows came to each region. A review of former attempts revealed that there is a gap exists as no studies have carried out so far to explain the FDI inflows to RHIF and RLIF. Instead, every author has put the inter-regional FDI in a single framework or everyone has attempted examining the FDI received by each region through a single viewpoint . Thus, in this work, the reseracher builds distinct models to explain the FDI inflows brought by RHIF and RLIF. The present chapter, focuses on the determinants of FDI inflows to RHIF and the role of FDI in RHIF, while the distribution of FDI inflows in RLIF has been described in the following chapter.

5.2 Brief Economic Profile of RHIF

RHIF includes six regions as mentioned above which encompasses five states and four UTs. All the five states included in RHIF are more advanced than other 24 Indian states in terms of almost all economic, industrial and social criteria. RHIF is also significant in terms of the geographical area they encompass, which is more than 30 per cent or around one third of the total. The per cent of population they accommodate is more than one third of the total.

However, the conditions in the UTs (except Delhi) which come under RHIF (Dadra and Nagar Haveli, Daman and Diu and Pondicherry) are quite backward. The following table (Table 5.2) gives a brief summary of the economy (described in terms of GSDP) of RHIF.

					Bangalor			Hyderaba	Ahmedab		Tot
		Mumbai		Delhi	e	Ch	ennai	d	ad		al
						Tam					of
		Dama	Dadra and			il				All	RH
	Maharashtr	n and	Nagar		Karnatak	Nad	Pondi	Andhra		Indi	IF
Particulars	a	Diu	Haveli	Delhi	a	u	cherry	Pradesh	Gujarat	a	
		Gro	ss State Dome	stic Produc	t (GSDP)		· · · · · · · · · · · · · · · · · · ·			•	
						4234.	121.0				
a. Mean (Rs Bn)	7883.91	NA	NA	1956.52	2903.96	78	6	2243.77	3995.37	-	-
						4332.	113.5				
b. Median (Rs Bn)	7756.097	NA	NA	1902.76	2827.84	38	7	2212.85	3920.58	-	-
c. Standard Deviation (Rs						843.3					
Bn)	1507.939	NA	NA	406.56	485.19	4	31.07	387.5238	904.8	-	-
d. Standard Deviation/Mean										17.7	
(%)	19.13	NA	NA	20.78	16.71	19.91	25.67	17.27	22.65	3	-
e. AAGR (%)	7.08	NA	NA	8.55	6.34	7.61	9.99	6.48	8.79	6.96	-
f. CAGR (%)	7.05	NA	NA	8.52	6.31	7.57	9.94	6.45	7.77	6.95	-
e. Per cents to the GDP of											42.
India (Average)	15.16	NA	NA	1.48	5.6	8.11	0.23	4.32	7.63	-	53

Table 5.2GSDP (At Factor Cost and in Constant Prices) of RHIF

Source: Calculated on the Basis of Data from Handbook of Statistics on Indian States by RBI, 2018.

Note: Each Average Figure Belongs to the period 2007-08 and 2015-16, NA: Not Available

Table 5.2 shows that Maharashtra gave of the highest share to India's GDP (15.16 per cent on average) between 2007-08 and 2015-16. Also, the state's GSDP dilated at a higher CAGR of 7.05 per cent (India- 6.95 per cent) during the period. Delhi's GSDP counted up to 1.48 per cent of the GDP of India (average). However, it enlarged at a higher CAGR of 8.52 per cent between 2007-08 and 2015-16. Apparently, Tamil Nadu also has a substantial share in the total GDP; GSDP of the state amounted to 8.11 per cent and enhanced at a higher CAGR of 7.57 per cent between 2007-08 and 2015-16. The GSDP of Puducherry accounted for a very low fraction (0.23 per cent) of the total; but it surged up at a higher CAGR of 9.94 per cent. Karnataka's GSDP amounted to a moderate portion (5.6 per cent) and it enhanced at a lesser CAGR of 6.31 per cent. In Andhra Pradesh, GSDP accounted for relatively lower share (4.32 per cent) of the total GDP and its expansion was also at a lesser CAGR of 6.45 per cent. Finally, in Gujarat, GSDP amounted to relatively higher portion (7.63 per cent) of total GDP and it augmented at a higher CAGR of 7.77 per cent between 2007-08 and 2015-16.

A review of Table 5.2 infuses adequate evidences of the economic position of RHIF. It is apparent that the GSDP of every state in RHIF, except Karnataka and Andhra Pradesh, has grown at a higher CAGR in excess of that of the country between 2007-08 and 2015-16. It hints that most of the regions under RHIF show dynamic potential to expand and flourish in the short run. Furthermore, it may be observed that RHIF contributes more than 40 per cent to the GDP of the country (average) and simultaneously attracts around 74 per cent of FDI inflows. Against such a backdrop, it is imperative to analyze the FDI inflows to these regions in extenso by constituting a conglomeration namely RHIF. The following section presents the traits of FDI inflows to RHIF during 2007-08 and 2015-16.

5.3 Trend and Pattern of FDI inflows in RHIF

FDI is indispensable for India by virtue of the multifarious advantageous effects it renders to the industrial and economic growth in host economies beyond the mere provision of capital. Equally, to RHIF also, FDI inflows are inevitable and in effect, FDI has been actively playing behind the industrial and economic prosperity of RHIF since 2000. Thus from a short span of time between April 2000 and March 2016, Mumbai alone received FDI worth Rs 4157.53 billion. During the period, the six regions within RHIF together received FDI worth Rs 11035.44 billion, which makes it imperative to narrate the FDI synopsis on RHIF during the period. Here only FDI inflows have been considered. The following table (Table 5.3) presents the details of FDI inflows to RHIF.

Table 5.3Annual FDI Inflows to RHIF- Statistics

Particulars	Mumbai	Delhi	Chennai	Bangalore	Ahmedabad	Hyderabad	India
Average FDI							
Inflows (Rs Bn)	421.14	331.28	119.1367	109.69	71	59.75	1489
Median	405.97	374.03	77.57	72.35	52.82	57.1	1428
Standard Deviation	131.05	237.91	93.96	77.87	43	21.42	510.16
Standard							
Deviation/Mean (%)	31.12	71.81	78.87	71	60.56	35.85	34.25
CAGR (%)	5.59	25.88	40.17	19.75	9.29	12.88	13.01
AAGR (%)	17.62	93.49	66.91	29.53	27.98	20.65	17.76
FDI inflows (% of							
Region's GSDP-							
Average)	5.53	15.93	2.53	3.57	1.73	2.62	2.83
FDI inflows (% of							
Region's GFCF-		33.19					
Average)	90.44	(Times)	48.41	50	13.26	32.65	4.87

Source: Computed on the Data from the Quarterly Factsheet of DIPP, Various Issues. Note: All average figures belong to the period of 2007-08 and 2015-16.

According to Table 5.3, FDI inflows to Mumbai expanded at a CAGR of 5.59 per cent between 2007-08 and 2015-16. Ratios of FDI to GSDP and FDI to GFCF (average) accounted for 5.53 per cent (India – 2.83 per cent) and 90.44 per cent (India – 4.87 per

cent) respectively. Additional attributes of FDI to Mumbai have been provided in the following section. Table 5.4 presents the details of the top five countries which brought FDI to Mumbai.

Top Five Countries Brought FDI to Mumbai						
Rank	Country	FDI Inflows(Rs Bn)	Per cent Composition			
1	Mauritius	2129.26	39.8			
2	Singapore	636.75	11.6			
3	United Kingdom	413.43	8.15			
4	Japan	353.98	6.11			
5	Netherlands	320.72	5.82			
	Total	3854.14	71.48			

Table 5.4Top Five Countries Brought FDI to Mumba

Source: FDI synopsis on RBI's regional office – Mumbai (Published by DIPP, 2016)

Note: 1. Brought FDI equity to RBI'S Mumbai regional office- from January 2000 to December 2016.

2. Amount includes the inflows received through FIPB/SIA route, acquisition of existing shares & RBI's automatic route only.

According to Table 5.4, Mauritius brought the highest amount of FDI to Mumbai (Similar in the case of India). It accounted for 39.8 per cent of the total FDI inflows brought in by all foreign countries to the region between January 2000 and December 2016. Likewise, Singapore ranked second after Mauritius in fetching FDI to Mumbai. The following table (Table 5.5) presents the details of top five sectors attracted FDI flows to Mumbai between January 2000 and December 2016.

Rank	Sector	FDI inflows (Rs Bn)	Per cent Composition
1	Service Sector ²	1291.02	25.39
2	Telecommunications	499.63	8.28
3	Construction Development ³	337.71	7.14
4	Computer Software & Hardware	308.38	5.55
5	Metallurgical Industries	284.80	5.5
	Total	2721.54	51.86

Table 5.5Top Five Sectors Brought FDI to Mumbai1

Source: FDI synopsis on RBI's regional office – Mumbai (Published by DIPP, 2016)

Note: 1. Brought FDI equity to RBI'S Mumbai regional office- From January 2000 to December 2016.

2. R&D, Courier, Tech, Testing and Analysis. 3. Townships, Housing, Built-Up Infrastructure and Construction Development Projects. 4. Amount includes the inflows received through FIPB/SIA route, acquisition of existing shares &RBI's automatic route only.

From January 2000 to December 2016, FDI worth Rs 5334.11 billion has flowed to the various sectors of Mumbai, which includes the state of Maharashtra and UTs of Dadra and Nagar Haveli, and Daman and Diu. In accordance with Table 5.5, in Mumbai, service sector received highest FDI (25.39 per cent). Service sector encompasses segments like financial, banking service, insurance, non-financial service or business service, outsourcing, research and development, courier, technical testing and analysis, commodity exchange etc. The financial service sector of Maharashtra is well founded and structured. The state's capital, Mumbai is also known as the financial capital of India. The city accommodates bulk of the headquarters of large corporates and financial institutions in the country. In addition, major stock exchanges, commodity exchanges and capital markets of India are situated in Mumbai. Mumbai is home to three stock exchanges [Bombay Stock Exchange (BSE), National Stock Exchange (INSE) and Metropolitan Stock Exchange (ICEX), Multi Commodity Exchange (MCX), National

Commodity and Derivatives Exchange (NCDEX)]. The state is home to several big financial houses including the apex bank of India. Apart from RBI, the state accommodates big banking institutions like State Bank of India (SBI), Bank of India (BoI), Union Bank of India (UBI), Bank of Maharashtra, Central Bank of India, Dena Bank, Yes Bank, Deutsche Bank India, Citibank of India, Housing Development Finance Corporation (HDFC) Bank, Industrial Development Bank of India (IDBI) and Industrial Credit and Investment Corporation of India (ICICI) bank.

Subsequently, the region's telecom sector attracted biggest amount of FDI. The top five sectors including service, telecom, construction, computer hardware and software, and metallurgical industries in the region together gathered 51.86 per cent of FDI. The following table (Table 5.6) shows the biggest ten FDI inflows came to Mumbai from January 2000 to December 2016.

Rank	Indian Company	Home Country	Foreign Collaborator	Item of Manufacture	FDI Inflows (Rs Bn)		
1	Blue Ridge Hotels Pvt Ltd	Mauritius	Blue Ridge Holdings Limited	Hotels	154.88 (23.82)		
2	Abbott Healthcare Pvt Ltd	United States	Abbott Asia Holdings Ltd	Allopathic Pharmaceutical	107.64 (16.55)		
3	Tata Teleservices Ltd	Japan	NTT Do Como Inc	Telecommunication Networks	97.97 (15.07)		
4	Cairn (I) Ltd.	UK	Cairn UK Holding	Business services not elsewhere classified	66.63 (10.25)		
5	JSW Steel Ltd	Japan	JFE Steel Corporation	Basic Iron and Steel	48.01 (7.38)		
6	JSW Steel Ltd	Japan	JFE Steel Corporation	Semi-Finished Iron & Steel	48.01 (7.38)		
7	India Debt Management Ltd	Mauritius	Mauritius Debt Management Ltd	Commercial Loan Activities	38 (5.84)		
8	Etisalat DB Telecom P. Ltd	Mauritius	Etisalat Mauritius Ltd.	Communication	32.28 (4.96)		
9	AAA & Sons Enterprises P Ltd	Mauritius	Emerging Markets Investments and Trading	Wind Mills	29.51 (4.54)		
10	INDUSIND Bank Ltd.	U.S.A	Various	Monetary Intermediation	27.33 (4.20)		
	Total						

Table 5.6Top Ten FDI Equities to Mumbai

Source: FDI synopsis on RBI's regional office – Mumbai (Published by DIPP, 2016) Note: From January 2000 to December 2016. Figures in the parentheses show per cent to total. Mauritius based Blue Ridge Holdings Limited made the top most investment in Mumbai during January 2000 to December 2016 (Table 5.6). Behind it, the UK based Abbott Asia Holdings Ltd carried out the largest investment in the allopathic pharmaceutical sector of the region. Abbott India Ltd is one of the largest MNC pharmaceutical companies operating in India. It is a subsidiary of Abbott Laboratories of United States. Thirdly, the Japan based NTT Do Como made an investment worth Rs 97.97 in the Indian company of Tata Teleservices Ltd. Thus, seven more Mumbai based companies attracted highest amounts of FDI. The biggest ten foreign investments in Mumbai together amounted to Rs 650.26 billion. The following section describes the FDI scenario in Delhi.

After Mumbai, the National Capital Territory (NCT) of Delhi gathered highest FDI inflows. From April 2000 to December 2016, it brought in around 22 per cent of FDI inflows which surged up at a higher CAGR of 25.88 per cent (India – 13.01 per cent) between 2007-08 and 2015-16. Ratio of FDI to GSDP accounted for 15.93 per cent, which is higher compared to that of other regions in RHIF as well as that of whole India (2.83 per cent). The ratio of FDI to GFCF accounted for 3.19 times, which is exorbitant for the region since it has comparatively lower volume of gross fixed capital formation. The following section describes the further attributes of FDI to Delhi from January 2000 to December 2016. Table 5.7 shows the top five countries brought FDI to Delhi.

Rank	Country	FDI inflows(Rs Bn)	Per cent Composition
1	Mauritius	1146.85	33.62
2	Singapore	1050.57	26.44
3	Japan	274.39	7.61
4	Netherlands	262.60	6.97
5	USA	177.69	4.93
Т	otal	2912.10	79.57

Table 5.7Top Five Countries Brought FDI to Delhi

Source: FDI synopsis on RBI's regional office – Delhi (Published by DIPP, 2016)

Note: 1. Brought FDI equity to RBI'S Delhi regional office- January 2000 to December 2016. 2. Amount includes the inflows received through FIPB/SIA route, acquisition of existing

shares &RBI's automatic route only.

Table 5.7 shows that Mauritius has brought highest volume of FDI to Delhi (Rs 1146.85 billion and 33.62 per cent). It may be observed that during the equivalent period, Mumbai received around 39.8 per cent of FDI through Mauritius route while it is 33.62 per cent to Delhi. Contrast to this, while Singapore brought just 11.6 per cent of FDI to Mumbai, Delhi received 26.44 per cent of FDI from it. The top five countries including Mauritius, Singapore, Japan, Netherlands and USA together brought in 79.57 per cent of FDI to Delhi. The following table (Table 5.8) shows the top five sectors fetched FDI to Delhi.

Rank	Sector	FDI Inflows(Rs Bn)	Per cent Composition
1	Services Sector ²	630.02	16.98
2	Construction Development ³	394.22	12.42
3	Telecommunications	367.37	10.88
4	Trading	338.77	8.24
5	Computer Software & Hardware	324.57	8.12
	Total	2054.93	56.64

Table 5.8Top Five Sectors Brought FDI to Delhi¹

Source: FDI synopsis on RBI's regional office – Delhi (Published by DIPP, 2016)

Note :1. Brought FDI equity to RBI'S Delhi regional office-January 2000 to December 2016.

2. Service sector includes Financial, Banking, Insurance, Non-Financial or Business,

Outsourcing, R&D, Courier, Tech, Testing and Analysis.

3. Townships, Housing, Built-Up Infrastructure and Construction Development Projects.

4. Amount includes the inflows received through FIPB/SIA route, acquisition of existing shares & RBI's automatic route only.

According to Table 5.8, highest volume of FDI has come to the service sector of Delhi (Rs 630.02 billion and 16.98 per cent) and it testifies the subsistence of a well progressing service sector in Delhi. The region is home to large number of commercial banks and financial services institutions.

Afterwards, biggest volume of FDI came up in the construction sector in Delhi (Rs 394.22 billion and 12.42 per cent). Construction and real estate sector in Delhi is one which offers rewarding opportunities and it attracts investors from India and abroad alike. In November 2015, Government of India announced reduction in FDI norms in real estate and construction sector in order to boost the affordability in housing sector. Thus, any project under construction, irrespective of the size will have access to FDI. The following table (Table 5.9) shows the ten biggest FDI deals occurred in Delhi from January 2000 to December 2016.

SI. No	Indian Company	Home Country	Top Ten FDI Equities to Foreign Collaborator	Item of Manufacture	FDI Inflows (Rs Bn)
1	Keyman Financial Service	Mauritius	B.K Media	Financial Leasing	75 (17.97)
2	Bharti Airtel	Singapor e	Three Pillars Ltd	Communication	67.96 (16.28)
3	Triguna Hospitality	Singapor e	APHV India	Activities of holding companies	56.70 (13.59)
4	Triguna Hospitality	Singapor e	AAPC Singapore	Activities of holding companies	50.41 (12.08)
5	JASPER Infotech	Singapor e	Starfish Pvt Ltd	IT	36.13 (8.66)
6	Receitt Benckiser India	Singapor e	Receitt Benckiser Singapore	Financial Services	32.75 (7.85)
7	Bhaik Infotel	Mauritius	Vodafone Mauritius	Communication	32.68 (7.83)
8	Bharati Infotel	Mauritius	Vodafone Mauritius	Non-operating financial holding companies	26.32 (6.31)
9	NHPC	Indonesia	NA*	Energy	19.79 (4.74)
10	GE India Pvt Ltd	Singapor e	GE Pacific Pvt Ltd	Electrical Equipment	19.63 (4.70)
			Total		417.36 (100)

Table 5.9Top Ten FDI Equities to Delhi

Source: FDI synopsis on RBI's regional office – Delhi (Published by DIPP) Note: From January 2000 to December 2016 *Not Available, Figures in the parentheses show

Note: From January 2000 to December 2016.*Not Available. Figures in the parentheses show per cent to total.

According to Table 5.9, Mauritius based B.K Media made the biggest investment in Delhi (Rs 75 billion). Its Indian collaborator is Keyman financial services. The all ten biggest foreign investment deals together brought in Rs 417.36 billion to Delhi in its various sectors within December 2016. The following section explicates the FDI scenario in Chennai.

Chennai attracted the third largest volume of FDI (Rs 1185.47 billion and 7 per cent) in India (from April 2000 to March 2016). Between 2007-08 and 2015-16, its FDI inflows grew at a high CAGR (40.17 per cent, India – 13.01 per cent). The ratio of FDI to GSDP is 2.53 per cent on average (India – 2.83 per cent). FDI to GFCF of the region accounted for 48.41 per cent (India – 4.87 per cent). Table 5.10 showed below, presents the details of the top five countries brought in FDI to Chennai.

Rank	Country	FDI inflows(Rs Bn)	Per cent
1	USA	267.59	19.08
2	Mauritius	222.64	19.08
3	Singapore	193.86	15.99
4	Japan	114.58	8.92
5	Netherlands	107.76	8.2
	Total	906.43	71.27

 Table 5.10

 Five Countries Brought FDI to Chenn

Source: FDI synopsis on RBI's regional office – Chennai (Published by DIPP, 2016)

Note: 1. Brought FDI equity to RBI's Chennai regional office- January 2000 to December 2016

2. Amount includes the inflows received through FIPB/SIA route, acquisition of existing shares & RBI's automatic route only.

USA brought the highest amount of FDI to Chennai (Table 5.10). It is followed by Mauritius with FDI worth Rs 222.64 billion. However, the top five countries together have brought in foreign investment worth Rs 906.43 billion to Chennai. The following table (Table 5.11) presents the top five sectors attracted FDI in Chennai between January 2000 and December 2016.

Rank	Sector	FDI inflows(Rs Bn)	Per cent
1	Automobile Industry	261.83	20.27
2	Services Sector*	147.88	11.51
3	Construction (Infrastructure) Activities	161.96	10.76
4	Construction Development: Townships, Housing, Built-Up Infrastructure And Construction-Development Projects	83.45	7.57
5	Computer Software & Hardware	65.53	5.99
	Total	720.64	56.1

Table 5.11Top Five Sectors Brought FDI to Chennai

Source: FDI synopsis on RBI's regional office – Chennai (Published by DIPP, 2016)

Note: *Service sector includes Financial, Banking, Insurance, Non-Financial / Business, Outsourcing, R&D, Courier, Tech. Testing and Analysis. Amount includes the inflows received through FIPB/SIA route, acquisition of existing shares & RBI's automatic route only. Brought FDI equity to RBI'S Chennai regional office-January 2000 to December 2016.

Automobile sector brought in the highest amount of FDI to Chennai between January 2000 and December 2016 (Table 5.11). It manifests the productive and rewarding automobile industry concentrated on the region of Chennai and its surroundings. Tamil Nadu accounts for about 21 per cent of the auto-exports from India. It is also the export hub of passenger vehicles, accounting for around 70 per cent of India's overall exports. Tamil Nadu is the largest tyre manufacturing state in India and home to over 80 auto-component manufacturers.

Large volume of FDI has also come to the region's service sector (Rs 147.88 billion and 11.51 per cent). This marks the existence of a strong and progressed service sector in the region. Chennai is a key financial centre in southern India with a strong presence of major Indian financial institutions and foreign banks. For instance, Scope is a wholly owned subsidiary of Standard Chartered Bank, UK, and is based in Chennai, with operations in shared service centres. The World Bank commenced its BPO operations at Chennai in 2001. Many of the high-value-added back office activities of the bank are now based in Chennai instead of Washington. The following table (Table 5.12) presents the

details of the top ten FDI deals occurred in the region from January 2000 to December 2016.

SI. N 0	Indian Company	Home Country	Foreign Collaborator	Item of Manufacture	FDI Inflows (Rs Bn)
1	Serene Senior Living (Covai SR Care Cons)	U.S.A	Signature India LLC	Other specialized construction activities	150.00 (49.79)
2	Ford India Limited	U.S.A	Ford Motor Company	Manufacture of Motor Cars & Other Motor Vehicles	26.67 (8.85)
3	Daimler India Commercial Vehicles Pvt Ltd	Germany	Daimler AG	Manufacture of Motor Vehicles for The Transport of Goods, Manufacture of Special Purpose Heavy Motor Vehicles	20.76 (6.89)
4	W. S. Electric Ltd	The Bermudas	Schroder Credit Renaissance Fund Ltd	Construction And Maintenance Not Elsewhere Classified.	17.81 (5.91)
5	Shriram Financial Ventures Chennai Pvt Ltd	Mauritius	Sanlam Emerging Markets (Mauritius) Ltd	Non-Operating Financial Holding Companies	15.40 (5.11)
6	Daimler India Commercial Vehicles Pvt Ltd	Germany	Daimler AG	Manufacture of commercial vehicles such as vans, lorries, over-the-road tractors for semitrailers etc	14.86 (4.93)
7	Renault Nissan Automotive India Pvt Ltd	Japan	Nissan Motors Company	Manufacture of Transport Equipment & Parts	14.77 (4.90)
8	Ford India Limited	U.S.A	Ford International Services Ltd	Manufacture Of Motor Cars & Other Motor Vehicles	14.43 (4.79)
9	LPCUBE Systems (I) P. Ltd.	Singapore	Vidhya Jayaraman	Data-processing Software Development And Computer Consultancy Services	14.06 (4.67)
10	Aircel Ltd	Mauritius	Global Communication Services Holdings Ld	Telephone Communication Services.	12.51 (4.15)
			Total		301.27 (100)

Table 5.12Top Ten FDI Equities to Chennai

Source: FDI synopsis on RBI's regional office – Chennai (Published by DIPP, 2016) Note: From January 2000 to December 2016. Figures in the parentheses show per cent to total.

Table 5.12 shows that most of the companies made investment in the automobile segment in Chennai. The region received FDI worth Rs 301.27 billion from all the ten biggest deals up to December 2016. The following section shows the details of foreign investment in Bangalore.

Fourth highest volume of FDI in RHIF (Rs 1089.12 billion and seven per cent) came to Bangalore between April 2000 and March 2016. Its FDI inflows grew at a higher CAGR of 19.75 per cent (India – 13.01 per cent) between 2007-08 and 2015-16. FDI to GSDP of the region accounted for 3.57 per cent (India – 2.83 per cent). Likewise, FDI to GFCF amounted to 50 per cent (India – 4.87 per cent). Table 5.13 presents the details of the top five countries brought in FDI to Bangalore from January 2000 to December 2016.

	Table 5.13							
	Top Five Countries Brought FDI to Bangalore							
Rank	Country	FDI inflows (Rs Bn)	Per cent					
1	Mauritius	335.98	29.75					
2	Singapore	338.92	24.78					
3	USA	88.82	8.11					
4	Netherlands	81.99	6.82					
5	Japan	59.18	4.69					
	Total	904.89	74.15					

Source: FDI synopsis on RBI's regional office - Bangalore (Published by DIPP, 2016)

Note: 1. Brought FDI equity to RBI's Bangalore regional office- January 2000 to December 2016.

2. Amount includes the inflows received through FIPB/SIA route, acquisition of existing shares & RBI's automatic route only.

Mauritius brought the highest FDI inflow to Bangalore (Table 5.13). The second highest volume of FDI to the region has brought in by Singapore. Up to December 2016, the top five countries together have brought in 74.15 per cents of FDI to the region. The following table (Table 5.14) shows the top five sectors attracted FDI in Bangalore from January 2000 to December 2016.

Rank	Sector	FDI inflows (Rs Bn)	Per cent
1	Computer Software & Hardware	204.70	16.46
2	Trading	204.13	15.3
3	Service Sector ¹	157.44	13.16
4	Construction Development: Townships, Housing, Built-Up Infrastructure And Construction- Development Projects	83.60	8.24
5	Hospital & Diagnostic Centres	38.13	3.25
	Total	687.99	56.41

Table 5.14Top Five Sectors Brought FDI to Bangalore

Source: FDI synopsis on RBI's regional office - Bangalore (Published by DIPP, 2016)

Note: 1. Service sector includes Financial, Banking, Insurance, Non-Financial / Business, Outsourcing, R&D, Courier, Tech. Testing and Analysis.

2. Brought FDI equity to RBI'S Bangalore regional office-January 2000 to December 2016.

3. Amount includes the inflows received through FIPB/SIA route, acquisition of existing shares & RBI's Automatic route only.

Computer sector brought the highest FDI to Bangalore (Table 5.14). By 2016 December, the sector brought in FDI worth Rs 204.7 billion. This sector, especially IT, is a well progressed one in Karnataka. The state is known as the IT hub of India and home to the world's fourth largest technological cluster. The state has over 3500 IT companies that contributing more than \$ 32 billion in export and employing over one million direct and three million indirect professionals. Nearly 80 per cent of the Fortune 500 companies have their outsourcing operations in Bangalore, the state's capital. The state of Karnataka has the presence of largest IT firms like Capgemini, Mindtree, Oracle, SONY, TCS, Texas Instruments, Wipro etc.

Trading sector in Bangalore brought in the second largest volume of FDI (Rs 204.13 billion and 15.3 per cent). The region has a vast and advancing trading sector. The top five sectors (Computer Software & Hardware, Trading, Service Sector, Construction Development and hospital sector) together brought 56.41 per cent of FDI to Bangalore

within December 2016. The following table (Table 5.15) shows the top ten FDI deals in Bangalore.

01	Sl. L. R. G. Home Foreign FDI inflows							
Sl. No	Indian Company	Home Country	Foreign Collaborator	C Item of Manufacture				
1	Flipkart Internet Pvt Ltd	Singapore	Flipkart Marketplace Private Limited	Other information technology and computer service activities Not Elsewhere Classified (N.E.C)	32.66 (18.00)			
2	Flipkart India Private Limited	Singapore	Flipkart Private Limited	Wholesale Trade in Household Equipment, Appliances N.E.C.	24.24 (13.36)			
3	United Spirits Ltd	Netherlands	Relay B.V.	Distilling, Rectifying & Blending Of Spirits, Ethyl Alcohol Production From Fermented Materials	20.93 (11.53)			
4	Amazon Seller Services Pvt. Ltd	Singapore	Amazon Asia Pacific Resources Private Ltd	Wholesale of other electronic equipments and parts thereof	19.80 (10.91)			
5	Amazon Seller Services Pvt. Ltd.	Singapore	Amazon Asia Pacific Resources Private Ltd	Wholesale of other electronic equipments and parts thereof	16.96 (9.35)			
6	Flipkart Internet Pvt Ltd	Singapore	Flipkart Marketplace Private Limited	Other information service activities N.E.C.	16.32 (8.99)			
7	Amazon Seller Services Pvt. Ltd.	Singapore	Amazon Asia Pacific Resources Pvt Ltd	Wholesale of other electronic equipments and parts thereof	13.50 (7.44)			
8	Flipkart India Private Limited	Singapore	Flipkart Limited	Other non-specialized wholesale trade N.E.C.	12.67 (6.98)			
9	Amazon Seller Services Pvt. Ltd	Singapore	Amazon Asia Pacific Resources Private Ltd	Wholesale of other electronic equipments and parts thereof.	12.37 (6.82)			
10	GMR Infrastructure Ltd	U.S.A	26 Various FIIs	Miscellaneous	12 (6.61)			
			Total		181.45 (100)			

Table 5.15Top Ten FDI Equities to Bangalore

Source: FDI synopsis on RBI's regional office – Bangalore (Published by DIPP, 2016) Note: From January 2000 to December 2016. Figures in the parentheses show per cent to total.

Flipkart Marketplace Private Limited, a Singapore based firm, has brought the highest FDI to Bangalore (Table 5.15). The all ten firms together have brought FDI worth Rs 181.45 billion to Bangalore by 2016 December. The following section gives a brief account of the FDI inflows to Ahmedabad.

In RHIF, Ahmedabad ranked fifth in bringing FDI (Rs 684.64 billion and five per cent) from March 2000 to April 2016. Its FDI inflows expanded at a relatively lower CAGR of 9.29 (India- 13.01 per cent) during 2007-08 and 2015-16. FDI to GSDP ratio of the region, on average amounted to 1.73 per cent (India- 2.83 per cent). Likewise, FDI to GFCF is (13.26 per cent) for the region (India- 4.87 per cent). The following section discusses the further features of FDI inflows to Ahmedabad. Table 5.16 presents the details of the top five countries brought FDI to the region.

Rank	Country	FDI inflows(Rs Bn)	Per cent Composition
1	Mauritius	371.06	43.39
2	USA	79.26	10.14
3	Singapore	66.22	8.49
4	Japan	83.51	7.99
5	China	67.54	6.65
	Total	667.58	76.66

Table 5.16

Source: FDI synopsis on RBI's regional office -Ahmedabad (Published by DIPP, 2016)

Note: 1. Brought FDI equity to RBI's Ahmedabad regional office- January 2000 to December 2016.

2. Amount includes the inflows received through FIPB/SIA route, acquisition of existing shares & RBI's automatic route only.

Mauritius brought in highest volume of FDI to Ahmedabad (Table 5.16). Other countries include USA, Singapore, Japan and China and these top five countries together fetched in FDI worth Rs 667.58 billion to Ahmedabad.

The following table (Table 5.17) shows the details of the top five sectors brought in FDI to Ahmedabad.

	Table 5.17								
Top Five Sectors Brought FDI to Ahmedabad									
Sector	FDI inflows (Rs Bn)	Per cent Composition							
Automobile Industry	155.66	15.96							
Telecommunications	82.01	10.98							
Cement And Gypsum Products	113.72	10.76							
Power	82.51	10.25							
Metallurgical Industries	46.47	6.29							
Total	480.37	54.24							
	Sector Automobile Industry Telecommunications Cement And Gypsum Products Power Metallurgical Industries	Top Five Sectors Brought FDI to AhmoSectorFDI inflows (Rs Bn)Automobile Industry155.66Telecommunications82.01Cement And Gypsum Products113.72Power82.51Metallurgical Industries46.47							

Source: FDI synopsis on RBI's regional office –Ahmedabad (Published by DIPP, 2016)

Note: 1. Brought FDI equity to RBI'S Ahmedabad regional office- January 2000 to December 2016.

2. Amount includes the inflows received through FIPB/SIA route, acquisition of existing shares & RBI's automatic route only.

Automobile industry has brought the largest FDI to Ahmedabad (Table 5.17). Gujarat has a vast and versatile automobile industry. The state contributes nine per cent to India's transport equipment output. It has established auto-clusters in regions like Sanand, Halol and Rajkot. Auto component clusters like AMW Auto, Bridgestone, Lear Corporation, Mahle, Schaeffler, Tata Precision Industries, Tenneco etc. lie spread over in the states of Madhya Pradesh and Gujarat. Other sectors in the top five include telecom, cement, power and metallurgical industries and all these five sectors together fetched FDI of 54.24 per cent to Ahmedabad from January 2000 to December 2016. The following table (Table 5.18) shows the details of the top five FDI deals occurred in Ahmedabad.

Ran k	Indian Company Home Foreign Country		Foreign Collaborator	Item of Manufacture	FDI Inflows (Rs Bn)	
1	Ambuja Cements Ltd	Mauritius	Holdering Investments Ltd	Cement Manufacturing	110.84 (35.69)	
2	Idea Cellular Ltd	Mauritius	TMI Mauritius Ltd	Telecom service	72.94 (23.49)	
3	Suzuki Motor Gujarat Pvt Ltd	Japan	Suzuki Motor Corporation	Passenger Cars Manufacturing	31 (9.98)	
4	Suzuki Motor Gujarat Pvt Ltd	Japan	Suzuki Motor Corporation	Passenger Cars Manufacturing	26 (8.37)	
5	Essar Steel Ltd	USA	Essar Logistics Holding Ltd	Steel Manufacturing	19.03 (6.13)	
6	General Motors India Pvt Ltd	China	SAIC General Motors Ltd	Passenger Cars Manufacturing	14.23 (4.58)	
7	Adani Power Ltd	UAE	Various Investors not else Classified	Electric Energy-Generation and Transmission	11.81 (3.80)	
8	RidhiSidhi Corn Processing Pvt Ltd	France	Roquette	Manufacturing Food Products	8.49 (2.73)	
9	Reliance Ports and Terminals Ltd	Singapore	Biometrix Marketing Pvt Ltd	Business services not elsewhere classified	8.3 (2.67)	
10	Welspun Corp Ltd	Cyprus	Granele Ltd	Metal products	7.88 (2.54)	
			Total		310.52 (100)	

Table 5.18Top Ten FDI Equities to Ahmedabad

Source: FDI synopsis on RBI's regional office – Ahmedabad (Published by DIPP, 2016) Note: From January 2000 to December 2016. Figures in the parentheses show per cent to total.

Indian company Ambuja Cements Ltd gathered the highest FDI in Ahmedabad (Table 5.18). The top ten investors together fetched FDI worth Rs 310.52 billion to Ahmedabad between January 2000 and December 2016. The following section gives a description of the FDI scenario in Hyderabad.

According to Table 5.3, FDI inflows to Hyderabad grew at a lower CAGR of 12.88 per cent (India – 13.01 per cent) between 2007-08 and 2015-16. On average, FDI to GSDP amounted to 2.62 per cent and FDI to GFCF accounted for 32.65 per cent in the region.

An assessment of the characteristics of FDI to RHIF shows that regions including Bangalore, Delhi and Chennai have higher CAGR in FDI inflows than the country. It may also be observed that, FDI to GDP ratio in Mumbai, Delhi and Bangalore has come up higher per cent (5.53 per cent 15.93 per cent, and 3.57 per cent respectively). Additionally, FDI to GFCF ratio is also higher in these three regions. It leads to the conclusion that, the three regions such as Mumbai, Delhi and Bangalore stand forth of the other three regions in RHIF and they are likely to secure elevated quantity of FDI in the long run.

The evaluation made above, about the trend and pattern of FDI inflows to RHIF, shows that, *Inflow of FDI is being rightly directed and judiciously distributed in Regions with High Inflow of FDI (RHIF).*

5.4 Determinants of FDI Inflows to RHIF

It is evident from Table 5.1 that enhanced FDI inflows to India have been accompanied by strong regional concentration. Accordingly, this facet of enhanced regional concentration headed the researcher to delve into the region-specific determinants of FDI inflows. Thus, this section of the chapter explicates the specific determinants of FDI inflows to RHIF.

Domestic savings encompasses the savings of household sector, private corporate sector and public sector and is an important macroeconomic variable capable of inflicting influence on other variables including FDI inflows. Theoretical literature conforms that it is from reduced domestic savings, need for foreign capital arises. The inadequacy in domestic savings is followed by lowered investment and capital formation in the host economy and foreign capital flows to such economies supplement the shortfall in domestic savings. However, domestic savings as a determinant of FDI inflows is still a point of contention as mixed results have been obtained on it. Katircioglu & Naraliyeva (2006) didn't obtain a long-run equilibrium relationship between FDI and domestic savings driven. In Bangladesh, Salahuddin et al. (2010) found that FDI is output and savings driven. In Bangladesh, Salahuddin et al. (2010) found a bi-directional causal relationship between FDI inflows and gross domestic savings. Thus, the researcher came to postulate that domestic savings have a bearing on FDI inflows to RHIF. Domestic savings is proxied by deposits of scheduled commercial banks in RHIF.

An investment is an asset or item acquired with the goal of generating income or appreciation in income (purchase of goods that are not consumed today but are used in the future to create wealth). Theoretical literature conforms that domestic investment is inevitable to have economic progress in developing nations. It has also proved empirically that domestic investment is an important determinant of bringing FDI inflows to particular countries. The role of domestic investment in captivating foreign investment was disclosed in the studies of Lautier & Moreaub (2012) and Hanafy (2015). Thus it is

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hypothesized that the level of domestic investment explains FDI inflows to RHIF. The factor is proxied by 'gross fixed capital formation'.

Deficit financing has been using by the government of India and state governments for acquiring funds to finance economic development. When the governemnt cannot raise enough financial resources through taxation, it finances its development expenditure through (a) by running down its cash balances with RBI (b) borrowing from RBI and (c) borrowing from the market. Fiscal deficit is the most common form of deficit fianncing of both the state and central governements in India. Thus, the fiscal deficit, which is the difference between total expenditure and revenue receipts and non-debt type capital receipts, becomes the most appropriate variable to represent the deficit financing of RHIF. To some economists like John Maynard Keynes, fiscal deficit is a positive economic event in the sense that it will help the nations to climb out of recession. But to some conservative economists, fiscal deficit is a feature to be avoided by the governments in favour of a balanced budget policy. Many theories exist describing the validity of fiscal deficit. In this arena, Baniak et al. (2005) found that increased variability in factors like budget deficit, trade deficit, balance of payment deficit etc. result in a decrease in the expected FDI inflows to transition economies. Gondor & Nistor (2012) found that fiscal policy determines FDI inflows in six countries in European Union. In the context of India and some select Asian countries like China, Singapore, Indonesia Thailand, Republic of Korea, Philippines, and Malaysia, Bhasin (2014) found that fiscal policy variables turned out to be insignificant determinants of FDI inflows. However, here the reasearcher postulated that deficit financing in host regions, especially in

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developing economies significantly influences FDI inflows. Thus, 'Gross Fiscal Deficit'in RHIF has been selected to proxy the deficit financing.

Net State Domestic Product (NSDP) is another most significant macro economic variable capable of influencing FDI inflows; such a postualtion has been drawn from the notion that size of the host economy influences FDI flows. NSDP is a variable standing close to GSDP as NSDP is obtained after deducting depreciation from GSDP. Even if NSDP is not taken as such as a variable in studies as determinant of FDI inflows, GSDP has appeared many times either to represent market size or growth in economic output. Mottaleb (2007) found that large GDP and high GDP growth rate affect FDI inflows to lower income and lower-middle income countries. Mukherjee (2011) in her study about regional inequality in FDI inflows to India, has taken per capita NSDP to proxy market size. Thus here, total NSDP at factor cost and in constant prices has been taken to proxy 'size of the host economy'. The following section describes the model used to assess the determinants of FDI inflows to RHIF.

5.4.1 Model

$FDIINFLOW = \alpha + \beta \ 1 \ DPSTSCB + \beta \ 2 \ FSCLDFCT + \beta \ 3 \ NSDP + \beta \ 4 \ GFCF$

Where, FDIINFLOW stands for FDI inflows, DPSTSCB stands for deposits of scheduled commercial banks, FSCLDFCT stands for gross fiscal deficit, NSDP stands for net state domestic product and GFCF stands for gross fixed capital formation.

5.4.2 Results

The following table (Table 5.19) presents the statistical characteristics of explanatory variables.

								Total of	
Particulars		-				Hyderabad	India	RHIF	
						172.4			
							-	-	
								-	
							-	-	
								-	
	95	79.88	19.63	34.28	27.25	14.39	27.57	-	
% of Fiscal Deficit to GSDP									
(Average)	-	-				7.14	8	-	
	Explana	tory Variab	le: Gross Fixed	l Capital For	mation (GFCF)				
Average (Rs Bn)	494.1	9.94	236.05	270.9		191.04	-	-	
Median (Rs Bn)	519.7	9.04	232.03	278.52	520.94	184.53	-	-	
Standard Deviation (Rs Bn)	123.27	3.26	52.36	78.32	254.25	49.08	-	-	
Standard Deviation/Mean (%)	24.95	32.79	22.19	28.91	45.59	25.69	22.89	-	
AAGR (%)	9.77	11.56	10.08	22.13	18.82	9.42	10.96	-	
	8.66	6.96	6.94	7.62	17.47	5.59	10.32	-	
GFCF as % of GSDP of States									
(Average)	6.23	0.51	8.29	6.34	13.36	8.74	5.78		
E	xplanatory V	ariable: Dep	osits of Schedu	ıle Commerc	ial Banks (DPS)	ГЅСВ)			
Average (Rs Bn)	15761.44	6940.56	4269.78	4035.33	3205.67	2802.33	-	-	
							-	-	
							_	-	
							36.72	-	
								-	
								-	
	12.5	10.72	10.19	14./9	10.71	2.00	14.5	-	
	195.62	351.36	142.21	90.66	77.27	126.38	117.69		
Average NSDP (Rs Bn)	7073.05	1855.37	2539.47	3853.11	3403.8	1972.22	-	-	
Median	6959.04	1807.22	2480.4	3966.82	3368.86	1915.54	-	-	
SD	1334.86						-	-	
								-	
								_	
								_	
	0.00	0.15	5.15	7.20	0.01	0.10	0.05		
(Average)	15.45	4.04	5.58	8.41	7.39	4.33		45.2	
	Average (Rs Bn) Median (Rs Bn) Standard Deviation (Rs Bn) Standard Deviation/Mean (%) AAGR (%) CAGR (%) GFCF as % of GSDP of States (Average) E Average (Rs Bn) Median (Rs Bn) Standard Deviation Standard Deviation Standard Deviation/Mean (%) AAGR (%) Deposits as % of GSDP of States (Average) Average NSDP (Rs Bn) Median SD Standard Deviation/Mean (%) CAGR (%) Median SD Standard Deviation/Mean (%) CAGR (%) Median SD Standard Deviation/Mean (%) CAGR (%) % of NSDP in that of all states	ExplicitAverage (Rs Bn)206.34Median (Rs Bn)199.7Standard Deviation (Rs Bn)118.84Standard Deviation/Mean (%)57.6AAGR (%)95% of Fiscal Deficit to GSDP(Average)(Average)2.49ExplansAverage (Rs Bn)494.1Median (Rs Bn)519.7Standard Deviation (Rs Bn)123.27Standard Deviation/Mean (%)24.95AAGR (%)9.77CAGR (%)8.66GFCF as % of GSDP of States6.23(Average (Rs Bn)15761.44Median (Rs Bn)15299Standard Deviation/Mean (%)32.21Average (Rs Bn)15299Standard Deviation/Mean (%)32.21AAGR (%)12.5CAGR (%)12.3Deposits as % of GSDP of States(Average)(Average)195.62ExplaSDStandard Deviation/Mean (%)1334.86Standard Deviation/Mean (%)18.87CAGR (%)6.92AAGR (%)6.92AAGR (%)6.92AAGR (%)6.88% of NSDP in that of all states	Explanatory Vari Average (Rs Bn) 206.34 18.26 Median (Rs Bn) 199.7 22.8 Standard Deviation (Rs Bn) 118.84 16.54 Standard Deviation/Mean (%) 57.6 90.59 AAGR (%) 95 79.88 % of Fiscal Deficit to GSDP (Average) 2.49 1.04 Average (Rs Bn) 494.1 9.94 Median (Rs Bn) 519.7 9.04 Average (Rs Bn) 519.7 9.04 Standard Deviation (Rs Bn) 123.27 3.26 Standard Deviation (Rs Bn) 123.27 3.26 Standard Deviation/Mean (%) 24.95 32.79 AAGR (%) 9.77 11.56 CAGR (%) 8.66 6.96 GFCF as % of GSDP of States 6.23 0.51 Explanatory Variable: Dep Average (Rs Bn) 15761.44 6940.56 Median (Rs Bn) 15299 6841 Standard Deviation 4927.58 1773.21 Standard Deviation/Mean (%) 32.21 25.92 AAGR (%) 12.5 10.78 0	Explanatory Variable : Gross Fi Average (Rs Bn) 206.34 18.26 142.91 Median (Rs Bn) 199.7 22.8 123 Standard Deviation (Rs Bn) 118.84 16.54 50.75 Standard Deviation/Mean (%) 57.6 90.59 35.51 AAGR (%) 95 79.88 19.63 % of Fiscal Deficit to GSDP 2.49 1.04 4.44 Explanatory Variable: Gross Fixed Average (Rs Bn) 494.1 9.94 236.05 Median (Rs Bn) 519.7 9.04 232.03 Standard Deviation/Mean (%) 24.95 32.79 22.19 AAGR (%) 9.77 11.56 10.08 CAGR (%) 8.66 6.96 6.94 GFCF as % of GSDP of States 6.23 0.51 8.29 Explanatory Variable: Deposits of Schedt Average (Rs Bn) 15761.44 6940.56 4269.78 Median (Rs Bn) 15299 6841 4101 5tandard Deviation/Mean (%) 32.21 25.92 41.38	Explanatory Variable : Gross Fiscal Deficit (1Average (Rs Bn)206.3418.26142.91194.31Median (Rs Bn)199.722.8123173.6Standard Deviation (Rs Bn)118.8416.5450.7589.6Standard Deviation/Mean (%)57.690.5935.5146.11AAGR (%)9579.8819.6334.28% of Fiscal Deficit to GSDP(Average)2.491.044.44(Average)2.491.044.443.88Explanatory Variable: Gross Fixed Capital ForAverage (Rs Bn)494.19.94236.05270.9Median (Rs Bn)519.79.04232.03278.52Standard Deviation (Rs Bn)123.273.2652.3678.32Standard Deviation/Mean (%)24.9532.7922.1928.91AAGR (%)9.7711.5610.0822.13CAGR (%)8.666.966.947.62GFCF as % of GSDP of States6.230.518.296.34(Average)15761.446940.564269.784035.33Median (Rs Bn)15299684141014066Standard Deviation4927.581773.211697.171414.75Standard Deviation/Mean (%)32.2125.9241.3834.79Deposits as % of GSDP of States666666CAGR (%)12.510.7816.2514.88CAGR (%)12.510.7816.25 <t< td=""><td>$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$</td><td>$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$</td><td>$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$</td></t<>	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	

Table 5.19Statistical Characteristics of Explanatory Variables

Source: Compiled from The handbook of statistics on Indian states, RBI, 2018. Note: All average figures belong to the period of 2007-08 to 2015-16.

As shown in table 5.19, there are four explanatory variables in the model Viz. gross fiscal deficit, gross fixed capital formation, deposits of scheduled commercial banks and net State domestic product. The following part gives an account of the fiscal deficit in RHIF. In Mumbai, gross fiscal deficit expanded at a higher AAGR of 95 per cent (India – 27.57 per cent). The following figure (Figure 5.1) shows the ratio of fiscal deficit to GSDP in Mumbai from 2007-08 to 2015-16.

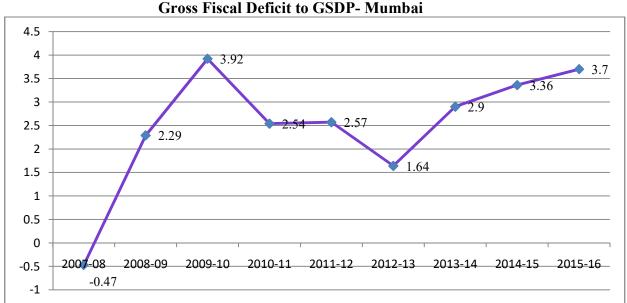
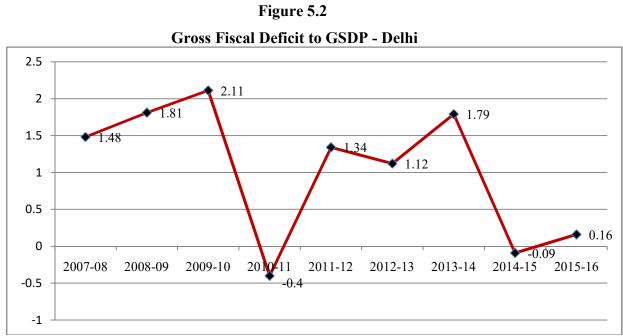


Figure 5.1

Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues

Figure 5.1 shows the mounting ratio in Mumbai between 2007-08 and 2015-16. By 2015-16, fiscal deficit reached 3.7 per cent of GSDP in Mumbai after crossing the limit of three per cent insisted by the Fiscal Responsibility and Budget Management Act (FRBM). The gross fiscal deficit of Delhi also expanded at a higher AAGR of 79.88 per cent (India -27.57 per cent). The figure below (Figure 5.2) shows the ratioof fiscal deficit to GSDP in Delhi from 2007-08 to 2015-16.

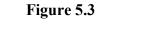


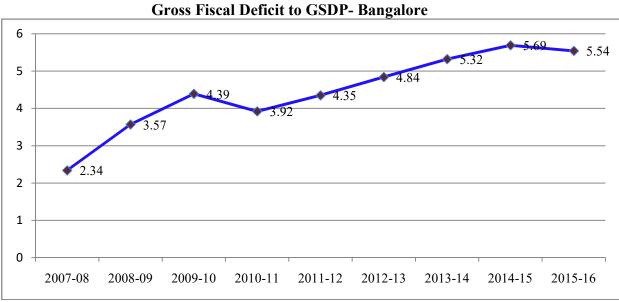
Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues.

According to Figure 6.2, the ratio seems low in Delhi. In 2007-08, the ratio was 1.48 per cent and it got diminished to 0.16 per cent by 2015-16.

Gross fiscal deficit of Bangalore expanded at an AAGR of 19.63 per cent (India -27.57 per cent). The following figure (Figure 5.3) exhibits the fiscal deficit to GSDP ratio of Bangalore from 2007-08 to 2015-16.

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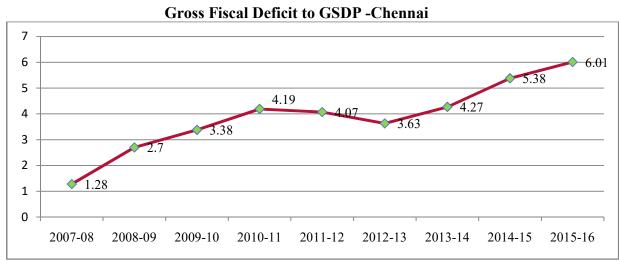
Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues.

Figure 5.3 shows the steady increase in the ratio between 2007-08 and 2015-16. By 2015-

16, the ratio became 5.54 per cent from the 2.34 per cent in 2007-08.

The gross fiscal deficit of Chennai expanded at an AAGR of 34.28 per cent (India – 27.57 per cent). Figure 5.4 shows the gross fiscal deficit to GSDP ratio of the region, from 2007-08 to 2015-16.

Figure 5.4



Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues.

Figure 5.4 shows the stable increase in the ratio in Chennai which increased from 1.28 per cents to 6.01 per cent from 2007-08 to 2015-16.

The fiscal deficit of Ahmedabad expanded at an AAGR of 27.25 per cent (India - 27.57 per cent) between 2007-08 and 2015-16.The figure below shows (Figure 5.5) the gross fiscal deficit to GSDP ratio from 2007-08 to 2015-16.

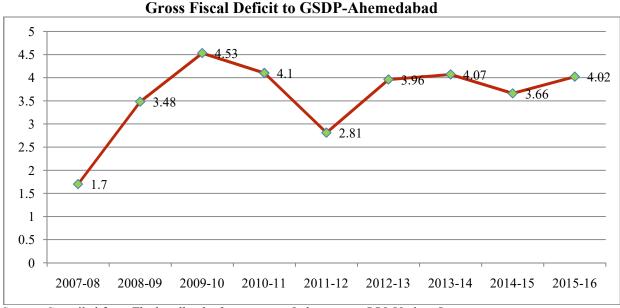


Figure 5.5 Cross Fiscal Deficit to CSDP Abamadahad

Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues.

Figure 5.5 shows the moderate increase in the ratio of Ahmedabad between 2007-08 and 2015-16. From a 1.7 per cent in 2007-08, it increased to 4.02 per cent in 2015-16. The gross fiscal deficit of Hyderabad expanded at an AAGR of 14.39 per cent (India - 27.57 per cent) between 2007-08 and 2015-16. The figure below (Figure 5.6) shows the Hyderabad's gross fiscal deficit to GSDP from 2007-08 to 2015-16.

Figure 5.6 Gross Fisacl Deficit to GSDP -Hyderabad

5.72

2015-16

Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues.

2009-10

2010-11

2

0

2007-08

2008-09

Figure 5.6 depicts the extra-ordinarily higher ratio of fiscal deficit to GSDP in Hyderabad. Though it had increased to 12 per cent in 2014-15, it fell down to 5.72 per cent by the next year.

2011-12

2012-13

2013-14

2014-15

All things considered, it seems reasonable to epitomize that gross fiscal deficit to GSDP ratio is on the increase in all regions under RHIF except Delhi. Increasing fiscal deficit can adversely affect the growth of economies. Higher fiscal deficit forces governments to cut back in spending on relevant sectors like health, education and infrastructure. It may hinder the growth of human and physical capital, which is capable of making a long-term impact on economic growth. In India, Mohanty (2012) found a negative and significant relationship between fiscal deficit and economic growth in the long run. In Vietnam, Tung (2018) found that fiscal deficit had harmful effects on economic growth in both short and long run. It was assessed that fiscal deficit can hurt not only the gross output but also private investments, foreign direct investments, and net exports. The following

section gives a brief account of the second explanatory variable, that is, gross fixed capital formation in RHIF.

GFCF of Mumbai expanded at a CAGR of 8.66 per cent between 2007-08 and 2015-16 (India – 10.32 per cent). GFCF to GSDP ratio of Mumbai amounted to 6.23 per cent on average (5.78 per cent for India). GFCF of Delhi elevated at a lower CAGR of 6.96 per cent (India – 10.96). In Delhi, the ratio of GFCF to GSDP accounted for mere 0.51 per cent for the reason that the volume of GFCF is comparatively low in Delhi. GFCF of Bangalore augmented at a CAGR of 6.94 per cent (India – 10.32 per cent) between 2007-08 and 2015-16. On average, the region's GFCF to GSDP ratio amounted to 8.29 per cent (India – 5.78 per cent). GFCF of Chennai expanded at a CAGR of 7.62 per cent (India – 10.32 per cent). During the period, the GFCF to GSDP ratio accounted for 6.34 per cent (India – 5.78 per cent). GFCF of Ahmedabad progressed at a CAGR of 17.47 per cent (India – 10.32 per cent). The ratio of GFCF to GSDP amounted to 13.36 per cent on average (India – 5.78 per cent). GFCF of Hyderabad grew at a CAGR of 5.59 per cent (India – 10.32 per cent). GFCF to GSDP ratio, on average amounted to 8.74 per cent (India – 10.32 per cent).

An assessment of the data on the gross fixed capital formation discloses the status of domestic investment in RHIF. GFCF of only the region of Ahemadabad has grown at a higher CAGR (17.47 per cent) than that of India. However, all the regions coming under RHIF except Delhi have the ratio (GFCF to GSDP) higher than that of India, which bespeak about the increasing intensity of domestic investment in RHIF. The following section discusses the third explanatory variable – deposits of scheduled commercial banks.

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Deposits in Mumbai expanded at a lower CAGR of 12.3 per cent (India – 12.5 per cent) between 2007-08 and 2015-16. The ratio of deposits to GSDP accounted for 195.62 per cent on average (for India, it is 117.9 per cent). The deposits of Delhi grew at a CAGR of 10.72 per cent (India – 14.5 per cent). The ratio of Deposits to GSDP composed of 351.36 per cent. The deposits of Bangalore progressed at a CAGR of 16.19 per cent (India – 14.5 per cent). The ratio of GSDP accounted for 142.21 per cent on average. The bank deposits of Chennai expanded at a CAGR of 14.79 per cent (India – 14.5 per cent) between 2007-08 and 2015-16. The average ratio of deposits to GSDP accounted to 90.66 per cent.

The assessment of deposits mobilized by scheduled commercial banks exposed the status of domestic savings in RHIF. Deposits mobilized have grown at a higher CAGR than that of India in Bangalore, Chennai and Ahmedabad between 2007-08 and 2015-16. In the same way, the deposit to GSDP ratio is high in RHIF than the ratio of the country excluding Chennai and Ahmedabad. These particulars betoken about the higher expanse of savings amassed by RHIF through effectual financial intermediation. The following part outlines the details of the net state domestic product in RHIF.

NSDP in Mumbai progressed at a CAGR of 6.88 per cent (India – 6.64 per cent). On average, the NSDP of Mumbai accounted for 15.45 per cent of the total NSDP of India and the region has contributed highest to both the NSDP and GSDP of India. The NSDP of Delhi expanded at a higher CAGR of 8.49 per cent (India – 6.64 per cent). The region's NSDP, on average, amounted to 4.04 per cent to the total GSDP of India. The NSDP of Bangalore progressed at a CAGR of 5.75 per cent between 2007-08 and 2015-16 (India – 6.64 per cent). On average, the region's NSDP amounted to 5.58 per cent of

the total NSDP of India. The NSDP of Chennai grew at a CAGR of 6.33 per cent (India – 6.64 per cent). On average, the NSDP of the region accounted for 8.41 per cent of the NSDP of India. The NSDP of Ahmedabad progressed at a higher CAGR of 8.84 (India – to 6.64 per cent). The region's NSDP, on average, accounted for 7.39 per cent of all India NSDP between 2007-08 and 2015-16. Finally, the NSDP of Hyderabad expanded at a CAGR of 6.2 per cent (India- 6.64 per cent) between 2007-08 and 2015-16. On average, the region's NSDP amounted to 4.33 per cent of all India NSDP.

As can be seen, RHIF has contributed more than 45 per cent (average) to the total NSDP of India between 2007-08 and 2015-16, which alludes the voluminousness of the economy of RHIF. Moreover, CAGR of NSDP is higher than that of the nation in three regions under RHIF viz. Mumbai, Delhi and Ahmedabad. It leads to the interpretation that the economy of RHIF is expanding at a substantial rate.

The discussion about the explanatory and dependent variables has come to a closure here. The following part shows the correlation between the variables in the model.

5.4.3 Correlation Matrix

Computation of correlation forms the basis of an analysis as it specifies the nature of relationship between the variables. Table 5.20 presents the correlation results.

Table 5.20							
Correlation Matrix							
Dependent Variable: FDI INFLOW							
Variables	FDIINFLOW DPSTSCB FSCLDFCT NSDP GFCF						
FDIINFLOW	1						
DPSTSCB	0.8	1					
FSCLDFCT	-0.35	-0.12	1				
NSDP	0.44	0.64	0.2	1			
GFCF	-0.23	-0.00	0.49	0.66	1		

Correlation matrix (Table 5.20) presents the variant extents of relationship existing between the dependent and explanatory variables. The coefficient between FDI inflows (FDIINFLOW) and deposits of scheduled commercial banks (DPSTSCB) is positive (+0.8). It evinces the strong and positive relationship subsisting between the two variables. Secondly, the coefficient of correlation between fiscal deficit (FSCLDFCT) and FDI inflows is negative (-0.35). It connotes the weak negative association in extant between the two variables. Thirdly, the coefficient of correlation obtained between Net State Domestic Product (NSDP) and FDI inflows is positive (+0.44), which denotes the weak positive relationship between the two variables. Eventually, the negative (-0.23) coefficient of correlation obtained between Gross Fixed Capital Formation (GFCF) and FDI inflows explicates the weak negative association between the two.

The next section discusses the regression results.

5.4.4 Regression Results

Regression, which is an important statistical measure to predict or estimate the value of dependent variable based on the known values of the independent variables, has been used here as the tool for estimation. Thus by performing pooled OLS regression analysis, the following results obtained.

Explanatory Variables	Coefficient	t-ratio	p-value			
const	-7.38	-3.04	0.0037			
DEPOSTSCB	0.62	3.31	0.0017			
GFCF	-0.33	-3.12	0.0030			
FSCLDFCT	-0.054	-1.93	0.0586			
NSDP	0.95	2.65	0.0108			
R-squared			0.76			
Adjusted R-squared			0.74			
F (4, 49) Figure in parenthesis shows			38.55			
p value			(0.000)			
No of Observations			54			

Table 5.21 Regression Results on Determinants of FDI Inflows Dependent variable: FDI Inflows

Note: Period of observation is 9 years starting from 2007-08 to 2015-16. Table shows Pooled OLS Regression results. Independent variables are lagged by 1 year to avoid endogenity problem.

The regression results (Table 5.21) show that all the explanatory variables are significantly associated to the dependent variable 'FDI inflows'. With respect to deposits of scheduled commercial banks (DEPOSTSCB), the coefficient is positive (0.62) and significant at one per cent level which explicates that FDI inflows to RHIF is significantly and positively affected by domestic savings. It specifies that there is a uni-directional association between domestic savings in RHIF and FDI inflows. An improvement in domestic savings enhances FDI inflows to RHIF. The result obtained is inconsistent with the literature which says that FDI inflows rise with a decline in domestic savings. Asiedu (2002) brought forth that FDI has become an increasingly important source of investment capital for many low-income nations with scarce domestic savings.

Secondly, the regression coefficient obtained for Gross Fixed Capital Formation (GFCF) is negative (-0.33), but significant at one per cent. GFCF stands for the level of domestic investment in RHIF. Thus, the level of domestic investment in RHIF also transforms an

explanatory variable of FDI inflows. However, the extant relationship between level of domestic investment and FDI inflows in RHIF is inverse since the coefficient is negative. Thus, it can be interpreted that with a decrease in the level of domestic investment in RHIF, FDI inflows elevate. The result is discordant with the findings of Lautier & Moreaub (2012). They found that domestic investment is a strong catalyst for FDI in developing economies.

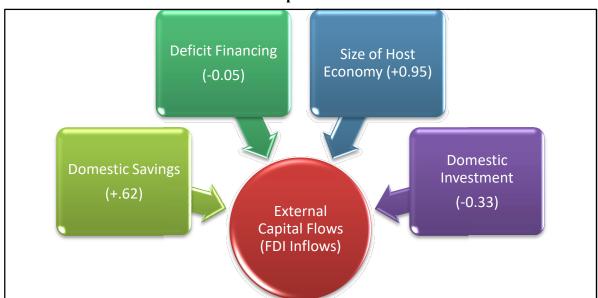
Thirdly, with respect to gross fiscal deficit (FSCLDFCT) also, the coefficient of regression is negative (0.054), but significant at ten per cent. It connotes that gross fiscal deficit is also a determinant of FDI inflows to RHIF, but the relationship between the variables is negative. It assumes that FDI inflows to RHIF increase with decrease in the extent of deficit financing in RHIF. Scboeman et al.(2000) concluded that the increase in deficit/GDP ratio during the eighties and beginning of the nineties, have impacted negatively on FDI inflows to South Africa. Thus the result obtained in this context in relation to deficit financing and FDI inflows in RHIF can be construed as in coherent with this finding.

Finally, the regression coefficient between Net State Domestic Product (NSDP) and FDI inflows in RHIF is positive (0.95) and significant at five per cent level, which denotes that the size of the economy of RHIF is also a significant determinant of FDI inflows. The results show that an expansion in the size of the host economy leads to increase in FDI inflows to RHIF.

The regression results show that, 'The FDI in RHIF is explainable by domestic savings, domestic investment, size of host economy and deficit financing'.

The empirical findings have been conceptualized as follows:

Figure 5.7 The Conceptual Model



Source: Compiled by the researcher

The conceptual model (figure 5.7) clearly demonstrates that factors such as domestic savings, domestic investment, size of the host economy and deficit financing significantly influence the external capital flows in the form of FDI inflows to RHIF. While the impact of both domestic savings and size of the economy is positive, domestic investment and deficit financing exert negative impact on FDI inflows to RHIF.

5.5 Role of FDI in RHIF

This part of the chapter is dealt with the role played by FDI in RHIF. As said in the first section, the region has received FDI worth Rs 11035.44 billion of FDI between April 2000 and December 2016, which is definite to make a substantive influence in the industrial and economic sectors of RHIF. Role of FDI in RHIF is analysed with panel data ranging from 2007-08 to 2015-16. The following table (Table 5.22) shows explanatory variables.

Table 5.22							
	Explanatory Variables						
Sl No	Factor Specification	Explanatory Variabls					
1	External Capital Flow	FDI Inflows (FDIINFLOW)					
2	Industrial Output	GSDP in the Industrial Sector (GSDPINDUSTRY)					
3	Domestic Savings	Deposits of Scheduled Commercial Banks (DEPOSITSCB)					

Impact of external capital flows (as reperesented by FDI inflows) on the growth of economies (size of the economy) has been a subject of study for long. The study conducted by Borensztein et al. (1998) is an exemplifying one in this regard. Their results suggest that FDI is an important vehicle for the transfer of technology, contributing relatively more to growth than domestic investment. Adhikary (2011) found that the volume of FDI inflows and level of capital formation have significant positive effect on changes in real GDP in Bangladesh. In the context of India, however, Sahoo & Mathiyazhagan (2003) disclosed that export plays a comparatively better role in the growth of the Indian economy than FDI. From this perspective, it is hypothesized that *FDI inflow* to RHIF is an important variable that has a significant bearing on the variability in the size of the economy.

Domestic saving is an important macroeconomic variable capable of exerting influence on the size of the economy. Thus, in a study conducted in Iran, Najarzadeh et al (2014) found the positive and significant impact of savings on economic growth. In the context of India, Jangili (2011) found that higher savings and investment lead to higher economic growth. Inspired from this, 'domestic savings' is also contemplated to have an impact on the size of the economy in RHIF. The factor of domestic savings has been represented by deposits of the scheduled commercial banks'.

Industrial output derived by an economy is also proved both theoretically and empirically as contributing to economic growth or enhancing the size of the domestic economy. In a study done in Senegal, Ndiaya & Lv (2018) found that increase in indutrial output leads to an increase in economic growth. Thus it is postulated that industrial output reperesented by 'GSDP in the Industrial Sector' has an effect on the variation in the size of economy in RHIF.

The following part elucidates the empirical findings.

5.5.1 Model

 $NSDP = \alpha + \beta \ 1 \ DPSTSCB + \beta \ 2 \ FDIINFLOW + \beta \ 3GSDPINDUSTRY$

Where, NSDP stands for net State domestic product, DPSTSCB stands for deposits of scheduled commercial banks, FDIINFLOW stands for FDI inflows, GSDPINDUSTRY stands for gross domestic product in the industrial sector.

5.5.2 Results

The following table (Table 5.23) presents the statistical characteristics of explanatory variable. The table contains the statistical characteristics of 'industrial GSDP' alone. In fact, as mentioned in Table 5.22, there are two more explanatory variables in the model Viz. FDI inflows and deposits of scheduled commercial banks, about which, the researcher has made a discussion in the previous part of this chapter (5.4 Determinants of FDI Inflows to RHIF). Thus, here, the researcher describes the attributes of only one explanatory variable, that is, GSDP in the industrial sector in RHIF.

Statistical Characteristics of Exapianatory variable								
Broad Factor Specification	Particulars	Hyderabad	Delhi	Ahmedabad	Bangalore	Mumbai	Chennai	
		ndustrial Sec	tor					
	Average (Rs Bn)	482	221.37	1621.47	816.63	2354.55	1283.88	
	Median (Rs Bn)	486.90	219.79	1574.58	827.95	2280.02	1369.59	
Industrial Output	Standard Deviation (Per cents)	55.70	8.56	370.98	77.80	395.01	210.44	
	Standard Deviation/Mean (%)	11.56	3.87	22.88	9.53	16.78	16.39	
	AAGR (%)	4.35	0.47	9.58	3.86	5.98	6.20	
	CAGR (%)	4.2	0.35	9.4	3.79	5.88	5.94	
	% of GSDP Industry in total GSDP of regions (Average)	21.63	11.77	40.61	28.44	30	29.85	

 Table 5.23

 Statistical Characteristics of Exaplanatory Variable

Industrial GSDP in Hyderabad expanded at a CAGR of 4.2 per cent between 2007-08 and 2015-16 (Table 5.23). The following figure (figure 5.8) shows the ratio of industrial GSDP to total GSDP in Hyderabad during 2007-08 to 2015-16.

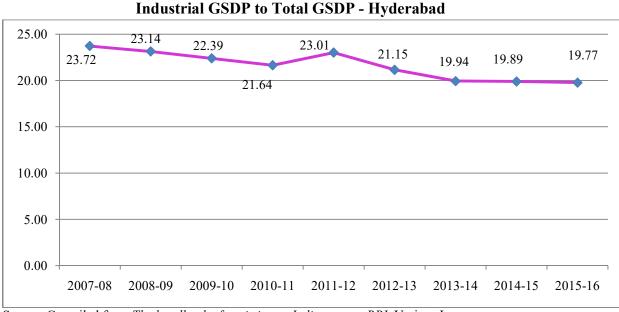


Figure 5.8 Industrial GSDP to Total GSDP - Hyderabad

Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues

Figure 5.8 shows that the ratio had been diminishing in Hyderabad. The ratio was 23.72 per cent in 2007-08, and by 2015-16, it got diminished to 19.77 per cent. It shows the intensity of structural shift happening in the economy through which a major share of GSDP is being contributed by the service sector.

In Delhi, GSDP in industrial sector grew at a lower CAGR of 0.35 per cent between 2007-08 and 2015-16. The figure below (Figure 5.9) shows the ratio of industrial GSDP to total GSDP in the region.

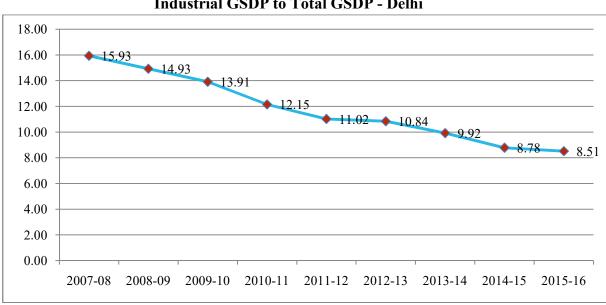


Figure 5.9 Industrial GSDP to Total GSDP - Delhi

Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues.

Figure 5.9 presents the consistent diminution in the ratio of Delhi from 2007-08 to 2015-16. In 2007-08, the ratio was 15.93 per cent and by 2015-16, it got diminished to 8.51 per cent, testifying the structural shift progressively operating in the economy.

Industrial GSDP of Ahmedabad enalrged at a CAGR of 9.4 per cent between 2007-08 and 2015-16. The following figure (figure 5.10) shows the ratio of industrial GSDP to total GSDP of Ahmedabad.

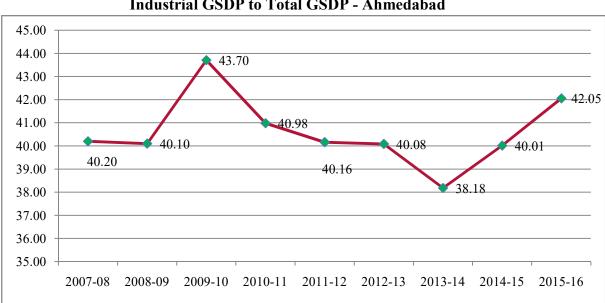


Figure 5.10 Industrial GSDP to Total GSDP - Ahmedabad

Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues.

Figure 5.10 shows that the ratio had been growing moderately in Ahmedabad from 2007-08 to 2015-16. In 2009-10, the ratio had improved to 43.7 per cent and got diminished by next year itself. However, by 2015-16, it reached 42.05 per cent.

Industrial GSDP of Bangalore grew at a CAGR of 3.79 per cent between 2007-08 and 2015-16. The following chart (Figure 5.11) shows the trend of the ratio of industrial GSDP to total GSDP in Bangalore.

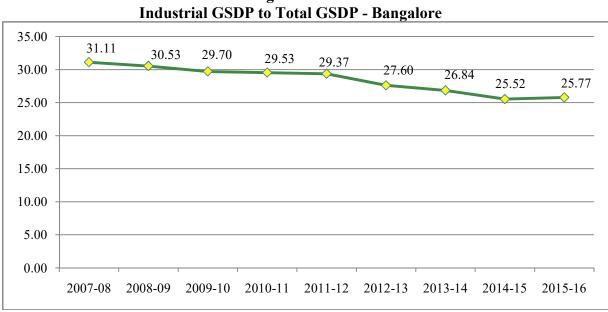


Figure 5.11

Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues.

Figure 5.11 illustrates that the ratio in Bangalore had been diminishing mildly over years.

From 31.11 per cent in 2007-08, it became 25.77 per cent in 2015-16.

Industrial GSDP of Mumbai expanded at a CAGR of 5.88 per cent between 2007-08 and 2015-16. The below given figure (Figure 5.12) depicts the trend of the ratio of induatrial

GSDP to total GSDP in Mumbai.

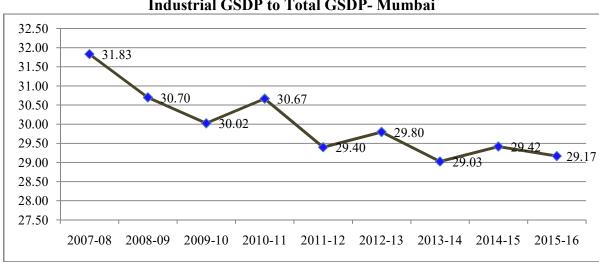


Figure 5.12 Industrial GSDP to Total GSDP- Mumbai

Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues.

Figure 5.12 shows the minimal decrease occured in the ratio in Mumbai from 31.83 per cent in 2007-08 to 29.17 per cent in 2015-16.

The industrial GSDP of Chennai expanded at a CAGR of 5.94 between 2007-08 and 2015-16. The below depicted figure (Figure 5.13) shows the trend of Industrial GSDP to total GSDP in Chennai.

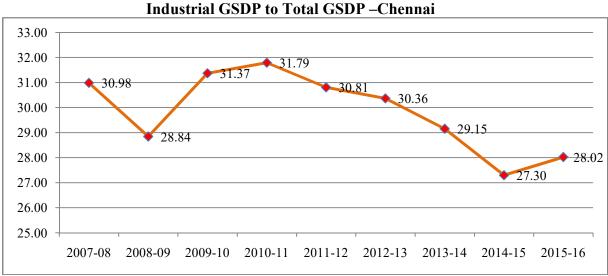


Figure 5.13 Industrial GSDP to Total GSDP –Chennai

Source: Compiled from The handbook of statistics on Indian states, RBI, Various Issues.

Figure 5.13 shows that the ratio had been mildly diminishing in Chennai; it reduced to 28.02 per cent in 2015-16 from 30.98 per cent in 2007-08.

The analysis unveiled that the per cent of industrial GSDP in total GSDP is relatively low in each region under RHIF except Ahmedabad. Furthermore, the CAGR of industrial GSDP between 2007-08 and 2015-16 is also insignificant in all the regions except Ahmedabad. It betokens the magnitude of structural shift taking place in these economies by means of the contribution of a preponderant share by the service sector to the total GSDP.

5.5.3 Correlation Matrix

The following correlation matrix (Table 5.24) shows the extent of relationship among the variables in the model.

Table 5.24						
Correlation Matrix						
	DEPOSITSCB	NSDP	FDIINFLOW	GSDPINDUSTRY		
DEPOSITSCB	1					
NSDP	0.84	1				
FDIINFLOW	0.71	0.49	1			
GSDPINDUSTRY	0.64	0.93	0.27	1		

The correlation matrix shows (Table 5.24) that the association among all the explanatory variables [Deposits of scheduled commercial banks (DPSTSCB), FDI inflows (FDIINFLOW), GSDP in the industrial sector (GSDPINDUSTRY)] and the dependent variable 'Net State Domestic Product (NSDP) is positive. The correlation coefficient between 'net state domestic product' and 'Deposits of scheduled commercial banks' is + 0.84. It specifies the strong positive relationship subsisting between the two variables. The correlation coefficient between 'net state domestic product 'net state domestic product' and 'FDI inflows' is +

0.49. It signifies the weak positive relationship in extant between the two variables. Finally, the coefficient of correlation between 'net State domestic product' and 'GSDP industry' is +0.93. It implies that there persists a very strong positive association between the two variables.

5.5.4 Regression Results

Net State Domestic Product (NSDP) at Factor Cost in constant prices (base year-2011-

12) is the dependent variable chosen. Random-effects (GLS) Regression method is used.

Table 5.25

Table 5.25							
Regre	ssion on Role	e of FDI Inflow	VS				
Dependent Variable: NSDP							
Explanatory Variables	Coefficient	Z	p-value	_			
const	4.1	7.249	< 0.0001	_			
FDIINFLOW	0.039	1.900	0.0575				
GSDPINDUSTRY	0.47	9.836	< 0.0001				
DEPOSITSCB	0.25	7.735	< 0.0001	_			
Mean dependent var	14.92	S.D. dependent var		0.49			
Sum squared resid	0.47	S.E. of regression		0.096			
Log-likelihood	51.29	Akaike criterion		-94.57			
Schwarz criterion	-86.62	Hannan-Quinn		-91.51			
rho	0.54	Durbin-Watson		0.821			

Note: Period of observation (Time-series length) is 9 years starting from 2007-08 to 2015-16. No. of observations is 54. No. of cross sections is 6. Table shows Random-effects (GLS) Regression results. Independent variables are lagged by 1 year to avoid endogenity problem.

The regression results depicted in Table 5.25 makes it obvious that there persists signifcant association among the dependent variable and all the explanatory variables .

Concerning 'FDI inflows', the regression coefficient is positive and significant at ten per cent level, which connotes that with an increase in FDI inflows, the net state domestic product which embodies 'size of the economy' in RHIF increases. The result is coherent

with the existing empirical literature which is comparable with the result found by Campos & Kinoshita (2002) and Johnson (2006).

The coefficient of 'GSDP in the industrial sector' is also positive and significant at one per cent level which denotes that NSDP of RHIF enhances with increase in the extent of industrial output. The result is consistent with the empirical findings of Ellahi (2011) and Medyawati & Yunanto (2011).

In the same way, the coefficient is positive and significant at one per cent with regard to 'deposits of scheduled commercial bank', which specifies the positive interrelationship between the explanatory and dependent variables. That is, progress in the accumulation of domestic savings in RHIF leads to growth in its NSDP. The result is consistent with the subsiting empirical literature as if found by Odhiambo (2009) and Turan & Gjergji (2014). Thus, the analysis shows that, '*FDI, along with domestic savings and industrial output contribute towards the size of the economy in RHIF*'.

From the findings, the following conceptual model is formed.

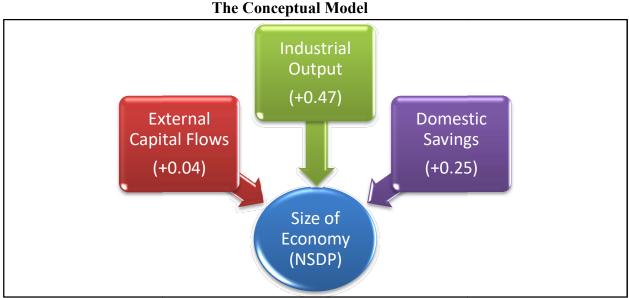


Figure 5.14 The Conceptual Model

Source: Compiled by the researcher

It is apparent from the conceptual model (figure 5.14) that FDI inflows, domestic savings and industrial output contribute significantly and positively to the size of the economy of RHIF.

5.6 The Overall Conceptual Model

The empirical findings on the determinants and role of FDI inflows in RHIF together can be conceptualized as follows;

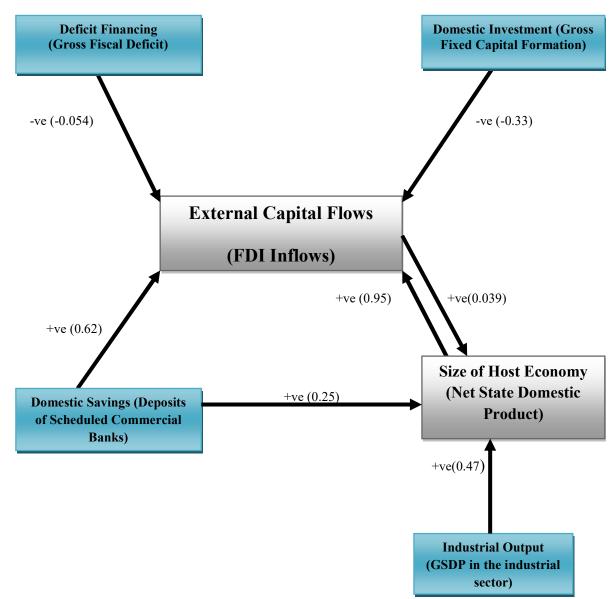


Figure 5.15 The Aggregate Conceptual Model

A bi-directional realtionship between FDI inflows and size of the host economy can be observed from the overall model (Figure 5.15). It suggests that while FDI inflow is a reason for the augment of size of the economy, size of the economy paves the way for elevating FDI inflows in RHIF.

5.7 Conclusion

In the present chapter, analysis has been made under three different heads Viz. trend and pattern of FDI inflows to RHIF, determinants of FDI inflows in RHIF and role of FDI inflows in RHIF. Analyiss of the trend and pattern of FDI inflows in RHIF showed that FDI has been rightly directed and judiciously distributed. The major determinants of FDI inflows in RHIF have been identified as deficit financing, domestic investment, domestic savings and size of host economy. Afterwards, it has been found that, external capital flows in the form of FDI inflows, along with domestic savings and industrial output, contribute to the size of host economy in RHIF.