FDI and Its Relationship with Macroeconomic Variables

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Abstract: *FDI refers to capital inflows from abroad that are invested to enhance the production capacity of the economy. FDI and economic growth has long been a subject of great interest in the field of international growth. In the era of volatile flows of global capital, the stability of FDI emerges as an effective channel to faster economic growth. In developing countries it plays an important role in the long-term development of a country as a source of capital and for enhancing competitiveness of the domestic economy through transfer of technology, strengthening infrastructure, raising productivity and generating new employment opportunities.*

Key Words: *FDI, Macroeconomic, GNP, GDP.*

1. Introduction

Investment is very important for the growth and prosperity of an economy. Domestic investment and foreign investment both are equally important. In India FDI is considered as a developmental tool, which helps in achieving self-reliance in various sectors and in overall development of the economy. India has emerged as a favourable destination of FDI. The inflow of FDI before 1990's was very slow. To fully utilize the country's immense economic potential, the government launched economic reforms in 1991, known as LPG. The new government policies are simple, transparent, and aimed to promote domestic and foreign investment. FDI equity inflow in India stood at US$ 547.2 billion between April 2000 and June 2021[7]. FDI offers number of benefits like overture of new technology, innovative products and extension of new markets, opportunities of employment and introduction of new skills, which reflect in the growth of income of any nation.

In region wise analysis the highest amount of FDI inflows to India are from the countries of Africa (35%), followed by Asia (30.64%), Europe (26.19%), and North America (7.86%), of which, the highest FDI inflows are from Singapore (60.02%) followed by Japan (25.51%). From different countries of Africa, the highest amount of FDI inflows are from Mauritius (99.29%), followed by South Africa (0.37%).The total amount of FDI flows from different countries of Australia to India, the highest amount of inflows is from Australia (90.05%) and New Zealand (6.25%). FDI flows from the different countries of South America region, the highest was from Chilli (73.94%) followed by Brazil (12.95%) and Argentina (4.84%). FDI inflows from USA (79.79%), Netherlands (26.08%) followed by UK (25.64%), and Germany (11.68%).

FDI equity inflow in India stood at US$ 17.56 billion between April 2021 and June 2021. Data between April 2021 and June 2021 indicates that the automobile sector attracted the highest FDI equity inflow of US$ 4.66 billion, followed by computer software and hardware sector (US$ 3.06 billion), services sector (US$ 1.89 billion) and metallurgical industries (US$ 1.26 billion). Between April 2021 and June 2021, India recorded the highest FDI equity inflow from Singapore (US$ 3.31 billion), followed by Mauritius (US$ 3.29 billion), the US (US$ 1.95 billion), Cayman Islands (US$ 1.32 billion), the Netherlands (US$ 1.09 billion), Japan (US$ 539 million) and the UK (US$ 345 million). In state-wise analysis the total FDI equity inflow, Karnataka registered the highest FDI equity inflow of US$ 8.45 billion, followed by Maharashtra (US$ 4.09 billion), Delhi (US$ 1.95 billion) and Gujarat (US$ 765 million) [7].

1.1. Review of Literature: Bhanuben (2013), Karunakaran N (2020) and Nakula, Reddy A (2018) analysed the impact of flow of FDI on GDP of India. Rajalingam. P (2011) studied the impact of globalization on Indian economy, Rema R and Karunakaran N (2019), Singh Ranbir (2003), Soji M Sebastian and Karunakaran N (2020) also examined the trend and pattern of international capital flows in India. Syed (2012), and Thuhid (2016) pointed out the significance of FDI on economic growth.

1.2. Objectives: The main objectives are:

(i) to study the country-wise FDI inflows to India and the FDI inflows in different sectors;

(ii) to analyse the volume and composition of FDI, sector-wise and state-wise and

(iii) to examine the relationship between FDI and its determinants like GDP, GNP and employment

2. Materials and Methods

The study used secondary data collected from various sources. Multiple regression and ANOVA were used for data analysis.

3. Results, Analysis and Discussion

3.1. Volume and Composition of FDI in India: The continent-wise FDI inflowto India is exhibited in figure 1.

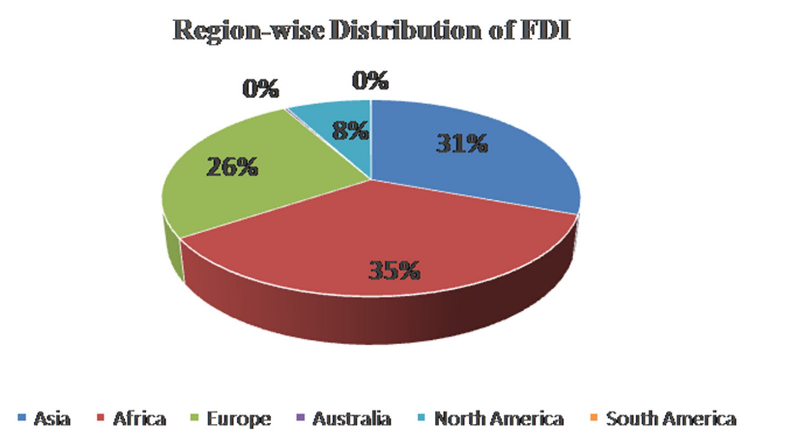

Figure 1: Region-wise Distribution of FDI

Source: https://dpiit.gov.in/sites/default/files/FDI_Factsheet_June2021.pdf

Table 1 shows the FDI inflows to India during 2000-01 to 2020-21, which was Rs. 10,733 crores in 2000-01 and that has gone upto Rs. 442,569 crores in 2020-21, a phenomenon growth of 4123.44 percentage. A close observation of the figure also shows that there are certain fluctuations in the FDI inflow in certain years.

Table 1: Year-wise Distribution of FDI Equity Inflows

Sl. No	Year	Amount of FDI Inflows (Rs in crore)	Growth
1	2000-01	10,733	100
2	2001-02	18,654	173.80
3	2002-03	12,871	119.92
4	2003-04	10,064	93.77
5	2004-05	14,653	136.52
6	2005-06	24,584	229.05
7	2006-07	56,390	525.39
8	2007-08	98,642	919.05
9	2008-09	142,829	1330.75
10	2009-10	123,120	1147.12
11	2010-11	97,320	906.74
12	2011-12	165,146	1538.68
13	2012-13	121,907	1135.81
14	2013-14	147,518	1374.43
15	2014-15	189,107	1761.92
16	2015-16	262,322	2444.07
17	2016-17	291,696	2717.75
18	2017-18	288,889	2691.59
19	2018-19	309,867	2887.05
20	2019-20	353,558	3294.12
21	2020-21	442,569	4123.44
	Total	**3,175,014**	

Source: https://dpiit.gov.in/sites/default/files FDI_Factsheet_March%2C21.pdf

Table 2 shows the state-wise distribution of FDI flow in India obtained on regional office basis. New Delhi Region stood in the first place, followed by Mumbai region, whereas, in the subsequent year, there was a turn around, Mumbai region stood in the first position compared to Delhi region.

Table 2: States/UTs Attracting Highest FDI Equity Inflows during 2020-21

State/UTs	Amount in Rupees (crores)
Gujarat	1,62,830
Maharashtra	1,19,734
Karnataka	56,884
Delhi	40,464
Tamil Nadu	17,208
Jharkhand	5,993
Haryana	12,559
Telangana	8,618
Punjab	4,719
Uttar Pradesh	3,123

Source: https://dpiit.gov.in/sites/default/files FDI_Factsheet_March%2C21.pdf

3.2. Sector-wise Distribution of FDI: In the different sectors, the highest FDI inflow was in computer, service sector and construction in 2020-21, as shown in table 3.

Table 3: Sectors Attracting Highest FDI Equity Inflows (2020-21)

Sector	Amount in Rs. Crores
Services Sector	37,542
Computer Software and Hardware	194,291
Telecommunications	2,884
Trading	19,349
Construction Development	3,117
Automobile Industry	12,115
Construction (Infrastructure) Activities	58,240
Chemicals (other than Fertilizers)	6,300
Drugs and Pharmaceuticals	11,015
Hotel and Tourism	2,761

Source: https://dpiit.gov.in/sites/default/files FDI_Factsheet_March%2C21.pdf

3.3. Determinants of FDI: There is a positive long run relationship between FDI and economic growth[10] and the relationship between FDI and macroeconomic variables such as GNP, GDP and employment is analysed. The determinant of FDI varies from one country to another due to their unique characteristics and opportunities for the potential investors. The determinants of FDI in India are stable policies, economic factors, cheap and skilled labour, basic infrastructure, unexplored markets and availability of natural resources [9].

Table 4: FDI and Macro Variables

Year	FDI (Rs in crore)	GDP (Rs in crore)	GNP (Rs in crore)	Employment (in %)
2000-01	10,733	2030711	2008283	56.46
2001-02	18,654	2136651	2116512	56.74
2002-03	12,871	2217133	2199266	56.98
2003-04	10,064	2402727	2383227	57.36
2004-05	14,653	2602065	2580980	57.64
2005-06	24,584	2844942	2824282	57.95
2006-07	56,390	3120031	3098767	56.98
2007-08	98,642	3402716	3387863	56.04
2008-09	142,829	3609425	7052191	55.00
2009-10	123,120	7651078	7606319	54.22
2010-11	97,320	8301235	8211816	53.36
2011-12	165,146	8736329	8659505	52.71
2012-13	121,907	9213017	9104662	52.01
2013-14	147,518	9801317	9679027	52.10
2014-15	189,107	10527674	10402987	52.12
2015-16	262,322	11369493	11234571	52.07
2016-17	291,696	12298327	12153754	52.04
2017-18	288,889	13144582	13000009	36.90
2018-19	309,867	14003316	13858743	37.50
2019-20	353,558	14569268	14424695	40.10
2020-21	442,569	13512740	13368167	40.90

Source: DIPP and Data Base, World Development Indicators, RBI Bulletin

The relationship between FDI and GNP, GDP and Employ`ment, the linear equation model is:

$$F = \alpha_0 + \alpha_1 Y + \alpha_2 P + \alpha_3 E + \varepsilon$$

(Where, F is FDI, Y is GNP, P is GDP and E is Employment, α_0 is Intercept, α_1 is Coefficient of Y, α_2 is Coefficient of P, α_3 is Coefficient of E and ε is Error term). The result is given in chart 1.

Chart 1

Regression Statistics	
Multiple R	0.890765
R Square	0.793462
Adjusted R Square	0.745799
Standard Error	44578.88
Observations	21

ANOVA

	Df	*SS*	*MS*	*F*	*Significance F*
Regression	3	9.9E+10	3.31E+10	16.64746	9.71E-05
Residual	13	2.6E+10	1.99E+09		
Total	16	1.3E+11			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	2705323	643539	4.20382	0.001032	1315041	4095605	1315041	4095604.91
GDP	0.024702	0.01558	.585674	0.136828	-0.00895	0.058357	-0.00895	0.05835685
GNP	0.005016	0.01881	0.266688	0.793893	-0.03562	0.045653	-0.03562	0.04565323
EMPT	-48222.3	12237.5	-3.94053	0.001692	-74659.8	-21784.7	-74659.8	-21784.718

Correlation

fdi	*GDP*
1	
-0.63069	1

	GDP	*GNP*
GDP	1	
GNP	0.803772	1

	fdi	*GNP*
fdi	1	
GNP	-0.73657	1

	fdi	*EMPLOYMENT*
fdi	1	
EMPLOYMENT	-0.8651	1

79.34 percent of the variation of FDI is explained by the independent variables viz, GDP, GNP and Employment.The ANOVA result is significant. Here a positive association is found between GDP, GNP with FDI; relation between employment and FDI is negative.

4. Conclusion

FDI plays an important role in the long-term development of a country not only as a source of capital but also for enhancing competitiveness of the domestic economy through transfer of technology, strengthening infrastructure, raising productivity and generating new employment opportunities. The study observed that FDI is a significant factor influencing the level of economic growth in India. It provides a sound base for economic growth and development by enhancing the financial position of the country. Therefore, more attention to attract higher foreign capital in various sectors of the economy is essential. Few suggestions in this context are made:

- Flexible labour laws to attract more FDI
- Reducing geographical or regional disparities in the distribution of FDI
- Development of debt market to benefits significantly from FDI inflows
- Boost domestic investment as a supplement to FDI
- Options of increasing FDI in social overhead projects like education and health

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