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An Empirical Analysis of Foreign Direct Investment Inflows between India and European Union - 2000 to 2012

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Abstract:

Foreign Direct Investment (FDI) equity inflows to a country play an important role in shaping up the country's economy. European Union (EU) is a major investment partner of India. The volume of Foreign Direct Investment (FDI) equity inflows from EU to India is considerably significant. The share of FDI equity inflows from EU is twenty percent of total global FDI equity inflows to India. This share is on a steady upward trend. There are several factors that determine the FDI investment in a country. Empirical evidence underlines the importance of gross domestic product of the country, domestic capital formation, infrastructure availability, degree of openness of the economy, trade position, country's debt position and etc. as potential determinants of FDI inflows to a country. The aim of this paper is to analyse the various potential determinants of FDI equity inflows from European Union to India during the period 2000 to 2012. We have used an econometric model used by UNCTAD to determine these potential determinants of FDI equity inflows. The time frame for this analysis is 12-year period from April 2000 to April 2012, based on data availability. Majority of the explanatory variables specified in the econometric model are seen to be significant in attracting FDI in India and are in line with recent empirical evidences.

Key words: Foreign Direct Investment, EU, regression model, degree of openness, domestic capital formation, export and import

1.0 Introduction

International capital movements, popularly known as Foreign Direct Investment (FDI), were seen increasing rapidly in recent years. FDI plays a major role in globalization, impacting both the growth of an economy. This also helps in multiplying the profitability of investing companies. FDI equity inflows to a country depend upon multiple factors. In order to attract FDI countries needs to have a better understanding of FDI as well as factors affecting FDI.

FDI inflows from developing and transition economies reached record levels in the year 2007 contributing to their economic growth according to UNCTAD's World Investment Reports (2004, 2005, 2006, 2008). There is significant increase in the number of FDI activities around the world, especially in developing countries because of the effort and initiatives taken up by government of these countries. UNCTAD's World Investment Report, describes this rise of developing country transnational corporations as part of a burgeoning shift in the structure of the world economy. The development gains from this trend could increase with appropriate policy responses in both source and recipient countries. India is also a part of this promising shift. The FDI equity inflows from all countries to India increased from 2,347 million US$ in January 2000 to 22,789 million US$ in December 2012, as recorded by the Reserve Bank of India (RBI). The cumulative FDI inflows from all countries in India during this period from January 2000 to December 2012 were 188.47 billion USD. (*Source: FDI Synopsis on Country European Union, Table No. 6.1. (B), Department of Industrial Policy and Promotion DIPP, Mini stry of Commerce and Industry, Government of India*). This indicates that foreign companies are investing in India to access key resources of host country and to enter into the bigger South Asian Countries market.

EU is an important source of FDI inflows for India. FDI equity inflow from EU to India is approximately 25 percent during the period January 2000 to December 2012 (*Source: FDI Synopsis on Country European Union, Table No. 6.1. (B), DIPP, Government of India*). The FDI equity inflows from EU to India increased from 574.78 million US$ in the year 2000 to 6,350.56 million US$ in the year 2012, recording a CAGR of 22.17% per annum. Year-wise total FDI equity inflow to India from all countries as well as from EU countries during 2000 to 2012 is presented in Table 1.

Table 1: FDI Equity Inflows (million US$)[1]

Year (January-December)	*FDI Equity Inflow from all Countries (million USD)*	*FDI Equity Inflow from EU Countries (million USD)*	*FDI Equity Inflow from EU as Percentage of Total FDI inflows (%)*
2000	2,347	575	24
2001	3,520	1,006	29
2002	3,359	824	25
2003	2,079	658	32
2004	3,213	1,056	33
2005	4,355	665	15
2006	11,120	2,928	26
2007	15,921	2,445	15
2008	37,096	6,259	17
2009	27,044	4,563	17
2010	21,007	4,522	22
2011	34,621	15,260	44
2012	22,789	6,350	28
Cumulative Total	**188,471**	**47,110**	**25**

Source: FDI Synopsis on Country European Union, Table No. 6.1. (B), DIPP, Ministry of Commerce and Industry, Government of India.

Figure 1 shows, the total FDI equity inflows to India from all the countries and from EU (in million US$) during 2000 to 2012.

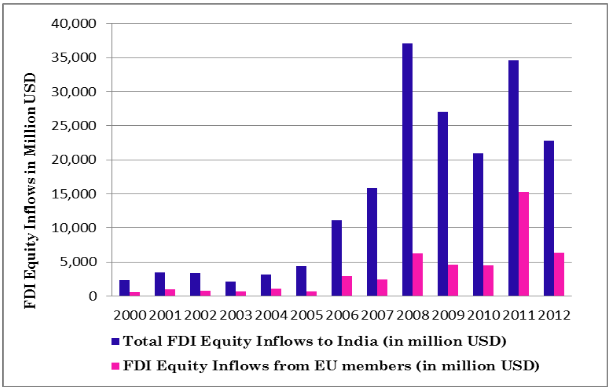

Figure 1: Total FDI Equity Inflow to India during 2000 to 2012

Table 2 presents FDI inflow from EU member nations to India during 2000 to 2012.

Table 2: FDI Inflow to India from EU-28 during 2000 to 2012 (In million USD)[2]

Sl. No.	*Country*	*2000-2005 Jan.-Dec.*	*2006 Jan.-Dec.*	*2007 Jan.-Dec.*	*2008 Jan.-Dec.*	*2009 Jan.-Dec.*	*2010 Jan.-Dec.*	*2011 Jan.-Dec.*	*2012 Jan.-Dec.*	*2000-2012 Jan.-Dec.*	*% of Total FDI 2000-2012*
1	Austria	19.35	1.7	3.78	26.47	23.42	24.34	43.78	41.37	184.19	0.098
2	Belgium	74.61	85.88	20.16	103.15	30.94	32.71	107.66	38.99	494.11	0.262
3	Czech Rep.	0.55	0	0.02	16.21	0.4	0.01	0.11	0.03	17.34	0.009
4	Cyprus	92	56.21	536.91	1,318.10	1,609.56	919.48	1,306.82	960.67	6,799.76	3.605
5	Denmark	102.54	5.32	6.21	15.8	23.04	48.66	51.72	95.09	348.39	0.185
6	Estonia	0	0	0.19	0.06	0	0	0.00	0.04	0.30	0.000
7	Finland	23.53	1.69	23.11	10.7	96.24	12.18	103.00	3.43	273.87	0.145
8	France	502.14	85.43	125.87	467.89	296.92	745.86	495.09	688.01	3,407.21	1.807
9	Greece	0.06	0	0.29	0	0.46	0.71	0.26	1.94	3.72	0.002
10	Germany	677.84	312.7	343.16	788.78	599.93	197.66	1,484.26	729.12	5,133.46	2.722
11	Hungary	0.13	0	0.02	0	6.85	2.82	0.13	0.25	10.2	0.005
12	Ireland	13.32	13.78	4.23	44.25	27.3	1.05	39.11	10.93	153.98	0.082
13	Italy	246.78	56.53	27.91	366.23	150.84	183.33	134.04	76.85	1,242.5	0.659
14	Latvia	0	0	0.06	0	0	0	0.00	0.00	0.06	0.000
15	Luxembourg	28.83	27.96	11.2	41.94	30.87	183.23	62.83	72.25	459.10	0.243
16	Netherlands	1,379.27	494.9	680.99	988.92	832.81	1,146.59	1,268.73	1,675.91	8,468.13	4.490
17	Poland	1.84	0	0	0.04	26.14	14.17	9.56	516.78	568.53	0.301
18	Portugal	0.71	0.19	1.87	5.7	2.05	0.55	2.65	7.68	21.40	0.011
19	Slovakia	1.82	0.56	2.02	0	0	0.82	0.00	0.00	5.22	0.003
20	Spain	25.25	29.04	96.66	290.37	91.5	229.84	214.92	434.91	1,412.48	0.754
21	Sweden	329.23	6.01	83.93	92.78	245.37	27.16	32.47	164.62	981.55	0.520
22	Slovenia	8.23	0	0	0	0	0	0.00	0.00	8.24	0.004
23	UK	1,254.80	1,749.84	469.66	1,681.60	468.21	748.10	9,902.00	829.45	17,103.65	9.068
24	Malta	0.25	0	6.3	0	0	2.94	0.94	2.27	12.71	0.007
25	Romania	-	-	-	-	-	-	4.02	0.00	4.45	0.002
26	Bulgaria	-	-	-	-	-	-	0.07	0.00	0.36	0.000
27	Croatia	-	-	-	-	-	-	0.00	0.00	0.52	0.000

28	Lithuania	-	-	-	-	-	-	0.00	0.00	0.00	0.000
Grand Total		**4,783.08**	**2,927.74**	**2,444.55**	**6,258.99**	**4,562.85**	**4,522.21**	**13,230.49**	**6,133.37**	**47,124.43**	**24.99**

Source: FDI Synopsis on Country European Union, Table No. 6.1. (B), Annex, Department of Industrial Promotion and Policy, Ministry of Commerce, Government of India.

1.1 Review of Literature:

In India, inward and outward FDI are not easy to analyze because of their national definition and interpretation. The Reserve Bank of India (RBI) and the Secretariat for Industrial Assistance (SIA) which publish official statistics has, since 1991, only reported the equity component of FDI. IMF guidelines estimate re-invested earnings as part of FDI inflows, where as they were not considered as part of FDI in India. Proceeds of foreign equity listings and foreign subordinated loans to domestic subsidiaries were not included in Indian data. Similarly, overseas commercial borrowings as well as some depository receipts over 10 per cent of the equity coming from foreign institutional investors were also disregarded (Srivastava, 2003). India's share in total volume of FDI inflows in the world is very small, although there was a difference and scope for improving India's FDI statistics in order to put them in line with international standards. The FDI experience and the opening of the country to foreign institutional investors are relatively new.

Indian policy makers were initially apprehensive about the impact of FDI in India. It took time to realize the importance of FDI in the development of the economy. A change in the planning of India was implemented in 1991 through liberalization. The apprehension was replaced in 1995-96 by a pro-FDI policy. There was a general awareness across the political spectrum in favor of attracting FDI. By the year 2002 FDI changed completely for India. The reporting system of FDI data in India was aligned with international best practices by a committee of the Department of Industrial Policy & Promotion

(DIPP) in May 2003 to clear off the non-comparability of Indian FDI statistics with international FDI data.

One important point to be noted here that, over time along with the increase of FDI inflows into India actual outward FDI from India also increased significantly. Prior to the year 2004-05 both inward and outward FDI were increasing at a slow rate, but both types of FDI started increasing at a higher rate from the year 2004-05. The volume of outward FDI is increasing significantly to catch up with inward FDI into India, despite the fact that Indian firms started investing abroad only recently. Thus, India is not only considered as a destination for FDI but is also identified as a source of FDI for other countries. India receives FDI from a number of countries. Developed countries with their comparative advantages in technology and possession of huge capital stocks are expected to be a bigger source of FDI, but developing countries are slowly beginning to invest more in India.

The increasing share of FDI sourced from developing countries indicates that emerging multinationals from developing countries have became more engaged in cross-border activities, reflecting the impact of globalization. This increased inflow from developing countries is partially explained by the well-known investment development path (IDP) theory by Dunning (Dunning, J., 1981) which says outward FDI is undertaken when the country reaches a certain minimum development. As countries move along the IDP from the initial stage of only receiving inward FDI, domestic firms acquire ownership and other advantages to go abroad and the country reaches the final stage and becomes an important outward investor. As predicted by IDP theory, initially Indian Official FDI was concentrated towards other developing countries. However after the year 2004-05 overwhelming proportions of these investments are directed to developed countries and the gap between the two has diverged considerably. Initially, the outflows to high income and developing countries were in the ratio of 60:40, but it has now become 85:15.

Singh and Jun (1995), Caves (1996), and Blonigen (2005), provide exhaustive reviews of the features identified by both theoretical and empirical literature. The literature on FDI explains cross-country variations in FDI inflows in terms of country-specific characteristics encouraging or discouraging such flows. These can be broadly classified into *economic* factors impacting returns from investment e.g. host country market size, exchange rate stability, degree of openness of the economy, investment potential, country's debt position etc., host country *policies* for instance, outward-orientation, tax rates, investment incentives and *institutional* factors influencing investor outlooks such as, political stability, ease of doing business, cultural differences from home countries, language. While all these factors, individually and/or collectively, influence inward FDI, it is important to determine which of these are more significant in explaining the ability of some economies to consistently attract more FDI over time.

The existing empirical literature on determinants of FDI into developing countries has not devoted adequate attention to country-specific features that constitute sources of dynamic comparative advantages for attracting FDI. In this regard, exchange rate stability, investment potential, national debt, degree of openness can be key factors. It is well known that all these factors not only leads to productivity gains, but also production efficiency and higher returns on investment. Developing economies that have successfully made themselves attractive destinations for FDI are taking care of the above-mentioned.

Empirical research on FDI in India has mostly focused on the impact of FDI upon macroeconomic fundamentals. The limited literature on host-country determinants of FDI inflows points to such FDI that are essentially domestic market-oriented (Banga 2003, Guha and Ray, 2004). India also appears to enjoy the advantage of low wage costs (Guha and Ray, 2004; Gupta and Mehra, 1995). However, there is hardly any empirical analyses that describe economic strengths have influenced inward FDI in India. A close look at the likely impact of these factors on FDI inflows becomes essential with India emerging as a leading recipient of FDI.

GDP of a country is an indicator of the size of the market. A growing and potential market with substantial size ensures economies of scale and gives opportunities to the investors for investment. Foreign investors get attracted towards a country with stable or accelerating growth of output. Similarly, the fluctuation of exchange rate plays a vital role for the firms making investment abroad. With the fluctuation the firms prefers to reinvest or repatriate the earnings, change the location to other markets, or goes for mergers and acquisitions or consolidation for maximization of benefits. The depreciation of currency increases the ability of the foreign firms in comparison to local firms as it helps in doing more activities with less foreign exchange.

The critical role of the above-mentioned determinants in explaining inward FDI in developing countries, however, is practically unexamined. In this paper, we attempt, to fill the gap in existing literature by empirically identifying India's specific features, particularly the GDP, level of investment to GDP, degree of openness of the economy, exchange rate stability, debt in explaining the pattern of FDI inflows.

1.2 Objective:

The objective of this paper is to find out the determinants of FDI equity inflows from European Union to India during 2000-2012.

1.3 Methodology:

We have analyzed the potential determinants of FDI equity inflows from EU to India during the period 2000 to 2012 with the help of an econometric model used by UNCTAD to determine the determinants of FDI to various countries in 1993. The FDI model used is as given below:

1.3.1 FDI Model:

$$FDI_t = \beta_0 + \beta_1 GDP_t + \beta_2 I_t + \beta_3 DEBT_t + \beta_4 XR_t + \beta_5 OP_t + \beta_6 TEU_t + \sigma$$

FDI_t = Inflow of FDI in year t
GDP_t = Level of GDP in year t
I_t = Domestic Capital Formation (DCF) in year t
$DEBT_t$ = Debt in year t
XR_t = Exchange Rate (US$ vs. INR)
OP_t = Degree of openness of the economy in year t measured as the ratio of exports plus imports to GDP $(X+I/GDP)_t$
TEU_t = Trade (export and import) with EU in year t
XI_t = Total Trade (export and import) of India in year t
σ =random error.
β_0 = Constant
$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 are coefficient of various determinants of FDI inflows such as GDP_t I_t, $DEBT_t$, XR_t, OP_t and TEU_t, respectively. The significance of these coefficients has been analyzed with the help of regression analysis.

1.3.2 Assumptions:

We have assumed that the Gross Domestic Product (GDP), Domestic Capital Formation (I), Debt, Openness of the Economy (OP), Trade (export and import) with EU (*TEU),* Exchange Rate (XR) are the main determinants of FDI equity inflows from EU to India. The following assumptions about the variables have been considered.

i. There exist a positive relationship between size and growth of GDP and FDI equity inflows;

ii. Domestic Capital Formation (I) attracts foreign investors to increase their operation;
iii. The degree of openness of an economy attracts more FDI equity inflows;
iv. The level of indebtedness (DEBT) of a country is negatively related to FDI inflows;
v. Trade (total exports and imports) position with the partner countries is an important determinant of FDI inflows;
vi. The fluctuation in exchange rate (XR) is negatively related to FDI inflows.

1.4 Data:

The summary data used for this analysis are presented in Table 3. These data have been compiled from various sources and all the data used in the analysis are of time period 2000 to 2012. The data source is mentioned separately in Table-4.

Table 3: Data used in the Analysis

Year	*FDI*	*GDP*	*I= DCF (Domestic Capital Formation)*	*X+I (EU27) $EU_{(X+I)}$*	*Debt*	*Exchange Rate (XR)*	*Degree of Open ness = OP_t*
	Mio. USD	*Mio. USD*	*Mio. USD*	*Mio. USD*	*Mio. USD*	*1 USD = INR*	*(Exp.+Imp.)/ GDP*
2000-01	575	498,205	120,909	213,69	101,326	43	0.2
2001-02	1,006	501,244	113,497	208,04	988,43	45	0.2
2002-03	824	485,362	116,899	247,21	104,914	48	0.2
2003-04	658	543,309	142,314	295,91	112,653	46	0.3
2004-05	1,056	645,973	201,989	375,51	134,002	46	0.3
2005-06	665	770,145	263,020	492,27	139,114	44	0.3
2006-07	2,928	880,438	310,786	566,88	172,360	45	0.4
2007-08	2,445	110,978,4	414,737	729,85	224,407	41	0.4
2008-09	6,259	124,062,8	433,699	820,85	224,498	43	0.4
2009-10	4,563	126,341,9	468,577	744,61	260,935	48	0.4
2010-11	4,522	156,852,4	576,997	905,79	305,931	46	0.4
2011-12	15,260	117,551,1	455,605	109,428	104,32	48	0.7
2012-13	6,350	108,451,1	422,383	102,696	5,208	54	0.7

Source: Data source is given in Table – 4 below.

Table 4: Data Sources

Data	*Source*
FDI	Annual Data of Department of Industrial Promotion and Policy (DIPP), Ministry of Commerce & Industry, Govt. of India (various issues)
GDP	Central Statistical Organization (CSO), Govt. of India (various issues)
Investment (I)	Reserve Bank of India (various issues)
Exchange Rate (XR)	Reserve Bank of India (various issues)
Debt	Reserve Bank of India and Economic Survey (various issues)
Export-Import (X+I)	Trade Statistics, Ministry of Commerce & Industry, Government of India

1.5 Result of the Analysis:

A regression analysis was carried out with the data presented in Table-3. In this analysis, we have considered FDI as dependent variable and all others variables (assumed determinants) as independent variables. The summary result of the regressions is presented in Table-5. Some of the explanatory variables specified in the econometric functions are seen to be significant elements in attracting FDI in India.

Table 5: Result of Regression Analysis

Dependent Variable (Y)	*Independent Variable (X)*	*R^2*	*t-Statistics*	*Coefficients*	*Significance*
FDI	GDP	0.74	5.66	2.18	+Ve
	DCF=I(Investment)	0.73	5.46	1.49	+Ve
	$EU_{(X+I)}$	0.80	6.71	1.56	+Ve
	OP_t	0.72	5.35	2.19	+Ve
	Exchange Rate	0.11	1.18	5.07	-Ve
	Debt	0.12	-1.22	-0.30	-Ve

The above results explain about 95 % of the variation. Summary results are presented below:

i. The coefficient +2.18 implies that variable GDP is a significant determinant of FDI equity inflows. Here R^2 value 0.74 and t –Statistics 5.66 are significant.

ii. The domestic capital formation (I) with a coefficient of +1.49 is significant determinant of FDI inflows. The R^2 value 0.73 and t –Statistics 5.46 values are also significant.

iii. The coefficient of +1.56 also implies that India's trade (exports and imports) with EU ($EU_{(X+I)}$) is another significant determinant of FDI equity inflows. Here R^2 value 0.80 and t –Statistics 6.71 are significant.

iv. The degree of openness (OP_t) of the economy with a co-efficient of +2.19 and R^2 value 0.72 and t –Statistics 5.35 turns out to be a significant determinant of FDI equity inflows.

v. The coefficient of +5.07 with a low R^2 value of 0.11 and t-statistic of 1.18 for exchange rate implies it to be a non-significant determinant of FDI equity inflows.

vi. India's debt position with a coefficient of – 0.30 and R^2 value + 0.12 and t –Statistics of -1.22 turns out to be a non-significant determinant of FDI equity inflows.

1.6 Conclusion:

The above analysis shows that GDP of the country, domestic capital formation, India's trade position with EU and degree of openness of the economy are significant determinants of FDI equity inflows from EU to India during the period 2000-2012. However, the debt position of the country and the exchange rate found to be non-significant determinants.

End Notes

[i] These amounts include the inflows received through FIPB/SIA route, acquisition of existing shares, RBI's automatic route, RBI's –NRI schemes.

On the basis of Clarification received from RBI, the amount of stock swap & advances has been deleted from the cumulative FDI data.

The amount of FDI equity inflows, in respect of country/sector specific data was not provided by RBI, Mumbai, prior to January 2000.

[ii] Amount includes the Inflows Received through SIA/FIPB route, acquisition of existing share and RBI's automatic route only.

No FDI inflows have been received from Lithuania during the period.

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