# Determinants of Foreign Direct Investment in India

**Dr. Laxmi Narayan**

Assistant Professor of Economics,

Govt. College Mahendergarh, Haryana.India

Email: laxmi_narayan70@yahoo.com

## Abstract

*The theories of FDI explain why firms undertake foreign investment rather than export to overseas markets but it is equally important to understand where these investments flow or what determine foreign investment flows to a particular region. The determinants of FDI can be grouped under two categories (i) economic conditions and (ii) host country policies. Present paper had analyses the determinants of FDI inflows in India. Paper has discussed the changes in the various determinants of FDI over the period 2012-13. Using correlation matrix and multiple regression analysis, the relationship between FDI determinants and FDI inflows was analysed. As the variables have higher degree of correlation leading to problem of multicolinearity, step wise regression was performed to understand the individual and combined impact of various factors. We found that the size of GDP and rate of growth of GDP are important for attracting higher inflows of FDI. Higher FOREX reserves also helped India in attracting FDI inflows. Thus government should focus on maintaining higher Forex reserves and accelerating rate of growth for attracting higher FDI inflow.*

## Keywords:

**Determinants, Foreign Direct Investment, theories of FDI, FDI determinants, FDI inflows, FOREX reserves, GDP**

## Introduction

The theories of FDI explain why firms undertake foreign investment rather than export to overseas markets but it is equally important to understand where these investments flow or what determine foreign investment flows to a particular region. For this it is essential to analyse determinants of Foreign Direct Investment flows with a view to gain better understanding of the factors that influence the locational decisions of MNCs. The determinants of FDI can be understood from two interrelated questions. Why do firms invest overseas and why they choose particular destination.

The determinants of FDI can be grouped under two categories (i) economic conditions and (ii) host country policies. Market size, rate of urbanization and industrialization, labour cost, infrastructure both physical and economic and underlying fundamentals of economy like inflation, tax regime, external debt are economic

factors influencing FDI inflows. Host country policy framework includes trade policies, country risk, legal framework including property rights, quality of bureaucracy, attitude of the government towards FDI and FDI policies and status of financial markets. Empirical research suggests that FDI is sensitive to the host country's overall economic policies, including its tax policy. The various determinants of FDI are:

- ***Market Size:*** Market size, measured by per capital income and GDP, is an important determinant of FDI as it provides opportunities for larger sales thereby insuring more profits (Pfefferman and Madarassy 1992). The size of market is an indicator of depth and breadth of the domestic economy. However, Asidu (2002) show that there is no significant impact of growth or market size on FDI inflows. Further, Wei (2000) find that market size and growth impact differ under different conditions.
- ***Rate of Growth of Economy:*** Along with market size, the rate of growth of economy and future prospects of growth is also an important determinant of FDI inflows. The strong relationship between per capita growth or growth prospect and FDI is found in number of empirical studies (Lipsey, 1999 and Durham, 2002). Economic growth creates a demand for products and services and countries with high rate of economic growth are more likely to attract larger inflows of FDI.
- ***Infrastructure Facilities:*** Infrastructure both physical and social is an important ingredient of achieving higher and accelerated rate of economic growth and would attract investment by foreign firms. Thus, to attract higher FDI, host country should improve infrastructural facilities such as telecommunications, electricity, water and transportation.
- ***Labor Cost and Quality of Labor:*** The extent of efficiency seeking FDI is significantly related to labour costs and availability of right quality of labour. Initially, the relatively lower wages in high growth East Asian countries were regarded as one of the reasons for increased FDI inflows into that region.
- **Openness and Export Promotion:** The host country policies and philosophy towards trade is also an important determinant of FDI. Countries following liberal approach towards foreign investment and foreign trade are more likely to attract greater FDI inflows. The countries having policies encouraging Exports is more likely to attract higher inflows as compared to the countries following import substitution approach.
- ***Government Finance:*** The prudence of the government finance leads to financial stability and ensures lower degree of country risk. Thus countries with sound fiscal policies with lower fiscal deficit are likely to attract higher FDI.
- ***Policy Measures:*** The policy environment of the host country has strong linkages with FDI inflows. An Improvement in government legal framework and friendly attitude of the government towards foreign investment positively influences the investment by foreign firms. The nations world over provides many incentives in the form of tax and duty exemption and repatriation of profits by the firms. A strong legal framework providing safeguards to investors, safeguarding their intellectual property is more likely to attract higher inflows. Rigid labour laws and excessive higher wage premium discourage investment in the host country.

- ***Economic, Political and Social Stability:*** Investors generally prefers a stable environment for investment abroad. Countries with stable economic, political and social environment are more likely to attract foreign investment.

In addition to the above, economic determinants that must be present in the host economy to enable FDI the following conditions are also needed:

- Business facilitation includes the initiatives that assist investment, such as a one stop centre where investors can get all the necessary information,
- Investment promotion, including image-building, investment-generating activities and investment- facilitating services. The utilisation of all available avenues to sell the country including trade fairs, websites, and trade missions,
- Investment incentives include all things which have the effect of reducing cost to the investing firm that the firm incurs when setting up and operating;
- Hassle cost related to corruption and administrative efficiency. Bureaucratic procedures are likely to discourage investment and breed opportunities for corruptive dealings,
- Social amenities, e.g. bilingual schools including the language generally spoken universally. This enables the foreign employees to settle with their families.

Depending on the motive of FDI that is considered, there are specific economic determinants that are of particular importance. In the case of market-seeking FDI, the criteria are those related to size of the market, market growth, access to regional and global markets, country-specific preferences, and the structure of markets. In the case of resource or assets-seeking FDI, the focus is on access to raw materials, availability of low-cost unskilled labour force as well as skilled labour. Technological and created assets including brand names and the viable physical infrastructure, i.e. telecommunications, roads, power/energy, rail network and ports are also needed. Lastly, in the case of efficiency-seeking FDI, the criteria that are important are those that ensure efficiency. These criteria focus on favourable balances in the cost of resources that are included under resource-seeking FDI. The question of whether the country is part of a regional integration agreement that will ensure a larger market is also considered.

Regional trading blocs, language and business culture, labour availability, strength of a currency, and economic growth can be added to the above list. The trading blocs are the form of economically integrated groups of countries that enter into agreements to facilitate the removal of intra-regional trade barriers such as tariffs. Regional blocs are designed to ensure harmonisation of some aspects of economic policies. In this way, the countries in the grouping create a single more unified market. Foreign firms are attracted to enter these markets through FDI. This happens when a foreign firm takes advantage by establishing in one country and accessing markets in other countries of the same bloc.

The role of language and business culture becomes evident where a host country speaks the same language as spoken by the investing foreign firm. FDI flows from similar cultural and language backgrounds tend to increase. This reflects that a language can be a obstruction or catalyst for an investment assessment.

The ***relative strength of a currency*** affects FDI flows in a similar way as exports. Investors are likely to find weak currencies attractive, because among other things, the assets are usually relatively cheap for foreign investors coming with strong currencies. The weakness of the host country's currency can attract more FDI especially in the form of mergers and acquisitions.

The ***economic and structural reforms*** have a direct intervention in redefining the economic landscape into a more investor-friendly one. These reforms are social, political and economic in nature and are meant to improve or create a favorable business environment and enhance investor confidence. The interventions include the relaxation of entry restrictions in various sectors, deregulation in various industries and the abolition of price control. In addition, other interventions necessary to enhance structural reforms include the relaxation of foreign exchange control, removing government monopoly, privatisation, the easing of restrictions on mergers and acquisitions and other trade practices, enhancing central bank independence, the elimination of import licensing and the relaxation of rate controls.

## EMPIRICAL RESULTS AND DISCUSSIONS

Based on the theory and previous empirical studies several variables affecting FDI were discussed above. The present section attempts to test the determination of FDI in case of India from 1991-92 to 2012-13 based on certain quantifiable policy and economic variables. The purpose of the paper is to trace the effects on FDI inflow of the policy reforms taken by the Government of India. The host country policy towards FDI can range from complete outright prohibition of FDI entry to non-discrimination in the treatment of foreign and domestic firms and even preferential treatment of foreign firms. These policies range from trade policy to momentary and fiscal policy and to international investment agreements. The study includes the *Size of domestic market, exchange rate stability, outward orientation, foreign exchange reserves, and total long-term debt as percentage of GDP.*

The Data on *FDI inflows* into India for the period 1991-92 to 2012-13 has been taken from the estimates prepared by the Reserve Bank of India (RBI). We use lagged growth rate in *GDP at current market prices* ($GDP_{-1}$) for capturing domestic market size on the basis of national income estimates prepared by the Central Statistical Organisation (CSO) and variations in indices of *Real Effective Exchange Rates (REER)* provided by RBI for measuring exchange rate stability. We use the share of exports of goods and services to GDP (XGDP) as a measure of outward-orientation to assess whether India is drawing FDI of the export-oriented variety. The data is obtained from the balance of payments statistics prepared by RBI. The data on foreign exchange reserves are obtained from the RBI and total long term debt as proportion of GDP from CSO NAS, Economic survey and RBI.

Considering the above determinants of Foreign Direct Investment, the equation specified is as under:

$$FDI = a_0 + a_1GDP_{-1} + a_2XGDP + a_3REER + a_4Forex + a_5 DGDP + e_t$$

Where:

FDI : Inflow of FDI

$GDP_{-1}$: Lagged GDP by one year

XGDP: Exports of goods and services as percentage of GDP

REER: Real Effective Exchange rate (10 country base 2000)

Forex: The foreign exchange reserves

DGDP: Long term debt as percentage of GDP

We have hypothesized that these variables explain the variation in FDI flow in India.

- **Empirical Analysis**

The above equation was estimated using ordinary least square method. But before running the equation, we have prepared a cross correlation matrix. As we know that usually economic time series move together, therefore, if we include all the above variables simultaneously in the equation there may be a possibility of multicolinearity. A cursory look at the correlation matrix shows high degree of correlation between explanatory variables. The correlation matrix of FDI and other variables are presented in table-1.

**Table-1: Correlation Matrix of Foreign Direct Investment and the Determinants of Foreign Direct Investment**

| | *FDI* | *GDP_1* | *xGDP* | *REER* | *FOREX* | *DGDP* |
|---|---|---|---|---|---|---|
| FDI | 1.000 | | | | | |
| GDP_1 | 0.863 | 1.000 | | | | |
| xGDP | 0.445 | 0.340 | 1.000 | | | |
| REER | 0.362 | 0.305 | 0.200 | 1.000 | | |
| FOREX | 0.952 | 0.929 | 0.520 | 0.413 | 1.000 | |
| DGDP | -0.724 | -0.756 | -0.546 | -0.463 | -0.818 | 1.000 |

Source: *Computed from the data presented in Appendix table-A.1.*

The analysis of the data presented in above table reveals that simple correlation between FDI and lagged GDP is as 0.863. Correlation between FDI and foreign exchange reserves is also high at 0.952 and trade outward orientation is correlated to FDI with r=0.445. The debt to GDP ratio has strong negative correlation with FDI. The correlation between REER and FDI should have negative value, however, they have positive, though low, correlation with FDI. The correlation between explanatory variables reveals that $GDP_{-1}$ with XGDP and Forex reserves are very high and same way the XGDP with Forex is also significantly high. This point to the problem of multicollinearity. So, we have run the regressions leaving some of the variables, the detailed result of regression analysis are presented in table-2.

The results show that FDI is positively and significantly related with lagged GDP in all the models estimated except where FOREX is included as explanatory variable. This is due to high degree of correlation between GDP and FOREX. This shows that the variations in FDI are largely explained by the value of GDP. This points that FDI inflows are influenced by the size of the market and an increase in market size have positive effect on FDI inflows.

Thus we can conclude that the size of the domestic market positively influences FDI inflows into India.

**Table-2**

**Regression Analysis Explaining the Variations in FDI Inflows**

*Dependent Variable:* FDI in India *Number of Observations:* 22

*Method of Estimation* - OLS Linear

| *Eq. No.* | *Constant* | *$GDP_{-1}$* | *XGDP* | *REER* | *FOREX* | *DGDP* | *Adj $R^2$* | *F* |
|---|---|---|---|---|---|---|---|---|
| 1. | -3406.6 (1.63)[d] | .0551 (7.64)[a] | - | - | - | - | 0.762 | 58.4 |
| 2. | -21783.2 (1.67)[d] | 0.514 (6.89)[a] | 1146.9 (1.47)[d] | - | - | - | 0.747 | 32.0 |
| 3. | -42888 (0.987)[d] | 0.529 (6.97)[a] | - | 404.7 (0.932)[d] | - | - | 0.729 | 29.4 |
| 4. | -1404.7 (0.89)[c] | .0981 (0.83)[d] | - | - | -0.124 (5.852) [a] | | 0.899 | 94.8 |
| 5. | -8409.5 (0.691)[d] | 0.471 (4.26)[a] | - | - | - | 453.2 (0.856)[d] | 0.931 | 29.6 |
| 6 | -21945.4 (0.612)[d] | 0.192 (1.37)[d] | -741.0 (1.15)[d] | -194.1 (0.63)[d] | -0.171 (5.59)[a] | 278.0 (0.82)[d] | 0.901 | 39.5 |
| 7 | -323.9 (0.09)[d] | - | -303.3 (0.531)[d] | -64.1 (0.215)[d] | .134 (8.86)[a] | 366.9 (1.08)[d] | 0.896 | 46.4 |

Source: *Estimated from the data presented in Appendix table-A.1.*

Note: [a] *– significant at 1% level of significance*

[b] *– significant at 5% level of significance*

[c] *– significant at 10% level of significance*

[d] *– insignificant at 1% level of significance*

The estimates reveals that Long term Debt as proportion to GDP are insignificant in explaining foreign direct investment in India. This points that foreign investor does not consider financial position of the country from international perspective as an important factor by the foreign investors. The other factors are found significant at different level of significance in different models. This shows that they explain some of the variation in the FDI inflows. When we include all the variables in the model, it shows a good fit (*Adj. $R^2$=0.901 and F=39.5*) and more than 90% of the variation in FDI inflows in India are explained by the included variables. However, it is pertinent to mention at this stage that these models are affected by the problem of multicollinearity to some extent.

## CONCLUSIONS AND SUGGESTIONS

Present paper analyses the determinants of FDI inflows in India. Paper has discussed the changes in the various determinants of FDI over the period 2012-13. Using correlation matrix and multiple regression analysis, the relationship between FDI determinants and FDI inflows was analysed. As the variables have higher degree of correlation leading to problem of multicolinearity, step wise regression was performed to understand the individual and combined impact of various factors. We found that the size of GDP and rate of growth of GDP are important for attracting higher inflows of FDI. Higher FOREX reserves also helped India in attracting FDI inflows. Thus government should focus on maintaining higher Forex reserves and accelerating rate of growth for attracting higher FDI inflow.

**Appendix Table-A.1**

**Time Series of Various Determinants of FDI Inflow in India**

| Year | FDI | GDP_1 | xGDP | REER | FOREX | DGDP |
|---|---|---|---|---|---|---|
| **1991-92** | 129 | 5318 | 18.03 | 102.75 | 9220 | 25.3 |
| **1992-93** | 315 | 6135 | 16.48 | 92.97 | 9832 | 25.3 |
| **1993-94** | 586 | 7037 | 16.14 | 94.22 | 19254 | 34.11 |
| **1994-95** | 1,314 | 8179 | 15.62 | 99 | 25186 | 31.22 |
| **1995-96** | 2,144 | 9553 | 17.53 | 95.14 | 21687 | 27.18 |
| **1996-97** | 2,821 | 11185 | 16.01 | 98.09 | 26423 | 23.94 |
| **1997-98** | 3,557 | 13017 | 14.06 | 103.55 | 29367 | 24.16 |
| **1998-99** | 2,462 | 14476 | 13.89 | 99.27 | 32490 | 23.56 |
| **1999-00** | 2,155 | 16687 | 14.81 | 99.33 | 38036 | 22.27 |
| **2000-01** | 4,029 | 18472 | 16.23 | 100.51 | 42281 | 22.88 |
| **2001-02** | 6,130 | 19919 | 15.56 | 103.01 | 54106 | 21.63 |
| **2002-03** | 5,035 | 21677 | 17.46 | 98.72 | 76100 | 20.38 |
| **2003-04** | 4,322 | 23382 | 17.06 | 98.73 | 112959 | 18.16 |
| **2004-05** | 6,051` | 26222 | 19.15 | 98.59 | 141514 | 17.12 |
| **2005-06** | 8961 | 29714 | 21.16 | 102.41 | 151622 | 15.73 |
| **2006-07** | 22826 | 33905 | 21.84 | 101.05 | 199179 | 15.90 |
| **2007-08** | 34835 | 39532 | 19.96 | 108.57 | 309723 | 15.59 |
| **2008-09** | 37838 | 45820 | 19.76 | 98.16 | 251985 | 17.38 |
| **2009-10** | 37763 | 53035 | 16.39 | 96.67 | 279057 | 15.47 |
| **2010-11** | 30380 | 60914 | 17.11 | 106.08 | 304818 | 15.03 |
| **2011-12** | 32957 | 71574 | 17.15 | 104.06 | 294398 | 16.61 |
| **2012-13** | 26953 | 82326 | 18.03 | 97.42 | 298321 | 15.94 |

*Source: Obtained from RBI and Economic Survey (Various issues)*

*Note:* $GDP_{-1}$ - *Lagged GDP by one year*;
XGDP - *Exports of goods and services as percentage of GDP*;
REER - *Real Effective Exchange rate* (10 country base 2000);
Forex - *The foreign exchange reserves; and*
DGDP- *Long-term debt as percentage of GDP*

## REFERENCES


Aggarwal, A. (2005). The Influence of Labour Markets on FDI: Some Empirical Explorations in Export Oriented and Domestic Market Seeking FDI across Indian States. *University of Delhi.* WP182.

Asiedu, E. (2002), On the Determinants of Foreign Direct Investment Developing Counties: Is Africa Different? *World Development, Vol. 30 (1), pp. 107-119.*

Bergstrand, J.H. and Egger, P.(2004) A Theoretical and Empirical Model of International Trade and Foreign Direct Investment with Outsourcing. *Part 1, Developed countries. Mimeo.*

Bevan, A.A. and Estrin, S.(2000), The Determinants of Foreign Direct Investment in Transition Economies, *William Davidson Institute Working Paper No. 342,*

Bhagawati, J. (1982). Directly Unproductive Profit Seeking (DUP) Activities, *Journal of Political Economy*, *90, 5, pp 988-1002.*

Bhagawati, J. (1994), Free Trade: Old and New Challenges, *Economic Journal, 104, pp.231-246.*

Bhalla, V.K. (1994), *Foreign Investment and New Economic Theory*. New Delhi: Anmol Publications Private Limited.

Bhati, Usha(2006). *Foreign Direct Investment: Contemporary Issues.* New Delhi: Deep & Deep Publications.

Blomstrom, M.A. and A. Kokko (2003), The Economics of Foreign Direct Investment Incentives, *NBER Working Paper 9489, 2003.*

Bloodgood, Laura (2007) Competitive Conditions for Foreign Direct Investment in India. *U.S. International Trade Commission*, Publication 3931

Caves, R.E.,(1982) *Multinational Enterprise and Economic Analysis.* Cambridge and New York: Cambridge University Press.

Dasgupta, D., D. Ratha et al. (2000), The Role of Short-Term Debt in Recent Crises, *Finance and Development, Vol. 37. December, pp. 54-57.*

Dunning, J. H. (1993), *Multinational Enterprises and the Global Economy*, Reading: Addison-Wesley.

Dunning, J.H., (1988), *Explaining International Production*, London: Unwin Hyman Ltd.

Durham, J. (2004), Absorptive Capacity and the Effects of Foreign Direct Investment and Equity foreign portfolio investment of economic growth, *European Economic Review 48(2):285-306.*

Eckholm, K., Forslid, R., Markusen, J., Export-platform foreign direct investment, *NBER Working paper No. 9517*, 2003

Estrin, S., & Meyer, K. E. (2004). *Investment Strategies in Emerging Markets.* Cheltenham: Edward Elgar.

Estrin, S., Hughes, K. & Todd, S. (1997). *Foreign direct investment in Central and Eastern Europe: Multinationals in transition.* London and Washington, D.C: Pinter.

Galego, A., Vieira, C., Vieira, I., (2004) The CEEC as FDI Attractors, *Emerging Markets Finance and Trade, vol. 40, no. 5, September-October 2004, pp.74-91.*

Gujrati, D.N. (1995) *Basic Econometrics(third ed.), Singapore: Macgraw Hill Inc.*

Helpman E.,, Melitz, M., Yeaple, S., (2004). Export versus FDI with heterogenous firms, *American Economic Review, 94(1), pp. 300-316*

Kumar, N. (1994), *Multinational Enterprises and Industrial Organization*, New Delhi: Sage Publications.

Lipsey, R. (1999), The Location and Characteristics of U.S. Affiliates in Asia, *NBER Working Papers 6876, NBER Inc.*

Meyer, K. E., & Estrin, S. (2001). Brownfield entry in emerging markets. *Journal of International Business Studies, 32(3), 575-584.*

Nunnenkamp, P., (2002) Determinants FDI in Developing countries: Has Globalization Changed the rules of the game?" *Kiel Working Paper No.1122.*

Pfefferman, G.P. and Madarassy, A (1992) Trends in Private Investment in Developing Countries, *International Finance Cooperation, Discussion Paper No.14, Washington D.C.*

Purfield, C. (2006). Mind the Gap – Is Economic Growth in India Leaving Some States Behind? *International Monetary Fund, IMF Working Paper WP/06/13. Washington,D.C.*

Sahoo, P.(2006) Foreign Direct Investment in South Asia: Policy, Trends, Impact and Determinants. *ADB Institute*. Discussion Paper No. 56 available online at http://www.adbi.org/files/dp56_fdi_in_south_asia.pdf

Schneider, F and B. Frey (1985), Economic and Political Determinants of Foreign Direct Investment, *World Development, Vol.13, No. 2, pp. 225-250.*

Sing, H.H. & Jun K.W.,(1995), Some New Evidence on determinants of Foreign Direct Investment in developing countries, *Policy Research Working Paper 1531,* Washington,DC: The World Bank.

Smekal, C. & Sausgruber, R. (2000), *Determinants of Foreign Direct Investment in Europe.* In Chen J.R. (ed*) Foreign Direct Investment.* London: Macmillan Press.

UNCTAD, (2000) Cross-border Mergers and Acquisitions and Development. *Geneva: United Nations.*

UNCTAD (2007). *World Investment Prospects Survey 2007-2009*, Geneva.

Wei, S.J. (2000). How Taxing is Corruption on International Investors? *Review of Economics and Statistics, Vol. 82, No. 1, pp. 1-11.*

Wheeler, D. and A. Mody (1992). International Investment Location Decisions: The Case of US Firms, *Journal of International Economics*, Vol. 33.

Wilhelms S.K.S., (1998) Foreign Direct Investment and its Determinants in Emerging Economies. *African Economic Policy Paper No. 9. United States Agency for International Development Bureau for Africa.*