



## Inflow and Outflow of Foreign Direct Investments in BRICS Countries - An Analysis

L. Krishna Veni

Siva Sivani Institute of Management Secunderabad, Telangana, India.

Email: [kvenil@gmail.com](mailto:kvenil@gmail.com)



### Abstract

Foreign Direct Investment broadly includes any long-term investments by an entity that is not a resident of the host country. It may be in the form of inflow of FDI from other countries into the domestic economy or outflow of FDI from the domestic economy to other countries. Against this backdrop, this study mainly aimed to examine the macroeconomic scenario of all BRICS nations in. It also intends to estimate the growth of the inflow of FDI into BRICS, the outflow of FDI from BRICS during the study period 1998-2018 using Simple Linear Regression and to forecast the inflow and outflow of FDI in immediate future. The results reveal some interesting facts with significant variations in the key macroeconomic variables of BRICS like annual growth of GDP, current account deficit, rate of inflation, unemployment etc. Results reveal that except India, rest of the BRICS countries are deriving more than 50% of the GDP from the service sector only in 2018. The findings of the study conclude that China has recorded the highest growth in terms of the inflow of FDI among the BRICS during the study period. But, Russian Federation and Brazil have recorded the highest growth rates in terms of the outflow of FDI from BRICS during the study period. Based on the regression coefficient values, projection of inflow and outflow of FDI are made, however, the projections will be accurate only when the other things remaining the same.

**Keywords:** BRICS, Inflow of FDI, Outflow of FDI, Emerging economies, Macroeconomic variables, Descriptive statistics, Simple linear equation, Projections.

**JEL Classification:** E27, E29, F20, F21 & F29.

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### **Contribution of this paper to the literature**

This study is important in the following lines. Firstly, the research provides a broad view on recent macroeconomic scenario of BRICS nations to understand the comparative situation. Further, the study attempts to analyse the inflow of FDI into BRICS and outflow of FDI from BRICS during a long period of 21 years, hence it will serve as literature for other individuals who are interested to analyse the FDI in both directions of FDI in the immediate future. Finally, the projections made in this study help to the companies and countries to take their business decisions to some extent in immediate future, however the projections are always subjected to economic stability of the BRICS nations.

## **1. Introduction**

Foreign direct investments (FDI) are investments made by one company into another company located in another country. Foreign Direct Investments (FDIs) can be classified as Inward/Inflow of FDI and Outward/Outflow of FDI, depending on the direction of the flow of money. The inflow of FDI occurs when foreign capital is invested in local resources. The factors driving the growth of inflow of FDI include availability of inputs or factors of production at a cheaper rate, low tax rates, low interest rates and grants concessions and relaxations from the government of the host countries. Other benefits of Inflow of FDIs include access to superior international technologies, exposure to better management and accounting practices, and improved corporate governance

Outward FDI, also known as direct investment abroad, it means firms in the home country expand its business to other countries in the form of investments in Multinational corporations, mergers or acquisition, etc.

Generally, foreign investors are motivated by profits and access to natural resources available in the host country. Therefore, large and growing domestic markets are likely to receive more FDI. Countries with abundant natural resources such as mines, oil reserves and manpower attract the foreign investors to invest in that country.

In 2001, BRICs countries were originally projected to be the fastest growing market economies by Jim O'Neill of Goldman Sachs. The emerging nations of Brazil, Russia, India, and China (BRICs) believed to be the future leading suppliers of manufactured goods, services, and raw materials by 2050. China and India will become the world's main suppliers of manufactured goods and services, respectively, while Brazil and Russia will also develop like dominant suppliers of raw materials. South Africa joined the group in the year 2010, which is now referred to as BRICS.

## **2. Review of Literature**

Sutirtho (2012) in her study exposes that the responsibility of ushering in a new wave of economic growth has fallen on the shoulders of the BRIC countries. The inward and outward FDIs in any country depends upon many factors. Against this backdrop, this study attempts to compare the FDI trends in BRIC countries over the last 10 years, to analyze the effect of government policies on foreign trade, to establish an understanding of the effect of the economic crisis on the existing FDI patterns of developing countries. Further it attempts to explore the scope for changes in FDI policies of these countries in the future and predicting their possible effects. The authors believe that the analysis of this paper will serve to understand the economic growth paradigms in the BRIC nations and their potentially cascading effects on the future economic sustainability of the planet.

Vinay (2014) in his study analyzed the trend of FDI flow into the country and to find the relation between FDI, Foreign Institutional Investment (FII) and GDP of the country. However, the analysis shows that the country is still far behind compared to countries like China. The continuous increase in FDI, allowed across the industries and sectors, has proven that foreign investors have faith in the resilience of Indian markets. Furthermore, the results indicate that the flow of FDI and GDP are positively correlated with each other and the country's GDP is showing a positive movement with the flow of Foreign Direct Investment in India. The flow of FII and FDI also shows a positive correlation with each other.

Panigrahi and Panda (2012) in their study attempt to find out the factors which are significantly related and influence the FDI inflow into China, India, and Malaysia during the study period 1991 to 2010. Correlation has been used to study the factors influencing FDI inflow. The study revealed that India and China are very similar, whereas in Malaysia the same factors do not influence the inflow of foreign investment to the country. GDP of the country, gross capital formation, capital infrastructure, external debt, export, and import volume are the major factors that significantly influence foreign capital inflow into the two highly populated, fast growing Asian countries, that is, China and India. In the case of Malaysia, only domestic investment or gross domestic capital formation is significantly related to its FDI inflow

Anupam (2014) in his study depicts that over the past few years India's outward foreign direct investment (OFDI) flows and stocks have increased intensely though the immense flow of OFDI from developing countries at an international level is fairly a new phenomenon. This paper analyses the impact of FDI outflows on the GDP of BRICS countries. The authors have applied the regression model that explains that overseas FDI does not show a significant impact on GDP. These countries are trying to make efforts to increase their GDP and FDI but due to some constraints, they are not achieving their targets.

Nandita (2014) attempts to empirically explore the evidence of the macroeconomic relationship between outward foreign direct investment (OFDI) and levels of domestic capital formation in the BRIC economies. The findings of the study reveal that OFDI has both short run and long run positive causality with domestic investment and thus figures out to be a significant factor affecting domestic investment in the BRIC nations. It becomes imperative, thus, that the BRIC countries make a special effort to encourage their OFDI through the designing of proper OFDI policies that would help stimulate their domestic investment and economic growth and in the future.

Wladimir (2016) attempts to compare the study of outward foreign direct investment from BRIC countries and strategies conducted by multinational corporations (MNCs) whose parent companies are based in the BRICs. The focus is on Brazilian and Indian MNCs and their OFDI using as a benchmark major outcomes derived from the study of Chinese and Russian multinationals. To the contrary the intent is to check, against a benchmark of

MNCs emerging from former centrally planned economies with a single (communist) party regime, how much the differences in Brazilian and Indian market economies with a democratic political regime over the past decades countervail (or not) the assumed similarities across all the BRICs.

Ramar, Prabakaran, Rajendran, and Muthu Kumaran (2019) in their study, elucidate that the FDI plays a predominant role in the improvement of the nation's growth and the global business. This paper gathers evidence through a panel exercise that actual FDI to India during the year 2017-18 fell short of its potential level. An attempt is made in this paper to know the FDI equity inflows from various countries to India. An attempt has been made by the researcher through this paper to examine the economic growth through FDI. For the analysis the statistical tools like one-Way ANOVA, K-S Test has been used and the suggestions and the recommendations are based on the approach.

Vijayalakshmi, Palanisingham, Lingavel, and Gurumoorthy (2019) in their study explained that FDI has become an integral part of national development strategies for almost all the nations globally. FDI in India has contributed effectively to the overall growth of the economy in recent times. The main objective of the study is to identify the factors determining in foreign direct investment in India. The data mainly based on secondary data. The collected data were analysed by using trend analysis and growth rate of the top ten sectors in India. This study also found that FDI in India has contributed effectively to the overall growth of the economy in the recent times. Thus, India can grow without FDI and in fact developed without or with very little FDI. Developing countries like India need substantial foreign inflows to achieve the required investment to accelerate economic growth and development.

From the above review it is clear that most of the studies have confined to a short period (10 – 15 years) only and focussed either on the inflow of FDI in BRICS countries or outflow of FDI from BRICS countries. However, this study tries to analyse the inflow and outflow of FDI of BRICS nations with the following objectives:

1. To examine the macroeconomic scenario of all BRICS Nations.
2. To estimate the growth of the inflow of FDI into BRICS countries during the study period and to forecast the inflow of FDI in immediate future.
3. To estimate the growth of the outflow of FDI from BRICS countries during the study period and to forecast the inflow of FDI in immediate future.

### 3. Research Methodology

The sample selected for this study are five emerging economies viz., Brazil, Russia Federation, India, China, and South Africa, which are popularly known as BRICS. The present study is exclusively based on secondary data and mainly it is carried out to examine the inflow of FDI into BRICS nations and outflow of FDI from BRICS nations. The data on inflow and outflow of FDI required for this study has been drawn from [www.unctad.org](http://www.unctad.org) and the data on macroeconomic variables of BRICS has been collected from <https://globaledge.msu.edu/global-insights/by/country>.

The inflow of FDI and outflow of FDI are considered in terms of US \$ at current prices in millions for 21 years i.e., from 1998–2018.

Descriptive statistics, Simple Linear regression ( $Y = a + bx$ ), and forecasting Technique based on regression coefficient ( $b$ ) have been applied to analyse the data with the help of SPSS. The forecasts generated by Simple Linear Regression method show a constant trend either increasing or decreasing indefinitely into the future.

### 4. Data Analysis

Initially the macro economic variables of BRICS in 2018 are compared across the BRICS nations to understand the comparative scenario in Table 1A.

Table-1A. Rank in GDP out of 196 Countries & among BRICS in 2018.

Country	Rank in GDP out of 196 countries in 2018	Rank among BRICS
Brazil	7	4
Russian Federation	6	3
India	3	2
China	2	1
South Africa	29	5

GDP is the most important macroeconomic indicator to understand the economic growth of any economy. Table 1A explains the ranks of GDP relating to the BRICS nations out of 196 countries considered in 2018 by [globaledge.msu.edu](http://globaledge.msu.edu). China(2nd), India(3rd), Russian Federation(6th), Brazil(7th), and South Africa(29th) ranks in the world (196 countries). However, in the same order, these countries have occupied the rank between 1st to 5th positions among BRICS in 2018.

The Macroeconomic Variables of BRICS in 2018 are represented in Table 1B. It reveals some interesting facts with significant variations in some of the macroeconomic variables of BRICS. All countries of BRICS are known as developing economies only except Soviet Russia, which is the only High Income country which is in transition. Being a Lower Middle Income country among BRICS, India recorded significant annual growth of GDP with 6.81% in the year 2018. 2nd place has been occupied by the Upper Middle Income country China(6.57%), whereas South Africa(0.79%) remained in the bottom position, though it is a Upper Middle Income country. In terms of per capita income(PPP) Russia and China occupied the 1st and 2nd places. China has the highest external debt stock among the BRICS countries. India, Brazil, and South Africa have shown a deficit in their current account balance, whereas the remaining countries of BRICS like Soviet Russia and China have shown surplus. The rate of inflation is more than 4% in India and South Africa but in China, it is 2.01% only in the year 2018. Labour force has shown high figures in both highly populous countries like China and India. It is disappointing to note that the rate of unemployment is very high in South Africa(28.18%) and Brazil (12.07) among the BRICS in 2019. In value of goods and services of imports and exports also China maintained its supremacy among the BRICS.

**Table-1B. Macroeconomic variables of BRICS in 2018.**

Factor	Brazil	Russia	India	China	South Africa
Income Level (by per capita GNI)	UMI	HI	LMI	UMI	UMI
Level of Development:	Developing	In Transition	Developing	Developing	Developing
GDP, PPP(current international\$)	\$3,371.80b	\$4,050.79b	\$10,500.21b	\$25,398.68b	\$790.82b
GDP growth (annual %)	1.12%	2.25%	6.81%	6.57%	0.79%
GDP per capita, PPP (current international \$)	\$16,096.40	\$27,143.33	\$7,762.88	\$18,236.61	\$13,686.88
External debt stocks, total (DOD, current US\$)	\$557,822, 647,211.20	\$453,938, 114,126.20	\$521,390, 564,017.40	\$1,962,304, 426,779.10	\$179,306, 413,801.80
Current account balance (BoP, current US\$)	*-\$41.54b	\$113.45b	*-\$65.60b	\$49.0b	*-\$13.38b
Inflation, consumer prices (annual %)	3.66%	2.88%	4.86%	2.07%	4.50%
Labor force, total (2019)	10,63,28, 664	7,27,36, 316	51,94,69, 299	78,31,94,000	2,30,72,331
Unemployment, total (% of total labour force)ILO estimate) (2019)	12.08%	4.58%	5.35%	4.32%	28.18%
Imports of goods and services (current US\$)	\$266.78b	\$344.26b	\$642.70b	\$2,548.99b	\$108.88b
Exports of goods and services (current US\$)	\$276.66b	\$509.55b	\$536.62b	\$2,655.61b	\$110.14b

Note: \*Represents Deficit, b- Billions, UMI-Upper Middle Income, HI-High Income& LMI-Lower Middle Income.

**Table-2.Composition of GDP in BRICS Nations –(%) in 2018.**

Country	Agriculture	Services	Industry	Manufacturing
Brazil	4.42	63.02	18.13	9.78
Russian Federation	3.15	54.12	32.07	13.31
India	14.6	45.13	26.75	14.82
China	7.19	52.16	40.65	29.41
South Africa	2.18	64.04	25.85	11.76

The composition of GDP (%) may exceed 100 also. Manufacturing is included in the industry figures and in also reported separately since it plays a vital role in many of the countries in the world including BRICS. Table 2 reveals that except India, rest of the BRICS countries are deriving more than 50% of the GDP from the service sector only in 2018. However, South Africa and Brazil occupied the first and second places with more than 60% contribution from service sector to GDP. China (40.65%) and Russian Federation(32.15%) have contributed significant share from the industrial sector. In the manufacturing sector, China is the only country that contributed 29.41% to GDP in 2018. In the agriculture sector India is the only country that contributes more to GDP with a double digit figure (14.6%).

**Table-3. Descriptive Statistics of Inflow of FDIs in BRICS-1998-2018(21 years).**

Country	N	Minimum	Maximum	Mean	Std. Deviation
Brazil	21	10143.525	97421.786	43247.856	25016.532
Russian Federation	21	2651.06	75855.697	24622.303	20079.378
India	21	2168	47102.417	23188.095	16412.998
China	21	40318.71	139043.492	91754.362	36722.953
South Africa	21	311.4501	9209.172	3850.3717	2867.605

From the descriptive statistics as shown in Table 3, it is clear that China recorded a maximum inflow of FDI during the study period. Brazil, Russia, India, and South Africa have occupied the 2nd, 3rd,4th, and 5th places during the same period of 21years. China is recorded huge inflows of FDI when compared with other BRICS nations in all the countries. A similar picture can be noticed from the mean values during the study period.

**Table-4. Inflow of FDIs in BRICS-simple linear regression equations.**

Country	Regression Equation (Y= a + bx)
Brazil	Y= 12334.099+2810.342x
Russian Federation	Y= 8659.280+1454.820x
India	Y= -2673.937+2351.094x
China	Y= 28279.790+5770.416x
South Africa	Y= 2334.059+137.847x

From Table 4 it is clear that the coefficient value of China has shown the highest value (5770.416), which reflects the high growth of FDI among the BRICS countries during the study period. Brazil (2810.342), India (2351.094), Russian Federation (1454.820), and South Africa(137.847) have recorded the values of the coefficients (growth rates) in the ascending order.



**Table-5. Projections of Inflow of FDI in BRICS (2019-2023).**

Country	2019	2020	2021	2022	2023
Brazil	74161.6	76971.96	79782.31	82592.649	85402.99
Russian Federation	40665.3	42120.14	43574.96	45029.78	46484.6
India	49050.1	51401.22	53752.32	56103.413	58454.507
China	155229	160999.36	166769.77	172540.19	178310.61
South Africa	5366.69	5504.54	5642.39	5780.23	5918.08

Based on the Regression equations from Table 4, the inflow of FDI has been forecasted for the estimated 5 years that is from 2019 to 2023. It can be inferred that estimated projections as shown in Table 5 that the inflow of FDI has shown the highest figure in China in all five years. The second place has been occupied by Brazil. India Soviet Russia remained in the 3rd and the 4th positions in all projected years.. But South Africa remained in the bottom position since it has entered BRICS in the year 2010 only as the emerging economy.

**Table-6. Descriptive Statistics of Outflow of FDI from BRICS -1998-2018.**

Country	N	Minimum	Maximum	Mean	Std. Deviation
Brazil	21	13036	28202.5	3630.71	11072.30
Russian Federation	21	915.77	196149	61147	61433.51
India,	21	47	21142.5	7840.29	6668.55
China	21	1209.75	70684.8	28337	21078.52
South Africa	21	-3177.9	7669.46	2336.05	3171.11

Table 6 reveals that the descriptive statistics relating to outflow of FDI from BRICS countries during the study period. Russian Federation (61147), China(28337), India(7840.29), Brazil(3630.71), and South Africa(2336.05) have shown the mean values in the ascending order during the study period.

**Table-7. Outflow of FDI from BRICS- simple linear regression equations.**

Country	Regression Equation (Y= a + bx)
Brazil	Y= 7095.84 +315.01 x
Russian Federation	Y= 2946.63 + 2390.03x
India	Y= 535 + 43x
China	Y= 9235 + 42x
South Africa	Y= 1156 +31 x

From the regression equations, as shown in Table 7, it is clear that Russian Federation(2390.03) and Brazil(315.01) have shown highest coefficient values (growth rates) relating to the outflow of FDI from BRICS during the study period, whereas the other countries of BRICS like India (43), China(42) and South Africa(31) have recorded lesser growth rates.

**Table-8. Projections of Outflow of FDI from BRICS (2019-2023).**

Country	2019	2020	2021	2022	2023
Brazil	14026.1	14341.1	14656.1	14971.1	15286.1
Russian Federation	55527.3	57917.3	60307.4	62697.4	65087.4
India	1481	1524	1567	1610	1653
China	10159	10201	10243	10285	10327
South Africa	1838	1869	1900	1931	1962

Based on the regression equations from Table 7 the outflow of FDI from BRICS has been forecasted for the estimated 5 years that is from 2019 to 2023. From Table 8, it can be inferred that estimated projections relating to the outflow of FDI have shown highest amount from Russian Federation. Second place has been occupied by Brazil. China remained in third place and South Africa maintained fourth position for all years from 2019 to 2023 as per the projections. But India remained in the least position since it has focused only on inflow of FDI and boosting the domestic investments.

### 5. Summary Conclusions

The results of this study reveal some interesting facts with important distinctions in some of the macroeconomic variables of BRICS.GDP as the most important macroeconomic indicator of economic growth, China, India Russian Federation , Brazil, and South Africa have occupied the rank between 1st to 5th positions among BRICS in 2018.

India being a Lower Middle-Income country recorded significant annual growth of GDP with 6.81% in the year 2018. 2nd place has been occupied by the Upper Middle-Income country China (6.57%) among BRICS. India, Brazil, and South Africa have shown current account deficit, whereas the remaining countries of BRICS have shown surplus. The rate of inflation is more than 4% in India and South Africa but rest of the countries, it is around 2% only. In both highly populous countries like China and India, the labor force has shown high figures. The rate of unemployment is very high in South Africa (28.18%) and Brazil (12.07) among the BRICS countries in 2019. China maintained its supremacy among the BRICS in terms of the value of goods and services of imports and exports also. It is clear that except India, the rest of the BRICS countries are deriving more than 50% of the GDP from the service sector only in 2018, however, South Africa and Brazil occupied the first and second places with more than 60% contribution to GDP. China (40.65%) and Russian Federation (32.15%) have contributed

significant share from the industrial sector. In the manufacturing sector, China is the only country that contributed 29.41% to GDP in 2018. Compared to other countries of BRICS. India is the only country that contributes more to GDP with 14.6% in the agriculture sector.

The findings of the study conclude that China has recorded the highest growth in terms of the inflow of FDI among the BRICS during the study period. Brazil, India, Russian Federation, and South Africa have recorded the values of the coefficients (growth rates) in the ascending order during the study period.

But, Russian Federation and Brazil have recorded the highest growth rates in terms of the outflow of FDIs from BRICS during the study period.

Brazil. China remained in second and third places whereas South Africa maintained the fourth position for all years from 2019 to 2023 as per the projections. India remained in the least position since it has focussed only on the inflow of FDIs and boosting the domestic investments.

Based on the regression coefficient values, projection of inflow and outflow of FDIs are also made in this study, however, the projections will be accurate only when the other things remaining the same.

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