Research Paper

DETERMINANTS OF FOREIGN DIRECT INVESTMENT-A STUDY OF BRICS NATIONS

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ABSTRACT

In the central premise of the study, the researcher attempts to find out the main determinants responsible for FDI attraction in BRICS nations. The panel data of 22 years have been taken from the period of 1995-2016. Panel data fixed effect regression model has been used for analyzing the study. FDI inflows has been taken as dependent variable while GDP, inflation, official exchange rate & real interest rate have been taken as independent variables. The empirical results of regression model state that GDP is a positive & significant determinant of FDI inflows in BRICS nations. Looking on the other side, inflation is a negative and official exchange rate & real interest rate are positive & non-significant determinants of FDI inflows. The study suggests that policy makers and governments of BRICS nations should raise the GDP growth of their respective countries so that more FDI inflows can run.

KEYWORDS: *BRICS, determinant, FDI, GDP.*

INTRODUCTION

Foreign direct investment has been a prominent trend in developing nations. Government of developing nations seeks to promote their respective countries to increase the amount of foreign direct investment inflows. Thus the role played by FDI in economic development of a nation draw the attention of the researchers to explore the determinants of FDI. Foreign investment is distinguished into two parts one is foreign direct investment & other is foreign portfolio investment. Foreign direct investment defines as an investment made by company of one nation in the company of another nation. Under foreign direct investment, companies establish wholly owned enterprises in another nation and also manage them. Foreign companies invest in shares in the company of another nation. Foreign direct investment also includes foreign collaboration in which two companies of different nations jointly set up an enterprise. The company which invest in another nation's company bears all risks and responsible for all profit and losses of such company. Under the portfolio investment, one company buys shares or debentures of other nation's companies. In another type of foreign portfolio investment, Indian companies raise the foreign capital by issuing the Global Depository Receipts (GDRs), American Depository Receipts (ADRs) and Foreign Currency Convertible Bonds (FCCBs). The difference between FDI and portfolio investment is that in case of FDI, foreign enterprise manage and control the enterprise of other nation while in case of portfolio investment it does not. FDI is a long term investment and helps in the economic development of a nation. In the present study, researcher attempts to find out the determinants of FDI in BRICS nations. BRICS is an association of five developing nations i.e. Brazil, Russia, India, China & South Africa. The concept of BRIC nations has been developed by Jim O'Neill in 2001. South Africa became the member of BRIC countries in 2010. China is the largest recipient of FDI inflows among all nations of BRICS countries. In today era, FDI has become an important source of economic development in BRICS countries. The policy makers and government of BRICS nations attempts to increase the amount of foreign direct investment in their respective countries so that more and more capital can run in these nations. This foreign capital is invested in productive areas and leads to increase in employment opportunities, national income, GDP etc. Looking on the importance of FDI in BRICS nations, the researcher attempts to find out the key determinants of FDI so that BRICS nations can receive more FDI for their economic development.

REVIEW OF LITERATURE

The study analyzes the various determinants responsible for FDI attraction in BRICS nations. In the previous literature, Haydaroglu (2016) found that FDI and economic freedom are significant determinants of GDP growth in BRICS nations by using panel data regression model. With the help of panel data model, Prabhakar *et al.* (2015) revealed that trade and FDI are significant determinants of GDP in BRICS countries. Agrawal (2015) established the bidirectional relationship between FDI and GDP in BRICS nations with the help of granger causality test. In 2015, Balooch *et al.* analyzed the determinants of FDI in China with the help of multiple regression. The empirical results found that export of goods & services, GDP, inflation & exchange rate are positive while wage rate is a negative significant determinant of FDI in China. If we look on the study of Labes (2015), it has been found that GDP per capita, exchange rate and trade openness are significant determinants of FDI inflows in BRICS nations. Yukhanaev *et al.* (2014) analyzed the determinants of FDI in Russia from the period of 2005-2011. The study found that gross regional product per capita; number of special economic zones & trade openness are significant determinants of FDI in Russia. In the study of Akpan *et al.* (2014), the researcher found that market size, trade openness and infrastructure are the significant determinants of FDI in BRICS nations. In the study of Kaur and Sharma (2013), the researcher found that reserves, GDP, debt & trade openness are positive while exchange rate & inflation are the negative significant determinants of FDI inflows in India. In 2012, Sichei and Kinyondo determined the factors affecting FDI in 45 African countries with the help of panel data model. The results found that natural resources, GDP growth, international investment agreements & agglomeration economies are significant determinants of FDI inflows in Africa. In 2011, Singhania and Gupta found out the key determinants of FDI inflows with the help of ARIMA. The study found that GDP & inflation are significant determinant of FDI inflows in India. By applying random effect model, Ranjan and Agrawal (2011) found that labor cost, market size, trade openness, infrastructure, macro-economic stability are significant determinants of FDI in BRIC nations. Sidharan *et al.* (2009) established the bidirectional relationship between FDI and industrial production index in Brazil, Russia and South Africa while unidirectional relationship between FDI and industrial production index in India & China running from FDI to industrial production index.

OBJECTIVE OF THE STUDY

The main aim of the research paper is to find out the main determinants of foreign direct investment inflows in BRICS nations. FDI inflows has been taken as dependent while GDP, inflation, official exchange rate and real interest rate have been taken as independent variables.

DEVELOPMENT OF RESEARCH HYPOTHESES

The following hypotheses have been developed:

H_{01} - GDP is not a significant determinant of FDI inflows in BRICS nations.

H_{02} - Inflation is not a significant determinant of FDI inflows in BRICS nations.

H_{03} - Official exchange rate is not a significant determinant of FDI inflows in BRICS nations.

H_{04} - Interest rate is not a significant determinant of FDI inflows in BRICS nations.

DATA DESCRIPTION AND RESEARCH METHODOLOGY

The present study is based on secondary data. Panel data of BRICS nations ranging from 1995-2016 has been taken for analyzing the study. The data for the study has been taken form World Development Indicators, FDI UNCTAD statistics. In the study, the researcher finds out the key determinants of FDI in BRICS nations. For accomplishing the objective, panel data regression model has been used. FDI inflows has been taken as dependent while GDP, inflation, official exchange rate and interest rate have been taken as independent variables. The following regression equation has been used for the study:

$$FDI_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 INF_{it} + \beta_3 ER_{it} + \beta_4 IR_{it} + e_{it}$$

Where variables description:

Variables	Measurements
FDI_{it}	Foreign direct investment, net (BoP, current US$) for country i at time t.
GDP_{it}	GDP (current US$) for country i at time t.
INF_{it}	Inflation, consumer prices (annual %) for country i at time t.
ER_{it}	Official exchange rate (LCU per US$, period average) for country i at time t.
IR_{it}	Real interest rate (%) for country i at time t.

$\beta_{'s}$ are the coefficients and e_{it} is the error term.

RESULTS AND DISCUSSION

The study applied panel data regression model. Before applying this model, multicollinearity diagnostics have been developed to find out the relationship between independent variables. For finding the accurate results, an assumption behind the panel data model is the absence of multicollinearity among independent variables. The problem of multicollinearity has been solved in the table 1 since the all correlated values are less than 0.70.

PANEL DATA REGRESSION MODEL

The researcher used fixed effect model and random effect model for analyzing the results. Further Hausman's test has been applied to select the appropriate regression model. Following hypothesis has been framed under this test:

H_0: Random effect model is appropriate.

H_1: Fixed effect model is appropriate.

Table 2 presents the results of Hausman's test. The results found that fixed effect model is suitable for continue the study since the probability value (0.0000) is less than significance level (0.05). It implies the rejection of null hypothesis and stimulates the adoption of panel data fixed effect model for analyzing the study. The empirical results of fixed effect regression model have been presented through table 3. As per the table, GDP, official exchange rate & real interest rate are positive while inflation is negative correlated with FDI inflows in BRICS nations. The value of adjusted R square shows that approximate 85 % changes in dependent variables are caused by independent variables. The value of

Durbin-Watson statistics (0.752283) is less than 2, which shows that there is no problem autocorrelation. The probability value of F-Statistic is also significant.

As per the results, it has been found that the probability value of GDP (0.0000) is less than the 0.05 significance level. It implies that null hypothesis should be rejected. It concludes that GDP is a significant determinant of FDI inflows in BRICS nations. The probability values of inflation, official exchange rate & real interest rate i.e. 0.3440, 0.9918 & 0.0514 respectively are greater than significance level 0.05. So acceptance of null hypothesis implies that inflation, official exchange rate & real interest rate are non-significant determinants of FDI inflows in BRICS nations.

CONCLUSION

The present study examined the key determinants of FDI inflows in BRICS nations through panel data fixed effect regression model. The empirical results conclude that GDP is positive and significant determinant of FDI inflows in BRICS nations. On the other side, it has been revealed that inflation is a negative but official exchange rate and real interest rate are positive & non-significant determinants of FDI inflows in BRICS nations. The present study recommends that GDP is a key determinant of FDI attraction in BRICS nations so the government of these nations should increase the GDP of their respective countries. So that BRICS countries can attract more and more FDI inflows to develop their economies.

LIMITATION OF THE STUDY

In the study, researcher examined only four determinants of FDI inflows i.e. GDP, inflation, official exchange rate and real interest rate. Further research can be done by examining the other economic determinants of FDI inflows in BRICS nations.

Table 1: Inter Correlation Matrix

	GDP	Real interest rate	Inflation	Official Exchange rate
GDP	1			
Real interest rate	-0.146927235	1		
Inflation	-0.155709913	0.308619736	1	
Official Exchange rate	-0.125834984	-0.407266561	-0.041836618	1

Source: Data Analysis

Table 2: Correlated Random Effects- Hausman Test

Test summary	Chi sq- statistic	Chi sq d.f.	Prob.
Cross section random effect	88.843796	4	0.0000

Source: Data analysis

Table 3: Fixed Effect Regression Model

R Square - 0.867306 Number of observations- 110
Adjusted R Square - 0.856795 F-Statistic - 82.51842
Prob. value- 0.000000 Durbin-Watson - 0.752283

Variables	Regression Coefficients	Probability value
GDP	0.020824	0.0000
Inflation	-1.53E+08	0.3440
Official exchange rate	3766664.	0.9918
Real interest rate	4.98E+08	0.0514

Source: Data analysis, Significance level is 0.05

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