Impact of Institutional Indicators Influence on FDI Flows with Reference to BRICS Countries- An Empirical Research

R S Ch Murthy Chodisetty, L Deepshika Reddy

Abstract—The present study has been emphasized on the BRICS country foreign direct investments have been examined with the influence of institutional indicators. The present study has considered from the 2002 to 2017.The study has considered the six factors of the BRICS nations. The Robust regression analysis has been applied and the results indicated that the BRAZIL fdi inflows have got positively influenced by the institutional factors. The India and China fdi flows are strongly influenced positively by the institutional factors. The Quality of public service of South Africa fdi has got influenced highly positive. This paper is useful to the global institutional investors, country governments and other stake holders.

Key words— BRICS, Corruption control, FDI flows, Institutional Indicators, Political Stability

JEL Codes— F-21, E-22, O-24, F-35.

I. INTRODUCTION:

Global investments are playing a most important role in Indian economic growth.The rapid growth of foreign direct investment by various multinational companies is attracting more or highest FDI flows in to India since 1990-1991. The government of India is introduced in the year of 1990-1991 by the concept of LPG (Liberalizations, Privatization and Globalization.)

The economic growth of India is based on the global economic factors are playing an important role in economic development in India.

II. REVIEW OF LITERATURE:

1. **ZuhalKurul and Yasemin Yalta A (2017)** the relation between the institutional factors and Foreign Direct Investment (FDI) inflows in creating nations by utilizing a dynamic panel methodology, which empowers us to manage the ingenuity of FDI streams and endogeneity issues, additionally add to the writing by utilizing different measures of foundations to distinguish which parts of institutional quality influence FDI in the creating scene.
2. Nguyen, Thanh Hoang (2016) the study is focused on the difficulties that speculators from a creating nation putting resources into a created nation and vice versus the need to confront, with respect to the nation particular nature of institutional components. These variables are corrupted, political security, work control, corporate law, tax collection arrangements.
3. **PravinJhadav and VijayaKatti (2013),** this paper investigates the part of institutional factors in pulling in Foreign Direct Investment (FDI) in the economies of Brazil, Russia, India, China, and South Africa (BRICS) and the similar significance of these variables in drawing in FDI. Investigation has been finished utilizing the board unit-root test and multiple regression.
4. **Aye MengistuAlemu (2012),** this paper relates the different impacts of the host nations' nature of foundations as caught by the 6 components of good governance on FDI inflow through their impact on investment choices and by raising profitability prospects. The outcomes reveal that government efficiency, political stability, Rule of law, and the absence of corruption are strong determinants for FDI inflow, considering different factors, for example, human capital, foundation and transparency.
5. **Kim, Haksoon (2010)** The paper explores the relationship among the Foreign Direct Investment (FDI) and Institutional Factor by examining the nation level FDI streams, FDI internal execution and institutional measures. Nations with high political stability have higher FDI surges. Likewise, nations with government efficiency and low-level control of corruption have higher FDI inflows. The outcomes are reliable with the contention of that political factors are imperative in clarifying FDI streams.
6. **Christian Daude, Ernesto Stein(2001)**in this study, they are part of the nature of establishments as a determinant of the area of FDI, utilizing reciprocal FDI stocks from OECD nations around the globe. While the literature has set the unique role of corruption on FDI, we investigate a more extensive scope of institutional aspects

II.1. Objective of the study:

1. To know the impacts of institutional environment on a BRICS counters
2. To examine of Impact of Institution indicators on FDI flows of BRICS countries.

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II.2. Hypothesis of the study:

1. **H0:** There is no impact of institutional indicators on BRICS – FDI flows.
2. **H1:** There is an impact of institutional indicators on BRICS – FDI flows.

II.3.Scope of the study:

The present study has been emphasized from the period of 2002-17. The study considered six institutional indicators namely as follows:

- Government Efficiency,
- Indian Political Stability,
- Rules and respondents of law,
- Regulatory Quality,
- Public Voice and accountability,
- Control of Corruption.

III. RESEARCH METHODOLOGY:

1. Our empirical analysis is predicated on a Panel data of BRICS countries over the period 2002–2017. The variable, FDI flows, is captured by the annual data for the net FDI inflows as a % of GDP from World Development Indicators. During this study, our baseline model is as follows:
2. $FD\,I_{it} = \beta_1 FD\,I_{i,t-1} + \beta_2 INS_{it} + \beta_3 X_{it} + u_{it}$
3. Where, FDI_{it} represents the ratio of FDI inflows to GDP. Study tended to use the ratio of FDI inflows to GDP to regulate for the size effects. FD Ii, t−1 is that the initial lag of the variable. INSit shows the vector of institutional indicators of the countries, and X_{it} is that the vectors of control variables that probably have an effect on FDI inflows. Robust least square method and leverage plots have been considered as statistical to evaluate the influence of dependent on independent variable. After the panel data of BRICS countries institution indicators data, Study considered ADF as tool to estimate stationary among the variables then ROBUSTLS applied to identify the impact of institutional indicators on Indian FDI flows

IV. DATA ANALYSIS AND RESULTS

The analyze applied the least square analysis of selected Institutional factors impact on the dependent variable FDI flows during the period 1st July 1994 to 31st march, 2018. The analysis result states that all institutional factors probability values seem to be statistically significant (< 0.05) with FDI flows of BRICS countries. Adjusted R square is observed to be strong. Further, Durbin Watson statistics value lies within the range of 1.5 to 2.5. Hence, it is concluded that the strength of the model is satisfactory.

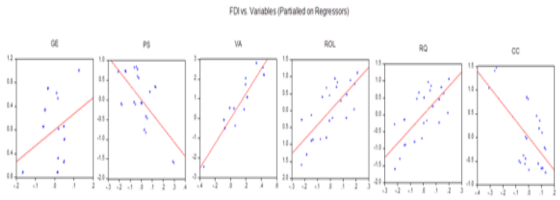
1. BRAZIL:

Brazilian productivity growth attracts FDI and **US** productivity growth lowers FDI to Brazil. As expected, long run consumption growth generates an increase in FDI to Brazil. In sum, economic policies that foster countries' long run productivity growth are the recommended ones to attract FDI, according to the results.

Method: Robust Least Squares				
Huber Type I Standard Errors & Covariance				
Variable	**Coefficient**	**Std. Error**	**z-Statistic**	**Prob.**
Government Efficiency	-0.108106	0.146865	-0.736091	0.4617
Political Stability	-1.840450	0.493388	-3.730229	0.0002
Rule of law	1.470503	1.723189	0.853361	0.3935
Regulatory Quality	0.166286	0.186294	0.892600	0.3721
Voice and Accountability	4.650103	0.310336	14.98410	0.0000
Control of Corruption	-4.561847	0.917512	-4.971973	0.0000
Robust Statistics				
R-squared	0.157049	Adjusted R-squared		0.497357
Akaike info criterion	54.87287	Schwarz criterion		60.82876
Deviance	18.28745	Scale		0.659736
Rn-squared statistic	411.9045	Prob (Rn-squared stat.)		0.000000

Above table, the Robust least square regression with MM estimation, Adjusted R-squared (0.4973<0.60) shown that model is moderately fit with the significance of probability value (0.00<0.05). Brazil Regression result shows that Rule of law, Regulatory Quality, Voice and accountability shown positive impact on FDI flows of Brazil. Where, Regulatory Quality and Rule of law's p-value are observed to be non-significant (0.39, 0.37>0.05) which indicates that there is no influence of those two variables on FDI flows. Whereas, Government Efficiency, Political Stability, Control of Corruption shown negative impact on FDI flows of Brazil. Government Efficiency's p-value seems to be greater than 0.05 i.e., it is not statistically insignificant (0.46>0.05).

Leverage Plots: A Horizontal line shows the constrained model without term, a slanted line shows the unconstrained model with the term. The below leverage plot between FDI flows and institutional factor shows that the models are significant because the confidence curve of Government Efficiency cross the horizontal line which indicates the it has influence effect.



While, Political stability plot value are pull downward that represent it is having influence effect. Rule of law and Regulatory plot are observed to be similar that depicts that model curves cross the horizontal line. Whereas Voice & Accountability and control of corruption plot are also observed to be crossing horizontal line which signifies those variables will have influence effect in near future.

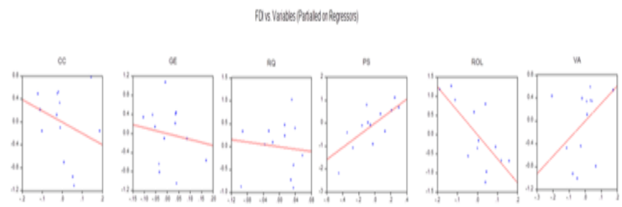
2. RUSSIA:

Russia economy has negative impact of foreign direct investment. Russia govt targeted to draw in a lot of foreign direct investment, a favourable investment climate has been framed with modifications at the state policy level. Strategic democratic regional designing approach is tailored to extend FDI flows to the Russian regions

Method: Robust Least Squares				
Huber Type I Standard Errors & Covariance				
Variable	**Coefficient**	**Std. Error**	**z-Statistic**	**Prob.**
Government Efficiency	-2.418236	0.819149	-2.952130	0.0032
Political Stability	-2.481707	1.092443	-2.271703	0.0231
Rule of law	2.824272	0.329741	8.565133	0.0000
Regulatory Quality	-7.009258	0.688616	-10.17877	0.0000
Voice and Accountability	0.261817	1.545509	0.169405	0.8655
Control of Corruption	3.949117	0.834413	4.732808	0.0000
Robust Statistics				
R-squared	0.500378	Adjusted R-squared		0.353430
Akaike info criterion	44.32579	Schwarz criterion		56.47712
Deviance	3.082253	Scale		0.286068
Rn-squared statistic	2006.195	Prob(Rn-squared stat.)		0.000000

In the table, the Robust least square regression with MM estimation, Adjusted R-squared (0.3534<0.60) shown that model is moderately fit with the significance of probability value (0.00<0.05).Russia Regression result shows that Political Stability, Regulatory Quality, Voice and accountability shown positive impact on FDI flows of Russia. Where, Regulatory Quality is observed to be non-significant (0.865>0.05) which indicates that there is no influence of that variable on FDI flows. Whereas, Government Efficiency, Rule of Law, Control of Corruption shown negative impact on FDI flows of Russia.

Leverage Plots: The leverage plot between FDI and institutional factor shows that the models are significant because the confidence curve of Voice and Accountability crosses the horizontal line which indicates it has influence effect. While, Political stability plot value are moves upward that represent it is having influence effect.



Rule of law and Control of Corruption plot are observed to be similar that depicts that model curves moves downwards the horizontal line. Whereas Regulatory Quality and Government Efficiency plot are also observed to be crossing horizontal line which signifies those variables will have influence effect in near future.

3. INDIA:

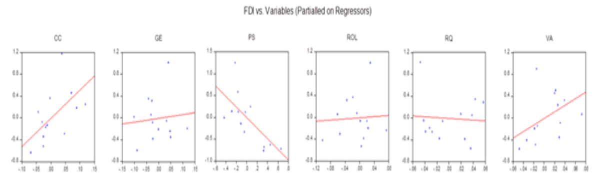
For Indian economy that has tremendous potential, FDI has had a positive impact. FDI flow supplements domestic capital, still as technology and skills of existing firms. It additionally helps to determine new firms. All of those contribute to economic process of the Indian Economy.

Method: Robust Least Squares				
Huber Type I Standard Errors & Covariance				
Variable	**Coefficient**	**Std. Error**	**z-Statistic**	**Prob.**

Government Efficiency	2.781706	0.869790	3.198136	0.0014
Political Stability	-0.596003	0.732883	-0.813231	0.4161
Rule of law	-0.844477	0.132340	-6.381112	0.0000
Regulatory Quality	-1.856749	1.071246	-1.733261	0.0830
Voice and Accountability	3.182704	1.135463	2.803001	0.0051
Control of Corruption	7.443226	1.371346	5.427680	0.0000
Robust Statistics				
R-squared	0.625054	Adjusted R-squared		0.514776
Akaike info criterion	48.57677	Schwarz criterion		58.62056
Deviance	0.681666	Scale		0.130859
Rn-squared statistic	1814.953	Prob(Rn-squared stat.)		0.000000

In the table, the Robust least square regression with MM estimation, Adjusted R-squared (0.514<0.60) shown that model is moderately fit with the significance of probability value (0.00<0.05). Regression result shows that Control of Corruption, Regulatory Quality, Voice and accountability shown positive impact on FDI flows of India. Whereas, Government Efficiency, Rule of Law, Political Stability shown negative impact on FDI flows of India. In which Government Efficiency is observed to be non-significant (0.416>0.05) which indicates that there is no influence of that variable on FDI flows.

Leverage Plots: The leverage plot between FDI and institutional factor shows that the models are significant because the confidence curve of Control of Corruption crosses the horizontal line which indicates that it has influence effect



While, Political stability plot value are pull downward that represent it is having influence effect.Rule of law, Government Efficiency and Regulatory plot are observed to be similar that depicts that model curves cross the horizontal line. Whereas Voice & Accountability plot are also observed to be crossing horizontal line which signifies the variable will have influence effect in near future.

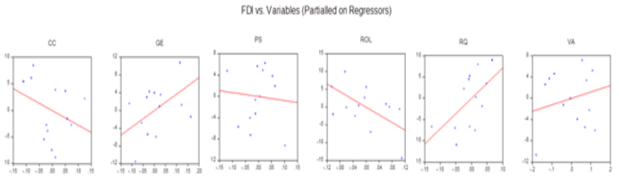
4. CHINA

China currently receives a lot of foreign capital within the variety of foreign direct investment (FDI) than the other country, despite current, and generally blatant criticism of the standard of its government within the foreign media. this is often curious as a result of FDI involves abundant irreversible mounted investment, that is sensitive to investors' perceptions of public policies and property rights.

Method: Robust Least Squares				
Huber Type I Standard Errors & Covariance				
Variable	**Coefficient**	**Std. Error**	**z-Statistic**	**Prob.**
Government Efficiency	-27.30962	19.57060	-1.395441	0.1629
Political Stability	35.70363	18.06874	1.975989	0.0482
Rule of law	-5.251100	22.10548	-0.237547	0.8122
Regulatory Quality	-51.32633	19.80631	-2.591413	0.0096
Voice and Accountability	70.74967	26.53103	2.666676	0.0077
Control of Corruption	10.50140	13.76474	0.762920	0.4455
Robust Statistics				
R-squared	0.591606	Adjusted R-squared		0.471490
Rw-squared	0.658379	Adjust Rw-squared		0.658379
Akaike info criterion	20.05430	Schwarz criterion		31.90677
Deviance	551.3896	Scale		6.489278
Rn-squared statistic	96.83317	Prob(Rn-squared stat.)		0.000000

In the table, the Robust least square regression with MM estimation, Adjusted R-squared (0.4714<0.60) shown that model is moderately fit with the significance of probability value (0.00<0.05). Regression result shows that Government Efficiency, Regulatory Quality, Voice and accountability shown positive impact on FDI flows of China. Where, Voice and Accountability p-value are observed to be non-significant (0.44>0.05) which indicates that there is no influence of that variable on FDI flows. Whereas, Rule of Law, Political Stability, Control of Corruption shown negative impact on FDI flows of China. Political Stability, Control of Corruption p-value seems to be greater than 0.05 i.e., it is not statistically insignificant (0.812, 0.162>0.05).

Leverage Plots: The leverage plot between FDI and institutional factor shows that the models are significant because the confidence curve of Government Efficiency cross the horizontal line moving upwards which indicates that it has influence effect.



While, Control of Corruption and Rule of Law plot value are pull downward that represent it is having influence effect. Political Stability, Regulatory Quality and Voice & Accountability plot are observed to be crossing horizontal line which signifies those variables will have influence effect in near future.

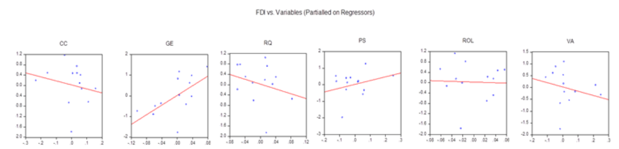
5. SOUTH AFRICA:

Since the start of democracy, the South African government has been progressively making an attempt to draw in FDI into the country. African nation is a stimulating case, since despite being a middle-income country and extremely developed compared to different African countries, FDI doesn't appear to supply positive spill-over effects

Method: Robust Least Squares				
Huber Type I Standard Errors & Covariance				
Variable	**Coefficient**	**Std. Error**	**z-Statistic**	**Prob.**
Government Efficiency	-1.503993	1.097003	-1.371002	0.1704
Political Stability	11.81621	2.463686	4.796153	0.0000
Rule of law	0.336419	1.125227	0.298979	0.7650
Regulatory Quality	-4.606618	3.117330	-1.477745	0.1395
Voice and Accountability	-2.627163	2.690658	-0.976402	0.3289
Control of Corruption	-2.322759	1.320067	-1.759576	0.0785
Robust Statistics				
R-squared	0.608266	Adjusted R-squared		0.493050
Akaike info criterion	42.93387	Schwarz criterion		51.71675
Deviance	5.068597	Scale		0.392483
Rn-squared statistic	327.2858	Prob(Rn-squared stat.)		0.000000

In the table, the Robust least square regression with MM estimation, Adjusted R-squared (0.4930<0.60) shown that model is moderately fit with the significance of probability value (0.00<0.05). Regression result shows that Government Efficiency and Political Stability shown positive impact on FDI flows of South Africa. While, Political Stability p-value is observed to be non-significant (0.765>0.05) which indicates that there is no influence of that variable on FDI flows, whereas, Rule of Law, Regulatory Quality, Control of Corruption and Voice & Accountability shown negative impact on FDI flows of South Africa. , Rule of Law, Regulatory Quality, Control of Corruption and Voice & Accountability p-value seems to be greater than 0.05 i.e., it is not statistically insignificant (0.170, 0.139, 0.328, 0.078>0.05).

Leverage Plots: The leverage plot between FDI and institutional factor shows that the models are significant because the confidence curve of Rule of Law slightly cross the horizontal line which indicates that it has influence effect.



While, Control of Corruption, Regulatory Control, Voice & Accountability plot values crosses but pulls downward that represent it is having influence effect. Whereas Political Stability and Government Efficiency plot are also observed to be crossing horizontal line which signifies those variables will have influence effect in near future.

V. FINDINGS OF THE STUDY:

1. The study found that the coefficient value of Voice and Accountability is having positive influence on FDI flows of Brazil. Whereas, Political Stability and control of corruption are having negative influence on FDI flows.
2. It is also found from leverage plot that all the institutional factors are pulling upward direction which signifies that institutional factor will have influence on FDI flows of Brazil in near future.
3. The study found that coefficient value for all the institutional indicators are having influence on FDI flows of Russia except Regulatory Quality seems to be statistically insignificant.
4. The study state that Control of corruption, Political stability, Regulatory Quality and Voice & Accountability are having strong influence on Indian FDI flows.

5. It is found that china's institutional indicators are strongly influencing its FDI flows as compare to remaining countries of BRICS.
6. It is found that Govt efficiency is having high influence on South Africa FDI flows which indicates that, providing Quality of public services and trustworthiness Govt policy to attract FDI Flows into their countries

G-CONCLUSION OF THE STUDY:

The study concludes the titled "Impact of institutional factors on the FDI flows with reference to the BRICs has been done based on the secondary data from the period of 2002 to 2017. The study result indicates that the Brazil FDI has got positively influenced by the institutional factors. The regulatory Quality influence has not been found on Russian country FDI. The India and China institutional factors are having the stronger influence on the FDI flows. The South African FDI flows are highly influenced by the Quality of public services. Hence, there is further scope of research to do in this area by considering the external factors influence on the BRICS fdi flows.

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