Examining the Determinants of Foreign Direct Investment in BRICS

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ARTICLE DETAILS

ABSTRACT

Purpose: The paper explored the determinants of FDI in BRICS nations. The influence of the complementarity variable (infrastructural development x openness to trade) on FDI in BRICS was also examined.

Design/Methodology/Approach: Econometric methods such as the dynamic OLS, fixed effects and FMOLS were used. The data employed spanned from 1994 to 2020.

Findings: FDI inflow into BRICS was attracted by growth, exchange rates and openness to trade. The negative effect on FDI emanated from development of the financial sector, inflation and development of human capital.

Implications/Originality/Value: Policies that strengthen growth, domestic currencies and openness to trade must be implemented by BRICS to enhance the inflow of FDI.

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Introduction

The benefits that FDI brings have been documented by authors such as Calvo and Sanchez-Robles (2002), Nath (2005), Lucas (1988), Romer (1986), Swan (1956) and Kumar and Pradhan (2002). They generally agree that FDI inflows bring in additional physical capital that enhances liquidity in the economy. FDI flows in with it managerial skills, technology, organizational skills, market access, foreign savings and human capital development to spur economic growth.

Even empirical literature that found out evidence to support the FDI led growth hypothesis is quite abundant (Borensztein et al. 1998; Mamingi and Martin. 2018; Makhoba and Zungu. 2021; Ayenew. 2022; Chaudhury et al. 2020; Mahembe and Odhiambo. 2014; Tshepo. 2014; Moudatsou. 2003; Awolusi and Adeyeye. 2016; Kulu et al. 2021). A consensus in the literature is that growth of the host nation is enhanced by FDI. The challenge is that such results are not very helpful in crafting FDI triggered economic growth enhancing policies because they do not show the underlying factors which influences FDI inflow dynamics into the host countries. The analysis of FDI dynamics in the context of BRICS is the focus of this study.
The following ways demonstrates how this study contributed towards literature: This study is one of the very few studies to examine FDI inflow determinants in BRICS. None of the available studies explored how the complementarity of financial sector and development of infrastructure on FDI. The current study made use of very recent data (1994-2020). The non-linearity character of the relationship of FDI and its independent variables was taken care of.

**Literature Review**

The theoretical explanations underpinning the dynamics of FDI inflows as described next.

According to Dunning (1973), the eclectic paradigm hypothesis argues that the availability of locational advantages of FDI are quite crucial to attract FDI. These locational advantages of FDI include social benefits, attitude towards strangers, infrastructural development, favourable policies of government, market size, economic growth and cost of telecommunication, among others. Denisia (2010) argued that these factors attract FDI.

The output hypothesis put forward by Jorgenson (1963) says that increased levels of output in the economy enhances FDI inflows. The market size hypothesis says economy size and population growth lures FDI (Jorgenson. 1963).

Aliber (1970) noted that under the currency areas hypothesis, weak domestic currencies tend to attract more FDI whilst strong domestic currencies trigger the outflow of FDI capital. According to Moosa (2010), the reason why firms operating in a country characterised by strong currency is attracted to invest in foreign countries is that they can still manage to make profits despite borrowing their capital at a high cost in comparison to domestic companies. Popkin (1965) noted the difference in rate of return hypothesis. It says that higher return in the host country attracts new FDI inflows because investors by their nature wants to satisfy their constituents as their main priority.

Empirical literature which focused on examining FDI dynamics were done by several authors whose produced results which are mixed and conflicting. Using panel data analysis, Tampakoudis et al (2017) explored FDI dynamics in middle income nations. Openness to trade, economic growth and increased population had a significant enhancing influence on FDI in middle-income countries. Abel et al (2021) employing autoregressive distributive lag (ARDL) explored FDI determinants in Zimbabwe. FDI into the Zimbabwe’s mining sector was observed to have been determined by wages, inflation, interest rates, trade openness and economic growth.

Tocar (2018) used literature review analysis to investigate FDI determinants and noted that liquidity, salaries and market size were the variables which were found to enhance FDI. For nations that are still at a developing stage, Kumari and Sharma (2017) examined the dynamics of FDI. The study noted that factors that attracted FDI include openness to trade, development of human capital, market size and interest rates. A study by Tsaurai (2017) using pooled OLS and fixed effects also observed that openness to trade, human capital development, stability of exchange rates, development of financial sector and growth enhanced the inflow of FDI into BRICS.

Bryna (2021) studied FDI dynamics in Indonesia. Factors which attracted FDI in Indonesia were found to be human capital development, size of the market and financial sector development and market size. Azam and Haseeb (2021) examined FDI dynamics using FMOLS in BRICS. Market size, growth and openness to trade FDI into BRICS. Using VECM (vector error correction model), Majavu (2015) explored FDI dynamics in South Africa. FDI was attracted by economic growth but negatively affected by financial crisis in the context of South Africa.
The multi-regression analysis was used by Malefane (2007) to examine FDI dynamics in Lesotho. FDI into Lesotho was found to have been positively influenced by export-oriented promotion strategy. Boga (2019) used panel data analysis to explore FDI dynamics in Sub-Saharan Africa (SSA). FDI into SSA was attracted by openness to trade, economic growth, infrastructural development, availability of natural resources and financial development. VECM was used by Wijaya et al (2020) to investigate FDI dynamics in Indonesia. Factors such as inflation, interest rates, economic growth and infrastructural growth were noted to have attracted FDI.

Vector autoregressive (VAR) methodology was employed by Pradhan (2011) to find out the explanation for FDI inflows into SAARC nations. Exchange rate, population growth, inflation, economic growth, current account balance and trade openness enhanced FDI inflows into SAARC nations. Agiomirgianakis et al (2004) examined FDI dynamics in OECD nations. Trade openness, development of infrastructure and human capital enhanced FDI into OECD nations. Descriptive statistics were used by Coy and Cormican (2014) to find out the FDI determinants in Ireland and Japanese. FDI into Japan and Ireland was found to have been attracted by low corporate rate.

Ashurov et al (2020) used Generalized methods of moments (GMM) to examine FDI determinants in Central Asian region. Economic growth, openness to trade, prior FDI and tax revenue had a significant effect on FDI in Central Asian region.

Using time series data analysis, Mahbub and Jongwanich (2019) examined FDI determinants in Bangladesh. FDI inflow into Bangladesh was attracted by economic growth, developed regulatory framework, financial development and political stability. Using Africa as a unit of analysis, Asiedu (2002) examined variables that influence FDI. FDI into Sub-Saharan Africa were enhanced by higher rate of return and better infrastructure. In transitional economies, Cevis and Camurdan (2007) investigated FDI dynamics. Factors which attracted FDI into transitional economies include inflation, interest rates, economic growth and trade openness.

Asong et (2018) examined FDI dynamics in BRICS. Infrastructural development, trade openness, natural resources, market size and institutional quality positively attracted FDI into BRICS. Pooled ordinary least squares (OLS) was used by Hintosova et al (2018) to study the influence of FDI in Visegrad nations. FDI inflow was attracted into Visegrad group of countries by wages and human capital growth. Erdogan and Unver (2015) noted that size of the market, inflation, development of human capital, unemployment, financial sector growth and growth influenced FDI in 88 countries studied.

Silveira et al (2017) using VECM noted that Brazil’s FDI inflows was attracted by economic growth, wages and productivity. Using panel data analysis, Rashed et al (2021) did a study in Africa to investigate FDI. Whilst growth enhanced FDI, corruption’s influence on FDI in Africa was found to be negative.

Mansaray (2017) using Sierra Leone as a unit of analysis and error correction model (ECM) noted that FDI inflow was enhanced by growth and trade openness. Using panel analysis framework, Mupimpila and Okurut (2012) examined FDI determinants in Southern African Development Community (SADC). FDI was negatively affected by infrastructural development and a lag of inflation.

Economic growth, friendly business environment and trade openness were found by Mottaleb and Kalirajan (2010) to have attracted FDI inflow into developing countries. Sane (2016) examined FDI dynamics in Africa’s ECOWAS. The study observed that FDI inflow into
ECOWAS was attracted by economic freedom, market size, economic growth, stable exchange rate and financial development. Using the African Union as a unit of analysis and fixed effects econometric approach, Kariuki (2015) investigated the determinants of FDI. Variables which were observed to have attracted FDI into the African Union include trade openness, commodity price index, infrastructural development and the lag of FDI.

A study done by Demirhan and Masca (2008) using cross sectional analysis noted that trade openness, communication infrastructural development and economic growth attracted FDI into developing countries. Yunus (2020) using descriptive statistics observed that FDI inflow into the manufacturing sector of Malaysia was attracted by domestic investment and human capital development. Abiola (2019) using the vector autoregressive (VAR) methodology, examined FDI dynamics in Nigeria. The study observed that inflation, economic growth, stable exchange rate and openness enhanced the inflow of FDI into Nigeria. Total factor productivity had a significant positive role in luring FDI in developed countries.

The empirical literature review show that the factors that influence FDI inflow into host countries are varied, mixed and inconclusive. The direction that the factors identified affect FDI inflow is also not yet agreeable. The agreeable list of variables that influence FDI is also not yet been identified. It is on this basis that the author contributed towards literature on FDI dynamics in the context of Central and Eastern European nations.

**Methodology**

This study used secondary data extracted from reputable, reliable, traceable and widely accessible databases. World Bank and International Financial Statistics were used databases. Data used ranges from 1994 to 2020 for BRICS.


\[ FDI = f (\text{OPEN}, \text{INFR}, \text{GROWTH}, \text{INFL}, \text{HCP}, \text{EXCH}, \text{FIN}, \text{TOURISM}) \quad [1] \]

Equation 2 is an econometric transformation of the FDI function.

\[ FDI_{it} = \beta_0 + \beta_1 \text{OPEN}_{it} + \beta_2 \text{INFR}_{it} + \beta_3 (\text{OPEN}_{it} \times \text{INFR}_{it}) + \beta_4 \text{GROWTH}_{it} + \beta_5 \text{INFL}_{it} + \beta_6 \text{HCP}_{it} \\
+ \beta_7 \text{EXCH}_{it} + \beta_7 \text{FIN}_{it} + \beta_8 \text{TOURISM}_{it} + \mu + \varepsilon \quad [2] \]

The influence of the combination of the complementarity factor on FDI was introduced in the second equation, in line with an argument put forward by Boga (2019) and Kariuki (2015) and in line with Demirhan and Masca (2008). Their studies implied that a country which is characterised by both high levels of openness to trade and development of infrastructure receives more FDI. Dunning (1988) argued that both infrastructural development and trade openness are locational advantages of FDI. It is against this background that the author examined if the complementarity of these two variables enhances FDI. FMOLS, DOLS and fixed effects were the three econometric methods employed to estimate equation 2.

Denisia (2010) argued that FDI is attracted by a conducive investment climate brought by a developed infrastructure. The same author also noted that a developed infrastructural network is one FDI locational advantages. Developed infrastructural network is instrumental in supporting the new technology brought into the host country by foreign investors. The expectation is that FDI is enhanced by infrastructural development. Development of infrastructure was proxied by internet (% of population).

According to Kaur et al (2013), financial sector development is better able to smoothen domestic and foreign markets networks through easing exit and entry challenges of foreign investors. According to Ezeoha and Cattaneo (2012), foreign capital productivity is easily enhanced by developed financial markets. Financial sector development is anticipated to positively impact FDI. Expressed as fraction of GDP, domestic credit to private sector is a measure of development of financial sector used.

Higher level of trade openness is usually associated with external shocks which repel foreign investment inflows into the host country (Denisia. 2010). Openness to trade enhances FDI was supported by Denisia (2010). Trade openness can therefore influence FDI either direction. Total trade as a ratio of GDP is a measure of openness to trade used in this study.

Consistent with Aliber (1970), a weak domestic currency attracts FDI because foreigners get a higher quantity of domestic currency when they convert their funds. The same study also noted that weak domestic currencies might be an indication of a weak economy, inconsistent economic policy formulation and unstable macroeconomic environment, thus chasing away foreign investment. Rate of exchange rate is anticipated to either positively or negatively affect FDI. To measure the variable, official exchange rate (local per US$) was employed.

Jorgenson (1963) noted that among other variables, economic growth also provides a conducive environment which attracts FDI. The view was also supported by Kumar (2022). The eclectic paradigm hypothesis also listed economic growth as one of the FDI’s locational advantages (Denisia. 2010). Economic growth is anticipated to enhance FDI. GDP is the economic growth measure employed, in line with Bibi et al (2021).

According to Craigwell (2012), highly developed human capital allows local firms to quickly and easily utilize new and recent technology thereby boosting technology related FDI spill overs. Dunning (1988) also noted that the availability of educated and healthy workforce attracts FDI. This is because foreign investors incur less in terms of hiring the relevant personnel from other countries.

According to Nnadi and Soobaroyen (2015), increased inflation subdues the value of the local currency thereby reducing the purchasing power of the local currency. This chases away both existing and potential foreign investors (Sayek. 2009). International capital inflows go where the other is going (Azam and Haseeb. 2021). As a result, tourism, foreign portfolio investment and FDI in the same direction.
Analysis of results

<table>
<thead>
<tr>
<th></th>
<th>FDI</th>
<th>FIN</th>
<th>HCD</th>
<th>GROWTH</th>
<th>INFL</th>
<th>EXCH</th>
<th>OPEN</th>
<th>INFR</th>
<th>TOURISM</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FIN</td>
<td>0.06</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HCD</td>
<td>0.19**</td>
<td>-0.11</td>
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<td></td>
<td></td>
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<tr>
<td>GROWTH</td>
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<td></td>
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<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFL</td>
<td>-0.14</td>
<td>-0.06</td>
<td>0.11</td>
<td>-0.05</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXCH</td>
<td>-0.28***</td>
<td>-0.5***</td>
<td>-0.31***</td>
<td>-0.16*</td>
<td>-0.1</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OPEN</td>
<td>-0.07</td>
<td>0.26***</td>
<td>0.06</td>
<td>-0.002</td>
<td>-0.12</td>
<td>0.14</td>
<td>1.00</td>
<td></td>
<td></td>
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<tr>
<td>INFR</td>
<td>0.04</td>
<td>0.08</td>
<td>0.45***</td>
<td>0.83***</td>
<td>-0.11</td>
<td>0.08</td>
<td>0.04</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>TOURISM</td>
<td>0.31***</td>
<td>0.41***</td>
<td>0.18**</td>
<td>0.06</td>
<td>-0.08</td>
<td>-0.23***</td>
<td>0.17**</td>
<td>0.16*</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: Author

An enhancing significant correlation between (1) FDI and human capital and (2) FDI and tourism was observed, in line with existing literature. (1) FDI and financial development and (2) FDI and economic growth were found to have been positively but insignificantly related to each other. Moreover, (3) inflation and FDI and (4) FDI and openness to trade and FDI were observed to be non-significantly positively related to one another. Exchange rate and FDI were noted to be negatively but significantly related to each other. A multi-collinearity issue was observed in this study, in support of Stead (2007)’s argument. The evidence is that infrastructural development and economic growth are positively and significantly related to one another at a coefficient level which exceeds 70% (see Table 1).

<table>
<thead>
<tr>
<th></th>
<th>FDI</th>
<th>FIN</th>
<th>HCD</th>
<th>GROWTH</th>
<th>INFL</th>
<th>EXCH</th>
<th>OPEN</th>
<th>INFR</th>
<th>TOURISM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>2.19</td>
<td>92.05</td>
<td>0.70</td>
<td>4 943.1</td>
<td>27.06</td>
<td>20.23</td>
<td>42.81</td>
<td>24.74</td>
<td>29 728 099</td>
</tr>
<tr>
<td>Median</td>
<td>1.94</td>
<td>75.46</td>
<td>0.72</td>
<td>3 799.44</td>
<td>5.86</td>
<td>8.28</td>
<td>45.48</td>
<td>12.3</td>
<td>10 290 000</td>
</tr>
<tr>
<td>Maximum</td>
<td>6.01</td>
<td>192.66</td>
<td>0.84</td>
<td>14 487.28</td>
<td>2 076</td>
<td>74.1</td>
<td>72.87</td>
<td>84.99</td>
<td>162 538 000</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.17</td>
<td>20.81</td>
<td>0.45</td>
<td>353.29</td>
<td>0.26</td>
<td>0.66</td>
<td>15.64</td>
<td>0.001</td>
<td>1 677 800</td>
</tr>
<tr>
<td>Standard. deviation</td>
<td>1.38</td>
<td>49.32</td>
<td>0.08</td>
<td>3 753.91</td>
<td>180.52</td>
<td>21.01</td>
<td>13.84</td>
<td>26.05</td>
<td>42 717 200</td>
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<tr>
<td>Skewness</td>
<td>0.55</td>
<td>0.45</td>
<td>-0.71</td>
<td>0.64</td>
<td>10.98</td>
<td>1.07</td>
<td>-0.19</td>
<td>0.76</td>
<td>1.85</td>
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<tr>
<td>Kurtosis</td>
<td>2.49</td>
<td>1.93</td>
<td>2.86</td>
<td>2.36</td>
<td>124.80</td>
<td>2.84</td>
<td>2.02</td>
<td>2.15</td>
<td>5.01</td>
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<tr>
<td>Jarque-Bera</td>
<td>8.23</td>
<td>10.93</td>
<td>11.36</td>
<td>11.50</td>
<td>86 159</td>
<td>26.11</td>
<td>6.24</td>
<td>17.02</td>
<td>99.93</td>
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<tr>
<td>Probability</td>
<td>0.02</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.04</td>
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<tr>
<td>Observations</td>
<td>135</td>
<td>135</td>
<td>135</td>
<td>135</td>
<td>135</td>
<td>135</td>
<td>135</td>
<td>135</td>
<td>135</td>
</tr>
</tbody>
</table>

Source: Author

Jarque-Bera criteria’s probability equals to zero across all variables. Such results indicate that the data does not follow a normal distribution pattern. For all variables employed, data is positively skewed except openness to trade and development of human capital. This also indicates that the data is abnormally distributed. The standard deviation for growth, tourism and inflation exceeded 100 whilst the range for financial development, inflation, economic growth and tourism was also observed to be greater than 100. Outliers were observed for tourism, inflation, economic growth and financial development.

Panel stationarity tests: LLC (Levin, Lin. and Chu. 2002); IPS (Im. Pesaran. and Shin. 2003), Phillip Peron (PP) and Augmented Dick Fuller (ADF) estimated the stationarity of the data set.
Table 3: Stationarity of panel roots (Individual intercept)

<table>
<thead>
<tr>
<th>Level stage</th>
<th>LLC</th>
<th>ADF</th>
<th>IPS</th>
<th>PP</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>-1.64*</td>
<td>27.81***</td>
<td>-2.61***</td>
<td>39.60***</td>
</tr>
<tr>
<td>FIN</td>
<td>-0.57</td>
<td>8.87</td>
<td>-0.07</td>
<td>6.35</td>
</tr>
<tr>
<td>HCP</td>
<td>-2.99***</td>
<td>25.52***</td>
<td>-2.86***</td>
<td>41.28***</td>
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<tr>
<td>GROWTH</td>
<td>-0.71</td>
<td>3.62</td>
<td>1.13</td>
<td>4.12</td>
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<tr>
<td>INFL</td>
<td>-1.65**</td>
<td>33.33***</td>
<td>-3.84***</td>
<td>56.48***</td>
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<tr>
<td>EXCH</td>
<td>-0.71</td>
<td>4.91</td>
<td>0.74</td>
<td>11.53</td>
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<tr>
<td>OPEN</td>
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<td>10.66</td>
<td>-0.72</td>
<td>10.69</td>
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<tr>
<td>INFR</td>
<td>-5.60***</td>
<td>41.72***</td>
<td>-4.62***</td>
<td>126.32***</td>
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<tr>
<td>TOURISM</td>
<td>-0.04***</td>
<td>12.41</td>
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<td>15.65</td>
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First difference stage

<table>
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<th>ADF</th>
<th>IPS</th>
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</thead>
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<tr>
<td>FDI</td>
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<td>FIN</td>
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<td>37.60***</td>
<td>-4.38***</td>
<td>70.85***</td>
</tr>
<tr>
<td>HCP</td>
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<td>88.73***</td>
<td>-9.67***</td>
<td>109.82***</td>
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<tr>
<td>GROWTH</td>
<td>-2.68***</td>
<td>23.79***</td>
<td>-2.70***</td>
<td>36.23***</td>
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<tr>
<td>INFL</td>
<td>-6.26***</td>
<td>63.21***</td>
<td>-7.07***</td>
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<tr>
<td>EXCH</td>
<td>-4.37***</td>
<td>30.16***</td>
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<td>OPEN</td>
<td>-4.38***</td>
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<tr>
<td>INFR</td>
<td>-2.82***</td>
<td>35.55***</td>
<td>-4.18***</td>
<td>121.49***</td>
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</tbody>
</table>

Source: Author

All the data set was stationary at the 1st difference (see 3rd Table).

Panel co-integration tests: This study used the Johansen Fisher Panel approach (Table 4).

Table 4: Johansen Fisher’s approach

<table>
<thead>
<tr>
<th>Hypothesised number of co-integrating equations</th>
<th>Fisher’s trace test</th>
<th>Probability</th>
<th>Fisher’s max-eigen test</th>
<th>Probability</th>
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<tbody>
<tr>
<td>None</td>
<td>6.931</td>
<td>0.7319</td>
<td>6.931</td>
<td>0.7319</td>
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<tr>
<td>At most 1</td>
<td>4.159</td>
<td>0.9399</td>
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<td>At most 2</td>
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<td>92.10</td>
<td>0.0000</td>
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<td>At most 3</td>
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<td>159.0</td>
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<tr>
<td>At most 4</td>
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<tr>
<td>At most 5</td>
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<tr>
<td>At most 6</td>
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<td>0.0000</td>
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</tr>
<tr>
<td>At most 7</td>
<td>36.70</td>
<td>0.0001</td>
<td>26.05</td>
<td>0.0037</td>
</tr>
<tr>
<td>At most 8</td>
<td>31.85</td>
<td>0.0004</td>
<td>31.85</td>
<td>0.0004</td>
</tr>
</tbody>
</table>

Source: Author

At least eight co-integration relationships were noted between the variables studied, in support of Sghaier and Abida (2013). Such a finding gave way for the next process of data analysis to be undertaken.

Main data analysis

Table 5: Main results

<table>
<thead>
<tr>
<th>Fixed effects</th>
<th>FMOLS</th>
<th>Dynamic OLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-efficient</td>
<td>t-statistic</td>
<td>Co-efficient</td>
</tr>
<tr>
<td>OPEN</td>
<td>1.36***</td>
<td>3.5784</td>
</tr>
<tr>
<td>INFR</td>
<td>0.16</td>
<td>0.6345</td>
</tr>
<tr>
<td>OPEN,INFR</td>
<td>0.08***</td>
<td>3.0855</td>
</tr>
<tr>
<td>GROWTH</td>
<td>0.23</td>
<td>1.3942</td>
</tr>
<tr>
<td>INFL</td>
<td>-0.15*</td>
<td>-1.7073</td>
</tr>
<tr>
<td>HCP</td>
<td>-1.55*</td>
<td>-1.6968</td>
</tr>
</tbody>
</table>
In line with fixed effects, FMOLS and dynamic OLS, openness to trade enhanced significant influence on FDI in BRICS. These results are consistent with Denisia (2010) whose study noted that trade openness is a direct outcome of good government policy, hence attracting FDI. Fixed effects, dynamic OLS and FMOLS show infrastructural development running towards FDI in an insignificant way, in line with Craigwell (2012) whose study observed that developed infrastructure acts as a support network for the new technology brought in by the foreign direct investors.

Complementarity factor had an enhancing influence on FDI in BRICS (FMOLS, fixed effects) which was significant. The dynamic OLS indicates an insignificant enhancing relationship running to FDI from the complementarity variable (trade openness x infrastructural development). These results support the eclectic paradigm hypothesis which implied the availability of development of infrastructure and openness to trade in the recipient nation accelerate the inflow of FDI (Denisia. 2010).

Growth’s positive effect on FDI was noted as insignificant (fixed effects) whilst and the dynamic OLS whilst FMOLS shows that economic growth’s enhancing effect on FDI was significant. The results support the eclectic paradigm view which saw growth as influencing FDI (Denisia. 2010).

Inflation’s negative influence on FDI was significant (fixed effects, dynamic OLS) whilst an insignificant deleterious relationship from inflation to FDI in BRICS was observed. These results mean that inflation reduced FDI, in support of a theoretical argument advanced by Nnadi and Soobaroyen (2015).

Development of human capital’s effect on FDI (FMOLS, fixed effects) was significantly negative whilst the dynamic OLS indicates an insignificant deleterious relationship from development of human capital to FDI. It means that development of human capital decreased FDI in BRICS countries, in contradiction with available literature (Craigwell. 2012; Dunning. 1988), which observed that highly developed human capital allows local firms to quickly and easily utilise new and recent foreign technology.

The dynamic OLS noted that exchange rate’s negative effect on FDI was insignificant, supporting an argument put forward by Aliber (1970) whose study argued that strong domestic currencies chase away FDI because the foreign investors get little for their foreign currencies. Exchange rate enhanced FDI (fixed effects, FMOLS), results that are in contradiction with available literature which noted that countries whose currencies are very strong are more attracted to invest in foreign nations (Moosa. 2010).

The dynamic OLS show that financial development enhanced FDI in an insignificant manner whilst FDI was significantly enhanced by financial sector development (fixed effects, FMOLS). These findings support Safdar et al (2021)’s results which states that development of financial sector enhanced FDI. They also agree with Ezeoha and Cattaneo (2012)’s argument that foreign
capital productivity is improved by the financial sector by efficiently distributing financial resources in the economy.

Across all the three econometric methods, tourism’s positive effect on FDI was noted to be insignificant, in support of Azam and Haseeb (2021) whose research noted that international capital inflows go where the other is going.

**Conclusion**

This paper focused on exploring FDI determinants in BRICS. It also examined the relationship between FDI and the complementarity factor of the variables, openness to trade and development aspect of the infrastructure in BRICS. Dynamic OLS, fixed effects and FMOLS methods were used alongside 1994 to 2020 panel data. The study was motivated by the existence of mixed findings, inconsistent and several gaps existing in the literature. Significantly attracting FDI was openness to trade, currency rates and growth whilst factors that includes inflation, human capital, development of the financial sector dissuaded FDI in BRICS. The latter should strengthen the implementation of openness to trade, domestic currency and growth enhancement policies to lure more FDI. Threshold regression analysis for all the FDI determinants would add value to this topic because such an investigation helps us to know the levels at which significant inflow of FDI occurs.

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