

Nexus between Foreign Direct Investment (FDI) and Economic Growth (EG): A study of 10 Countries of the World (2018 - 2022)

Emmanuel Obiora Nwakeze ^{1,*}, Jerry Chukwuebuka Orajekwe ², Anastasia NmaSylvanus ², Rosemary Amarachi Onyebuiwanso ³, and Samuel Oshiole ⁴

¹ Head of Accountancy Department, School of Management Sciences, Grundtvig Polytechnic, Oba, Nigeria.

² Accountancy Department, Faculty of Management Sciences, Nnamdi Azikiwe University, Awka, Nigeria.

³ Administrative Department, Management Division, Grundtvig Polytechnic, Oba, Nigeria.

⁴ Accountancy Department, School of Management Sciences, Auchi Polytechnic, Auchi, Nigeria.

World Journal of Advanced Research and Reviews, 2023, 19(01), 1511–1522

Publication history: Received on 17 June 2023; revised on 27 July 2023; accepted on 29 July 2023

Article DOI: <https://doi.org/10.30574/wjarr.2023.19.1.1491>

Abstract

Developing and world economies have at some point, since the birth of commerce, witnessed either of the departure or influx of Multinational Enterprises (MNEs). And to gain greater research insight if change in Foreign Direct Investments (FDI) impact on countries' Economic Growth (EG), this research aimed to examine, with a more recent quantitative data (2018 - 2022), for any statistical nexus between FDI and EG – measured with the macro-economic index of Gross Domestic Product (GDP). In achieving this, the study deployed Ex-Post Facto research design, with data retrieved from the 2023 published United Nations Conference on Trade and Development (UNCTAD)'s World Investment Report; and World Bank National Accounts data, and OECD National Accounts Data files. Formulated hypothesis was tested with the *Bivariate Pearson Product-moment Correlation Coefficient statistics*, and its' result was further validated by *Bayes Factor Inference on Correlations statistics*. The study found that a statistically significant and positive long-term relationship existed for all of the 10 countries of the world selected as case. Thereby concluding that FDI is indeed a key indicator that impacts EG of any country. Sequel to the findings and conclusion, this study recommends to policy-makers – particularly of developing economies, among others, the institution of flexible economic policies, attractive tax incentives, friendly business legislations, and economic and political stability measures; and the further development of their infrastructures so as attract greater MNEs.

Keywords: Foreign Direct Investment (FDI); Economic Growth (EG); Gross Domestic Products (GDP); Multinational Enterprise (MNE); Non-Resident Investors; Developing and World Economies.

1. Introduction

Nwakeze (2021) inspirationally taught of how the sun and the moon get entangled in a give-and-take relationship, and of how at some point, the later makes way for the former to shine supreme in the sky at crepuscule. This is the kind of relationship this research equated to that, between Foreign Direct Investment (FDI) and Economic Growth (EG). The 'sun' of FDI has to apprise in its' *brightness*, for the 'moon' of EG to be capable of *illuminating* better at its' own time. According to UNCTAD (2023), developing economies, contributes 70% (916 billion USD) of the world's FDI inflow. Yet, Nigeria accounted poorly to this statistical record, when compared to other counterparts with better records.

Ideally, Nigeria ought to equally stand tall among the other countries of the world that attract avalanche of FDI, judging from her populous characteristics. This advantage of large demography makes her an attractive market destination for individual and multinational investors. Unfortunately, that is not the reality today. In the recent past, we have painfully

*Corresponding author: Emmanuel Obiora Nwakeze

watched how multinational investors like: Peugeot Automobile Nigeria Limited, ExxonMobil, Truworths, Iberia Airline, Etisalat, Shoprite, Tiger Brands, Game, HSBC and UBS, Volkswagen of Nigeria Limited, Woolworths, Brunel Services plc, InterContinental Hotel Group, Mr. Price Group Ltd, Michelin, Dunlop, and a host of others, despite many years of operation in the country, sell off their assets to resident/local investors, and bid final goodbye to the shores of Nigeria. Their respective Chief Executive Officers (CEOs) would give reasons for their departure ranging from: foreign exchange volatility - that hampered the ease at which they import raw materials, stocks, and machineries for their businesses; difficulty in repatriating proceeds from their operation to home countries; epileptic electrical power supply; harsh business regulations, bad governance, political instability, and insecurity; and summarily, the unease of doing business - that have pummeled these companies into consistent losses. These problems also well resonate with some other countries of the world, particularly developing countries.

According to a survey by World Bank, between 2009 – 2014, 322 private firms have left the shores of Nigeria (Punch 2023). And as from 2015 – 2017, the Economic and Statistical department of Manufacturers' Association of Nigeria reported that about 196 manufacturing firms winded-up operation in Nigeria (Punch 2023). All these entail that the country is consistently losing-out in FDI. Prior researches have proven that this kind of exodus of MNEs do negatively affect not just Nigerian economy, but also, a host of other developing and world economies. That has been a real economic problem for many economies, particularly Nigeria. It is worthy of note that, to a country, FDI can flow in two ways: outflow or inflow (Ausloos, Eskandary, Kaur & Dhesi, 2019). However, hereafter in this study, FDI would be used to refer to the FDI inflow to a country. Gross Domestic Product (GDP) is also adopted in this study as the only economic measure or indicator of growth (EG).

Globally, many prior researches like, Szkorupová (2014), Gaikwad & Fathipour (2013), Ali & Jameel (2021), Ausloos *et al.* (2019), Nosheen (2013), Sandalcilar & Altiner (2012), Gyebi, Owusu & Etroo (2013), Hlavacek & Bal-Domanska (2016), Mehra (2013), Udeh & Odo (2017), Mustafa (2019), Tamilselvan & Manikandan (2015), GuechHeang & Moolio (2013), *et cetera*, have accurately established either the longer-term or short-term effect of FDI particularly on GDP, export, and economic growth of their respective economies; and the relationship between these variables. However, extremely limited studies have been found to be conducted on this subject, that aimed to utilize more up-to-date quantitative data from multiple countries (of mixed continents) in conducting a study – assessing if such nexus between FDI and GDP existed - and if this connection resonates also with the data from other countries of the world, for 2018 - 2022 period. Thus, this creates a slight gap in literature. That was why this research chiefly attempted to make contribution at filling this gap via the formulation of constructive and coherent literature on this subject with a more updated statistical data.

2. Literature review

2.1. Foreign Direct Investment (FDI)

The discourse of FDI has over the years been on the rise in this part of the world, majorly because of its' potential benefits of impacting positively on the host country's employment opportunities, production capacity, export and import, populace's income level and general welfare, balance of payment, and economic growth – popularly measured by the change in countries' GDP. FDI is the pivotal part of a free and potent global economic system, and a strong driver of development (OECD, 2002). Historically, the origin of FDI in Nigeria could be traced to the time of the British colonial era. Then, even though FDI trickles-in mainly from the masters, it was widely received with greater perception and suspicion of subsequent and greater exploitation of indigenous resources. And by the time the country achieved her independence on 1st October 1960, its indigenous leaders have seen the need to make FDI part of her national economic priority, by opening up to increased global trading.

According to International Monetary Fund (IMF)'s 5th edition of Manual on Balance of Payment (BPM), FDI was defined as the segment of oversea investment that align with the goals of resident direct investors in an economy, and while securing a long-term direct investment relationship with MNEs (Ali *et al.* 2021). And for this direct investment relationship to exist, at least 10% of ordinary share or voting power of private or public oversea MNE must be acquired by a non-resident and direct investor (Carson, 2003 – cited in Ali *et al.* 2021; Griffin & Pustay, 2007). In a nutshell, FDI could be seen as the accumulation of at least 10% of vested interest – in ordinary shares and/or voting power – of private or public MNE in an economy, by international/non-resident investors. Duce & España (2003) also defined FDI from the lens of Balance of Payment (BOP) cum International Investment Position (IIP), and as synonymous to that put forward by IMF: as a statistical and comprehensive statement that systematically reports the economic dealings of a country with the rest of the globe (*non-residents*) for a specified period. Nosheen (2013) also opines that FDI is a country's net inflow of oversea investment, which is characterized with the juxtaposition of short-term and long-term capital financing, reinvestment of profits and equity capital provision. Such investment is attracted from the long-term

and sustainable management interest in a MNE operating in an economy different from that of the investor (OECD, 1997 – cited in Gyebi *et al.* 2013).

Different countries of the world rank differently in FDI statistics. However, according to UNCTAD (2023), U.S.A, China, Hong Kong, and Singapore globally and summarily ranked top four host economies, respectively, with the highest FDI inflow - (see figure 1 below). Whereas, in World Bank’s 2019 rating of countries with ease of doing business, Nigeria ranked poorly: 131 out of 190 (Punch 2023).

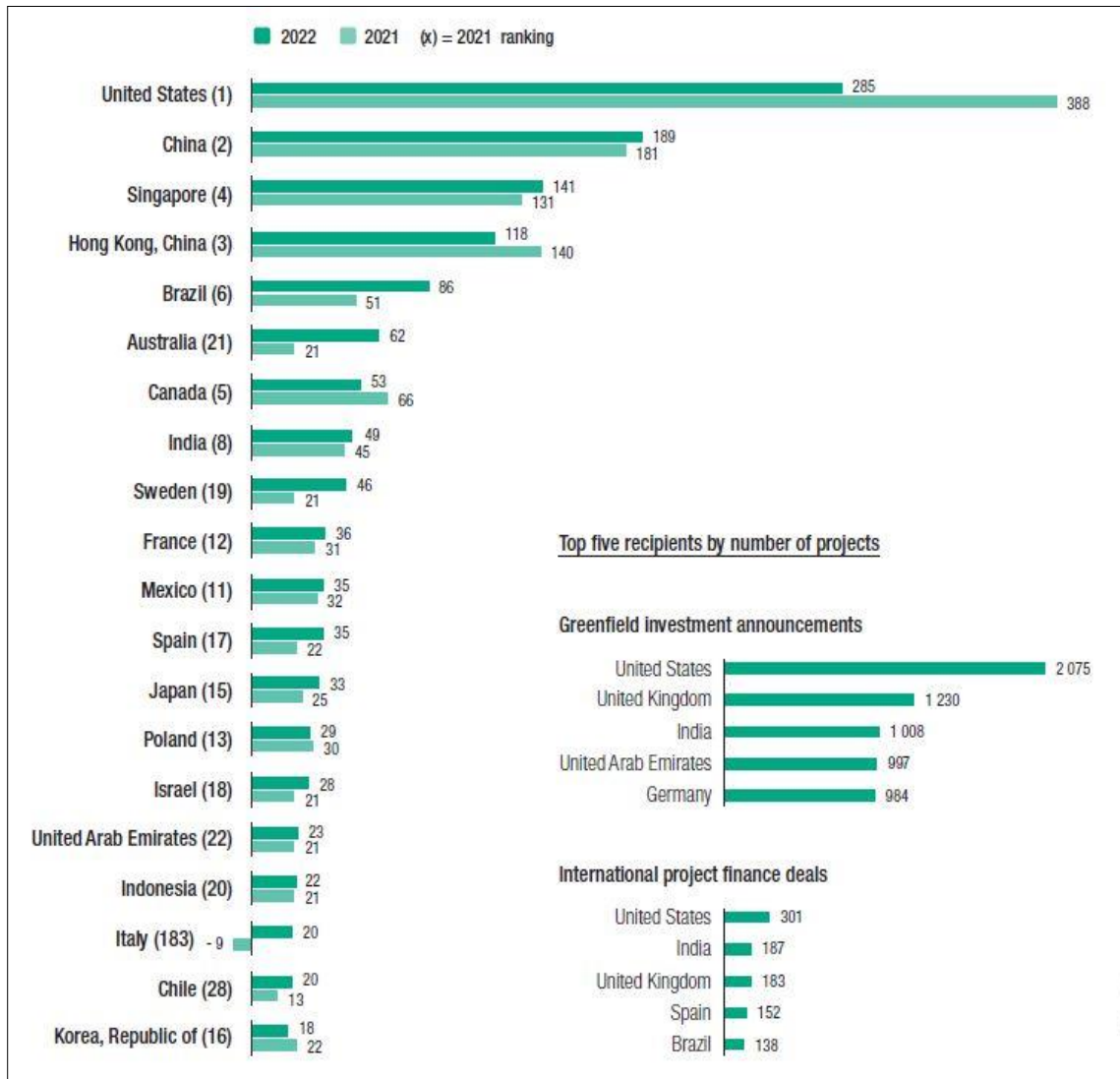


Figure 2 Top 20 FDI inflows by host economies in 2021 and 2022 (USD' Billion).

Source: World Investment Report, UNCTAD FDI/MNE dataset (2023) (<https://unctad.org/fdistatistics>).

Thus, the benefits of FDI to economies, particularly developing economies, summarily should emanate from the better technology, expertise, capital, and management practices it brings, provided the necessary drivers are favourably in place.

2.2. Measure of Economic Growth (EG)

This study chose GDP as its measure of EG. This is because GDP is widely adopted as a modern and reliable economic indicator. According to OECD (2009) and Leamer (2009), GDP is the sole most important economic indicator; and a standard measure of market and monetary value of final goods and services manufactured during a selected interval (usually a year) in a country. Semantically, 'Gross' entails that subtraction has not been made for depreciation of equipments/machineries, buildings, and other assets (capital) utilized in the process of production. 'Domestic' means

that all the final goods and services produced and provided, respectively, emanates from institutions domiciled or resident in a country. 'Product' points to the final goods and services bought or imputed. However, in some quarters, GDP is not said to be a good or real measure, when wellbeing, level of happiness, and standard of a living of citizens in a country is to be ascertained.

2.3. Empirical Review: Nexus between FDI and EG

Mahembe & Odhiambo (2014) reviewed the theoretical connection between FDI and EG, and found that indeed FDI influence EG in host economy, in two ways: by fostering the utilization of modern technologies in process of manufacturing; and by encouraging transfer of technical know-how, and the introduction of better and substitute organizational and managerial practices. Similar study was conducted by Lasbrey *et al.* (2018) for the year 1980 - 2018. The result of their finding is similar to that made by Mahembe *et al.* (2014); and added economic freedom, market size, and availability of internet as pertinent determination for FDI. Almfraji & Almsafir (2014) also reviewed prior literatures between 1994 -2012; assessing the relationship between FDI and EG. The result found that the greater literatures on this subject reported of a significant positive relation between those variables. In Blonigen (2006)'s evaluation of available literatures, it pointed out the following external factors or determinants for FDI magnitude and location by multinational enterprises: taxes, exchange rates, and trade flows. It also examined the firm-specific internal factors that spur firms to become MNEs.

Mamingi & Martin (2018) on their part, embarked on an empirical exploration of the relationship between FDI and EG, with 34 countries of the Organization of Eastern Caribbean States (OECS) as case, and for the period 1988-2013. Their study estimated a dynamic growth panel model utilizing the generalized method of moments (GMM). This study found a significant and positive relationship between FDI and EG existed; although, they posited that the impact of the former is minimal when applied as sole driver. In Slovakia, Szkorupová (2014) attempted to evaluate the connection between the three variables: FDI, EG, and export, for the period 2001-2010. This study deployed Vector Error Correction Model and Co-integration Method on quantitative quarterly data to corroborate that a long-term causal nexus exists among the three variables, and proved that FDI positively impacts export, GDP, and EG in the country. In India, Gaikward *et al.* (2013) for the period 1990 - 2008 conducted a similar empirical study, and utilized ARDL method and Cobb Douglas Production Model to report that long term relationship exists between growth of GDP, and other major determinants: real FDI, real capital, and labour force. Nosheen (2013) is also a similar study in Pakistan for the period 1980 -2010, and used Co-integration analysis to report in the affirmative that such relationship existed between the two aforementioned variables. The same finding is made by Sandalcilar *et al.* (2012) - who applied Granger Causality Test, based on Holtz-Eakin, Error Correction Model, Rosen and Newey Panel Causality Test, on the quantitative data of Economic Co-operation Organization (ECO) region for the period 1995-2011.

The following other studies have their studies and findings approximately in the direction of the aforementioned studies: Gyebi, *et al.* (2013) in Ghana - for the period 1985-2010; Hlavacek *et al.* (2016) in Central and Easter European Countries, between 2000-2012; Mehra (2013) in India, and for the period 1970-2007; Udeh *et al.* (2017) in Nigeria, and for the year 1981-2013; Mustafa (2019) in Sri Lanka, and for the period 1978 - 2016; Tamilselvan *et al.* (2015) in India, for the year 1991-2014; and GuechHeang *et al.* (2013) in Cambodia, for the period 1993 - 2011.

However, Ali *et al.* (2021)'s finding on similar study is opposed to those made by all the aforementioned researches. Ali *et al.* (2021) deployed Co-integration of Johansen Test to reveal that no long-term relationship between FDI and GDP in Iraq is found for the period 2006-2015. This study also found that FDI Granger-Causes GDP only in the short-run; and that the causality run from FDI to GDP was only in the short-run.

3. Research methodology

3.1. Research Model and Design

In examining the nexus between FDI and EG, the following empirical model was utilized:

$$GDP_i = \alpha + \beta_1 FDI_i + \epsilon t \quad (1)$$

Where:

GDP_i = log of Gross Domestic Product;

α = Constant for the equation;

FDI_t = Foreign Direct Investment Net Inflows;
 β_1 = Regression slope coefficient of FDI; and
 ϵ_t = Stochastic error term for the equation.

The study expects, on the a priori, $\beta_1 > 0$.

This study also deployed the Ex-Post Facto research design, justifiably because, the quantitative data obtained for this study were already available in the public domain, and retrieved from World Bank National Accounts data, and United Nations Conference on Trade and Development (UNCTAD) World Investment Report, 2023, respectively.

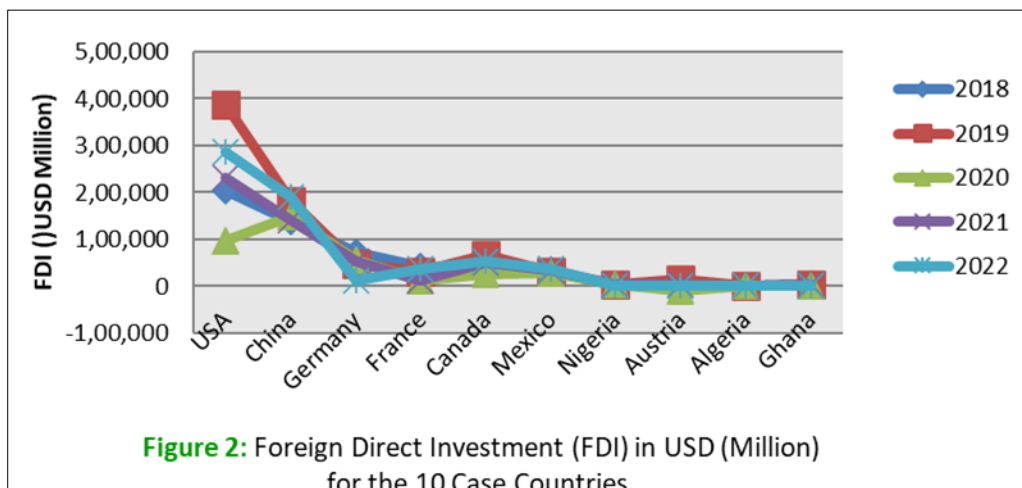
3.2. Data Presentation and Analysis

The study’s independent variable (FDI data) for the economies of the countries under review, and for the period 2018 – 2022, are as presented in the table below, and further analyzed using line charts:

Table 1 FDI Inflows (USD’Million)

Case Countries /Year	2018	2019	2020	2021	2022
USA	203,234	387,780	95,882	229,929	285,057
China	138,306	180,957	149,342	141,225	189,132
Germany	72,022	46,468	56,204	52,684	11,053
France	41,833	30,885	11,359	13,100	36,413
Canada	37,662	65,659	26,884	50,544	52,633
Mexico	34,097	31,543	28,195	34,567	35,292
Nigeria	775	3,313	2,385	2,305	-187
Austria	5,390	13,494	-9,351	4,905	1,947
Algeria	1,475	870	1,143	1,382	89
Ghana	2,908	2,414	1,333	3,292	1,473

Source: Authors’ Compilation, based on 2023 UNTAD’s World Investment Report, and OECD National Accounts Data files.



Source: Authors’ Analysis, based on 2023 UNTAD’s World Investment Report, and OECD National Accounts Data files.

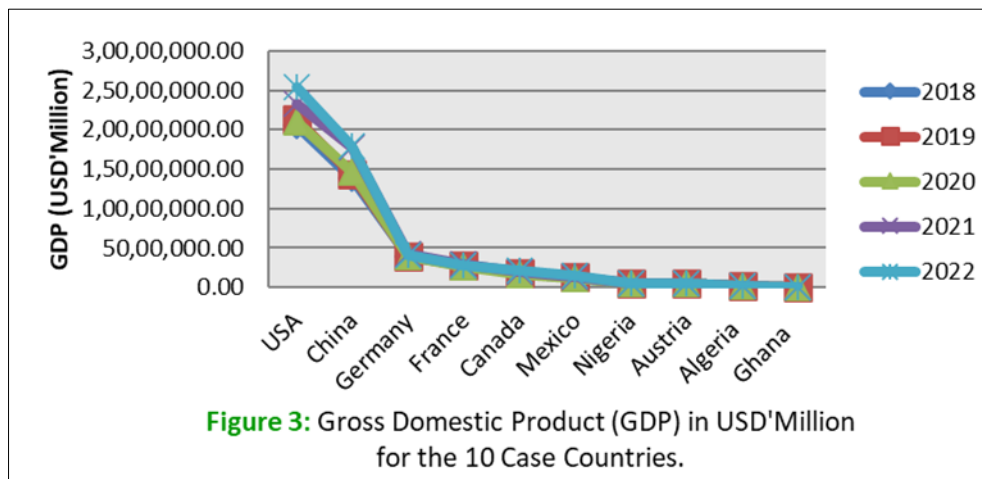
Figure 2 Foreign Direct Investments (FDI) in USD (Million) for the 10 Case Countries.

The study’s dependent variable (GDP data) for the economies of the countries under review, and for the period 2018 – 2021, are as presented in the table below, and further analyzed using line charts:

Table 2 GDP of countries (USD Million)

Case Countries/Year	2018	2019	2020	2021	2022
USA	20,533,057.31	21,380,976.12	21,060,473.61	23,315,080.56	25,462,700
China	13,894,907.49	14,279,968.49	14,687,743.56	17,820,459.34	17,963,170.52
Germany	3,974,443.36	3,888,226.04	3,889,668.90	4,259,934.91	4,072,191.74
France	2,790,956.88	2,728,870.25	2,639,008.70	2,957,879.76	2,782,905.33
Canada	1,725,297.94	1,743,725.18	1,647,598.40	2,001,486.75	2,139,840.02
Mexico	1,222,405.56	1,269,009.57	1,090,514.97	1,272,838.81	1,414,187.19
Nigeria	421,739.21	474,517.47	432,198.94	440,833.58	477,386.12
Austria	454,991.17	444,621.18	435,225.24	480,368.40	471,400.07
Algeria	174,910.89	171,760.29	145,743.72	163,472.23	191,912.89
Ghana	67,298.91	68,337.97	70,043.10	79,156.41	72,838.80

Source: Authors’ Compilation based on World Bank National Accounts’ data 2023.



Source: Authors’ Analysis based on World Bank National Accounts data and OECD National Accounts Data files, 2023.

Figure 3 Gross Domestic Product (GDP) in USD Million for the 10 Case Countries.

3.3. Hypotheses Testing.

The hypothesis formulated for this research is:

H0₁:β₁ = 0: There is no statistically significant and positive relationship between Foreign Direct Investment (FDI) and Economic Growth (EG) of countries.

H1₁:β₁ ≠ 0: There is a statistically significant and positive relationship between Foreign Direct Investment (FDI) and Economic Growth (EG) of countries.

In testing the above hypothesis, and since the quantitative data obtained have only one control variable (i.e, FDI) this research utilized the *Bivariate Pearson Product-moment Correlation Coefficient* statistic tool – and its’ result was further validated by *Bayesian Correlation Statistics*.

Table 3 Descriptive Statistics

	Mean	Std. Deviation	N
FDI	56225.9200	83557.17197	50
GDP	4912965.6770	7433054.89142	50

Source: Authors’ Compilation, based on SPSS (ver. 25) output.

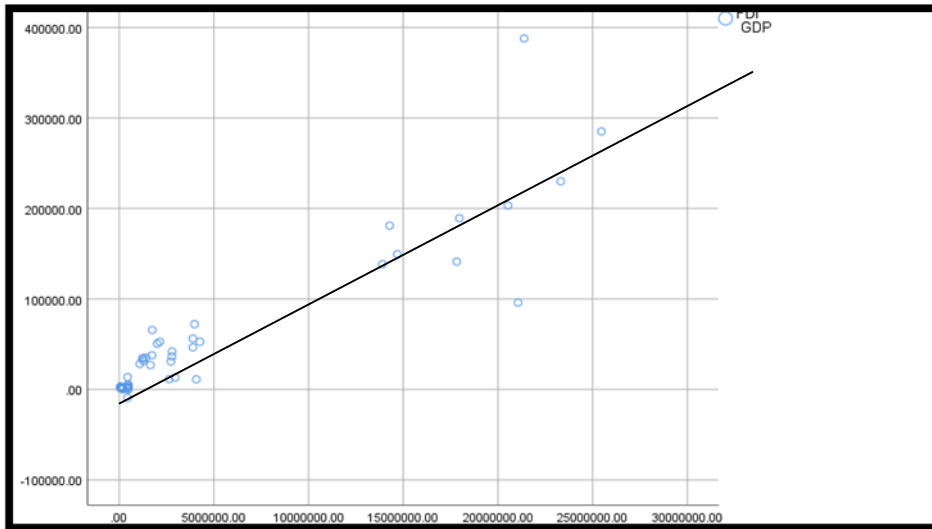
Table 3 above is the *Correlations’ descriptive statistics*, revealing the FDI data’s mean and standard deviation as 56225.9200 and 83557.17197, respectively; and GDP’s as 4912965.6770 and 7433054.89142 for, respectively.

Table 4 Correlations Coefficient Determination

		FDI	GDP
FDI	Pearson Correlation	1	0.916**
	Sig. (2-tailed)		0.000
	Sum of Squares and Cross-products	342108248415.680	27887337786201.060
	Covariance	6981800988.075	569129342575.532
	N	50	50
GDP	Pearson Correlation	0.916**	1
	Sig. (2-tailed)	0.000	
	Sum of Squares and Cross-products	27887337786201.060	2707264945927680.500
	Covariance	569129342575.532	55250305018932.260
	N	50	50
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: Authors’ Compilation, based on SPSS (ver. 25) output.

Table 4 represents the main *Pearson Correlation Test* of FDI and GDP data for the 10 countries for the period 2018 – 2022. At 0.01 level, the correlation coefficient reported a positive and strong result of 0.916 (91.6%).



Source: Authors' Compilation, based on SPSS (ver. 25) output.

Figure 4 Scatter-plot Diagram, visually depicting the high and positive degree of correlation between FDI and GDP.

Figure 4 is a *scatter-plot diagram* that visually affirms the correlation coefficient result in Table 4. A linear line is drawn averagely across the dots, and the close clustering of the dots around the line is an indication that a positive and high correlation exist among the variables – FDI and GDP.

Additionally, to test for the reliability and validity of the above test results, this study also employed Bayesian Correlation statistics. This Bayesian test affirmed the reliability and validity of the aforementioned test's result - by producing the same Pearson Correlation coefficient of 0.916 (91.6%) between FDI and GDP data – see *table 5* below.

Table 5 Bayes Factor Inference on Pairwise Correlations

Bayes Factor Inference on Pairwise Correlations^a			
		FDI	GDP
FDI	Pearson Correlation	1	0.916
	Bayes Factor		0.000
	N	50	50
GDP	Pearson Correlation	0.916	1
	Bayes Factor	0.000	
	N	50	50

a. Bayes factor: Null versus alternative hypothesis.

Source: Authors' Compilation, based on SPSS (ver. 25) output.

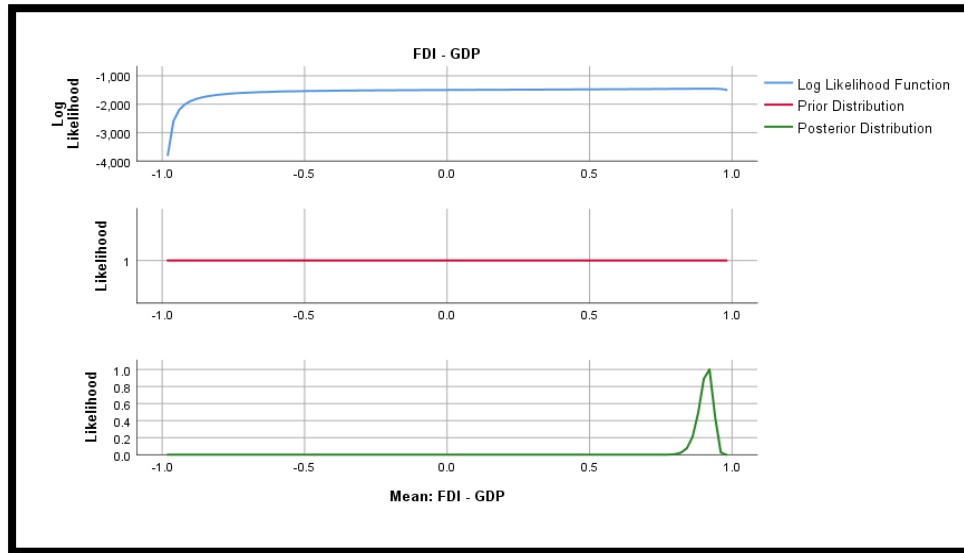


Figure 5 Plot of likelihood from Bayesian Statistics

Source: Authors' Compilation, based on SPSS (ver. 25) output.

Figure 5 above is the *plot of likelihood* from Bayesian Statistics, that allowed this research to draw Bayesian inference by computing the Bayes factor (obtained as 0.00) at 95% credible interval percentage, and applying both the *Characterize by Posterior Distribution*, and *Estimate Bayes Factor* Bayesian analysis. The result of this analysis affirms, and gives additional evidence for the rejection of the null hypothesis (H_0).

3.4. Decision

From the above test analyses, the correction coefficient of FDI and GDP data was obtained as 0.916 (91.6%). This coefficient is significant and positive [greater than 0.0 (0%)], thus we reject the null hypothesis (H_0), and accept the alternative hypothesis (H_1) that state: *"There is a statistically significant and positive relationship between Foreign Direct Investment (FDI) and Economic Growth (EG) of countries."* This decision was also corroborated by the visual output from both the scatter-plot diagram (*in figure 4*), and plot of likelihood from Bayesian statistics (*in figure 5*).

4. Results and discussion

Out of the 10 countries under review, this study found that, USA recorded the highest FDI for each of the year under review, followed by China. (Please, note that all amounts quoted in this section are in *Millions of dollar*). USA had a dip in the year 2020 – when its' FDI inflow dropped to \$95,828 (in 2020) from \$387,780 (in 2019). For China, its' FDI plummeted from \$180,957 (in 2019) to \$149,342 (in 2020), and further to \$141,225 (in 2021). Germany experienced the same dip in 2019 and 2021 – when its inflow declined from \$72,022 (in 2018) to \$46,468 (in 2019); and from \$52,684 (in 2021) to \$11,053 (in 2022). In the period 2019 and 2020, France had its' own share of the dip: from \$41,833 (in 2018) to \$30,885 (in 2019), and worst to \$11,359 (in 2020). Canada's inflows plummeted from \$65,659 (in 2019) to \$26,884 (in 2020); while Mexico's inflow slightly declined from \$34,097 (in 2018) to \$31,543 (in 2019), and further to \$28,195 (in 2020). Nigeria had its' own slight dip from \$3,313 (in 2019) to \$2,385 (in 2020), and to a negative figure \$-187 (2022). Austria's dropped from \$13,494 (in 2019) to a negative figure \$-9,351 (in 2020); and from \$4,905 (in 2021) to \$1,947 (in 2022). The other two African countries in the case - Algeria and Ghana, also recorded drop in FDI. Algeria's economy experienced this, from \$1,475 (in 2018) to \$870 (in 2019), and from \$1,382 (in 2021) to \$89 (in 2022); while Ghana had such experience from \$2,908 (in 2018) to \$2,414 (in 2019), and further to \$1,333 (in 2020); and from \$3,292 (in 2021) to \$1,473 (in 2022). However, all the aforementioned plummets in FDI from 2019 - 2022, could partly be attributed to the novel human corona-virus disease (COVID-19) pandemic, that, according to the World Health Organization (WHO), began on December 8, 2019, distorted world trade order, disrupted free global supply-chains flow, and summarily ravaged the international community in many ways (WHO, 2020).

More also, this research did observed how a dip in FDI for a period impacts on the GDP of respective economies. In the following instances, GDP slightly declined as FDI negatively fluctuated: USA in 2020 – when GDP dropped to \$21,060,473.61; Germany in 2019 and 2022 – decreased to \$3,888,226.04 and \$4,072,191.74, respectively; France in 2019 and 2020 – recorded slightly dip to \$2,728,870.25 and \$2,639,008.70, respectively; Canada, Mexico, Nigeria, and Austria also had a plummet in GDP in the year 2020 – to \$1,647,598.40, \$1,090,514.97, \$432,198.94, and \$435,225.24, respectively; and Ghana in the year 2022 – when it experienced a decline to \$72,838.80. However, to gain more detail research and statistical evidence, if this positive relationship truly existed for the respective case countries' economies, we may decide to look the direction of the results of the research hypothesis testing. The *Bivariate Pearson Product-moment Correlation* test (in Table 4) and *Bayes Factor Inference on Pairwise Correlation*(in Table 5), both produced a uniform Coefficient of 0.91.6 (91.6%). And this indicates a strong and positive relationship between the two variables – for all the 10 case countries, and for the year 2018 – 2022. This position is affirmed visually with the result of the *scatter-plot diagram* (in figure 4), with majority of the dots clustering closely around the linear line; and the *Plot of likelihood* from Bayesian Statistics (in figure 5), with the *Bayes Factor* obtained as 0.00 (0%)

Particularly for Nigeria's economy of late, and as it is reported earlier in this study, has been experiencing mass exodus of MNEs. This study found this to have a negative impact on the country's FDI. And this is evident in the FDI data (for 2022) reported in the negative for the country: \$-187. Thus, Nigeria is expected to act swiftly to better its' economy's FDI record.

5. Conclusion and recommendations

This study concludes that, there exist a statistically significant, positive, and long-term relationship between FDI and GDP for the period under review (2018 - 2022), not just for Nigerian economy but for every other world economies in the case. This implies that FDI is one of the key indicators that influence EG of a country. However, and as a limitation, this research concurs that its' conclusion would have garnered bigger and better premise if it had incorporated more macroeconomic indices of growth, other than the sole use of GDP; expanded the number of countries of the world constituting its' case; and possibly extended the period under review. Thus, these are gaps, and suggestions that future researchers on this subject can explore and attempt to fill-up.

Furthermore, this study and prior researches have demonstrated that FDI and EG relationship highly depends on certain institutional and internal factors of host countries, such as: trade policies, degree of economic (exchange rate, inflation and interest rates) and political stability, level of openness, and legislative environment. This study also found that developing countries on the case recorded unimpressive figures of FDI and GDP for the years studied. Sequel to this, the following recommendations - that are aimed at improving the FDI inflow (and in extension, GDP) - were proffered, and directed at policy makers of Nigeria and other developing countries of the world:

Set up the right environment and adequate fiscal incentive – via an attractive and uniform tax policies; other investment incentives; and lowered restriction for capital flow;

Promulgate and implement conducive, friendly and flexible business legislation, and economic policies of privatization, liberalization, and globalization;

There should be an urgent and concerted effort at improving domestic infrastructures – construction of more seaport, and/or dredging and expansion of existing ones; increased provision of modern cargo facilities; construction and/or better maintenance of existing road and rail network; and ensuring constant electrical power supply; and

Ensuring political stability, and offering of better security by addressing the prevalent and serious insecurity worries – insurgencies, armed criminals and banditry, and ethnic and religious crisis.

Compliance with ethical standards

Acknowledgments

Our acknowledgement is earnestly reserved to the Chairman/Executive-Director, Grundtvig Movement of Nigeria, Dr. Kachi A. Ozumba, for his tireless support, motivation, and counsel - on the need to continually improve ourselves in research endeavours; and go for the best possible journal for our works.

Disclosure of conflict of interest

The authors declare that there exist no known competing interests in the study that would have influenced the findings and report of this research, in part or in whole.

References

- [1] Ausloos, M., Eskandary, A., Kaur, P., & Dhesi, G. (2019). Evidence for Gross Domestic Product growth time delay dependence over Foreign Direct Investment. A time-lag dependent correlation study. Elsevier, 527(C). <https://doi.org/10.1016/j.physa.2019.121181>
- [2] Ali, S. H., & Jameel, S. A. (2021). The Impact of Foreign Direct Investment on Gross Domestic Product in Iraq During the Period (2006 - 2015). Academic Journal of Nawroz University (AJNU), 10(1), 382-397. <https://doi.org/10.25007/ajnu.v10n1a1122>
- [3] Almfraji, A. A., & Almasfir, K. A. (2014). Foreign Direct Investment and Economic Growth Literature Review from 1994 to 2012. Procedia - Social and Behavioral Sciences 129 (2014), 206–213.
- [4] Blonigen, B. A. (2006). A Review of the Empirical Literature on FDI Determinants. Atlantic Economic Journal (33)2005, 383–403. <https://doi.org/10.1007/s11293-005-2868-9>
- [5] Duce, M., & España, B. (2003). Definitions of Foreign Direct Investment (FDI): A Methodological Note. Retrieved from: <https://www.bis.org/publ/cgfs22bde3.pdf> (accessed June 12, 2023).
- [6] Gaikwad, P., & Fathipour, G. (2013). The Impact of Foreign Direct Investment (FDI) on Gross Domestic Production (GDP) in Indian Economy. Information Management and Business Review 5(8), 411-416.
- [7] Griffin, R. W., & Pustay, M. W. (2007). International Business: A Managerial Perspective (5th ed.). Pearson/Prentice Hall.
- [8] GuechHeang, L., & Moolio, P. (2013). The Relationship between Gross Domestic Product and Foreign Direct Investment: The Case of Cambodia. KASBIT Business Journal, 6(1) 87-99.
- [9] Gyebi, F., Owusu, M., & Etroo, J. K. (2013). Foreign Direct Investment and Gross Domestic Product in Ghana. International Journal of Academic Research in Accounting, Finance and Management Sciences, 3(3), 256-265. <http://dx.doi.org/10.6007/IJARAFMS/v3-i3/153>
- [10] Hlavacek, P., & Bal-Domanska, B. (2016). Impact of Foreign Direct Investment on Economic Growth in Central and Eastern European Countries. Inzinerine Ekonomika-Engineering Economics, 27(3), 294–303. <http://dx.doi.org/10.5755/j01.ee.27.3.3914>
- [11] Lasbrey, Enyoghasim, M., Tobechei, A., Uwajumogu, N., Chukwu, B., Kennedy, O. (2018). Foreign Direct Investment and Economic Growth: Literature from 1980 to 2018. International Journal of Economics and Financial Issues, 8(5), 309-318.
- [12] Leamer, E. E. (2009). Gross Domestic Product. In: Macroeconomic Patterns and Stories. Springe. https://doi.org/10.1007/978-3-540-46389-4_2
- [13] Mahembe, E., & Odhiambo, N. (2014). Foreign Direct Investment and Economic Growth: A Theoretical Framework. Journal of Governance and Regulation, 3(2), 63-70.
- [14] Mamingi, N., & Martin, K. (2018). Foreign Direct Investment and Growth in Developing Countries: Evidence from the Countries of the Organisation of Eastern Caribbean States. CEPAL Review N° 124. Retrieved from: https://www.cepal.org/sites/default/files/publication/files/43952/RVI124_Martin.pdf (accessed June 16, 2023).
- [15] Mehra, N. (2013). Impact of Foreign Direct Investment on Employment and Gross Domestic Product in India. International Journal of Economic Research, 4(4), 29 – 38.
- [16] Mustafa, A. M. M. (2019). Contribution of Tourism and Foreign Direct Investment to Gross Domestic Product: Econometric Analysis in the Case of Sri Lanka. Journal of Asian Finance, Economics and Business, 6(4), 109-114. <https://doi.org/10.13106/jafeb.2019.vol6.no4.109>
- [17] Nosheen, M. (2013). Impact of Foreign Direct Investment on Gross Domestic Product. World Applied Sciences Journal 24(10), 1358-1361. <https://doi.org/10.5829/idosi.wasj.2013.24.10.229>

- [18] Nwakeze (2021). *Up with Hopes: A Memento of the Verisimilitude of Being Human* (1st Ed.). Print Gate Digital Press. Retrieved from: https://www.researchgate.net/publication/368474388_UP_WITH_HOPE_A_Memento_of_the_Verisimilitude_in_Being_Human (accessed May 10, 2023).
- [19] OECD (2002). *Foreign Direct Investment for Development: Maximising Benefits, Minimising Costs*. Retrieved from: <https://www.oecd.org/investment/investmentfordevelopment/foreigndirectinvestmentfordevelopmentmaximisingbenefitsminimisingcosts.htm> (accessed June 19, 2023).
- [20] OECD (2009). *National Accounts at a Glance*. OECD ilibrary. Retrieved from: <https://doi.org/10.1787/9789264067981-en>
- [21] Punch (2020, January 22). *Of Nigeria's Dying Factories and Exodus to Ghana*. Punch Newspaper. Retrieved from: <https://punchng.com/of-nigerias-dying-factories-and-exodus-to-ghana/> (accessed May 20, 2023).
- [22] Sandalcilar, A. R., & Altiner, A. (2012). *Foreign Direct Investment and Gross Domestic Product: An Application on ECO Region (1995-2011)*. *International Journal of Business and Social Science*, 3(22), 189-198.
- [23] Szkorupová, S. (2014). *A causal relationship between foreign direct investment, economic growth and export for Slovakia*. *Procedia Economics and Finance*, 15(2014) 123-128.
- [24] Tamilselvan, M., & Manikandan, S. (2015). *A Study on Impact of Foreign Direct Investment on Gross Domestic Production in India*. *International Journal of Academic Research in Business and Social Sciences*, 5(10), 224-232. <http://dx.doi.org/10.6007/IJARBS/v5-i10/1870>
- [25] Udeh, S. N., & Odo, J. O. (2017). *Impact of Foreign Direct Investment on the Economic Growth of Nigeria*. *Journal of Global Accounting, International Journal of Academic Research in Business and Social Sciences*, 5(2) 10-17.
- [26] UNCTAD. (2023). *FDI statistics, World investment report*. Retrieved from: <https://unctad.org/data-visualization/global-foreign-direct-investment-flows-over-last-30-years> (accessed June 20, 2023).
- [27] World Bank National Accounts Data, and OECD National Accounts Data files. (2022). Retrieved from: <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD> (accessed June 21, 2023).
- [28] World Health Organization (2020). *Corona-virus Disease 2019 (COVID-19): Situation Report*. Retrieved from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200226-sitrep-37-covid-19.pdf?sfvrsn=2146841e_2 (accessed April 27, 2023).