Journal of Multidisciplinary Academic and Practice Studies
ISSN 2656-2359, Vol 1, No 2, 2023, 81-99 https://doi.org/10.35912/jomaps.v1i2.1637

The effect of FDI Net Inflow on the GDP growth rate: 1990-2021

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Article History
Received on 15 April 2023
1st Revised on 26 April 2023
2nd Revised on 1 May 2023
Accepted on 3 May 2023

Abstract
Purpose: This study investigates the impact of foreign direct investment (FDI) net inflows on Nigeria's gross domestic product (GDP) growth rate from 1990 to 2021, addressing the ongoing debate on the role of FDI in fostering sustainable economic growth.
Methods: The research employed an ex post facto design using secondary data obtained from the World Bank's World Development Indicators. Stationarity was tested using the Augmented Dickey-Fuller (ADF) unit root test. Ordinary Least Squares (OLS) regression was applied, complemented by robustness checks using Dynamic Ordinary Least Squares (DOLS), to test the hypotheses and validate the model.
Results: Findings reveal that FDI net inflows significantly and positively affect GDP growth in Nigeria ($p<0.05$). Control variables such as the degree of economic openness (DEGO) and inflation (INFL) showed positive but statistically non-significant effects under OLS, though DOLS results indicate DEGO as positive and significant while INFL was negative and significant. The results confirm that FDI contributes to economic growth by promoting capital accumulation, technology transfer, and managerial expertise.
Conclusion: The study concludes that FDI net inflows play a critical role in driving Nigeria's economic growth. Policies aimed at improving openness, institutional quality, and macroeconomic stability are necessary to maximize the benefits of FDI.
Limitations: The analysis is limited to Nigeria's data and selected control variables, restricting broader generalization across Sub-Saharan Africa.
Contribution: This study enriches the literature on FDI-growth nexus in developing economies, offering policy insights for enhancing sustainable growth through effective FDI management.

Keywords: *Degree of Economic Openness, Foreign Direct Investment, GDP Growth Rate, Inflation*

How to cite: Chike, N. K., Oguanobi, C. A., Mbamalu, E. I., & Egbunike, C. F. (2023). The effect of FDI Net Inflow on the GDP growth rate:1990-2021. *Journal of Multidisciplinary Academic and Practice Studies*, 1(2), 81-99.

1. Introduction

Foreign Direct Investment (FDI) is a direct investment in the production or business of a company or country by a foreign firm or effective participation in management that can result in the inflow of new equity capital (Kunle, Olowe, & Oluwafolakemi, 2014; Nwankwo, Ademola, & Kehinde, 2013). Foreign direct investment (FDI) is a significant source of funding for developing nations(Rao, Sethi, Dash, & Bhujabal, 2023). Wealthier countries primarily provide developing countries with official development assistance (ODA) (OECD, 2023). FDI is usually transmitted by Transnational or Multinational Corporations (T/MNCs) and plays a role in a nation's development through channels such as capital accumulation, knowledge transfer, and managerial expertise (Diyamett & Mutambla, 2014;

L. Erdal & Göçer, 2015). These spillover effects have been identified as a major source of technological development in developing countries (Ivarsson & Alvstam, 2005; UNCTAD, 2001). Therefore, FDI plays a crucial role in transmitting technology globally (Dollar, 1992; Sachs, Warner, Åslund, & Fischer, 1995).

According to Bassey, Amobi, and Okorie (2022), most governments, especially in Sub-Saharan Africa (SSA), actively persuade MNCs to locate their overseas investments through various means. FDI is regarded as a major channel of technology diffusion across borders, which could translate into technological development in the host country (Bodman & Le, 2013; Osano & Koine, 2016). Such transmission can occur in several ways, including the import of high-technology products (Kwark & Shyn, 2006), foreign technology payments, direct adoption of foreign technology (Soete & Patel, 1985), and human capital acquisition (Le, 2008; Le & Bodman, 2011; Park, 2004). Since the 80s FDI has become dominant and is expected to become even more dominant in the foreseeable future. Factors accounting for this shift include the ongoing global trend of FDI liberalization, large-scale abolition of international trade barriers, increased globalization, and the growing need for technological competitiveness to survive and grow economically (Kadah, 2003).

The GDP growth rate measures the growth or expansion of an economy over a specific period. It is usually expressed as a percentage increase in gross domestic product (GDP) from one year to the next (Encinas-Ferrer & Villegas-Zermeño, 2015). A positive growth rate indicates economic expansion, whereas a negative growth rate indicates economic contraction. The GDP growth rate is an important indicator that helps economists and policymakers understand the overall health and performance of an economy. Following neoliberal principles, developing nations have prioritized FDI since the late 80s and particularly during the 90s. Programs and policies were developed within countries to lure FDIs from developed countries to emerging countries. This was done under the assumption that the flow of investment from developed countries has a necessary consequence on economic growth (Encinas-Ferrer & Villegas-Zermeño, 2015). Thus, many developing nations worldwide are attempting to use FDI to fuel economic growth, measured in terms of gross domestic product (GDP) (Talwar & Srivastava, 2018). It is widely accepted that nations should permit foreign direct investment (FDI) to support initiatives and plans that boost growth. Many nations have highly lenient FDI-related policies.

Nigeria is a typical developing nation, with the industrial sector (comprising manufacturing, mining, and utilities) contributing an insignificant proportion of economic activity and GDP (Chete, Adeoti, Adeyinka, & Ogundele, 2014). Given the importance of FDI, the Nigerian government has implemented various incentives, policies, and regulatory measures to promote the inflow of FDI into the country (Kunle et al., 2014). Studies have mainly focused on the impact of FDI on economic growth (Adigwe, Ezeagba, & Udeh, 2015; Kunle et al., 2014; Olokoyo, 2012; Umoh, Jacob, & Chuku, 2012). However, growth results either from the accumulation of factors of production, improvements in technology, or both (Lemma, Kitaw, & Gatew, 2014). Studies have shown support for FDI, which is needed to bridge the gap that exists in Africa, and Nigeria in particular (Adigwe et al., 2015; Kunle et al., 2014; Olokoyo, 2012; Umoh et al., 2012). This study examines the impact of FDI on GDP growth rate (GDPGR) in Nigeria. The article's conclusions provide a summary of the findings of this study. Our findings from alternative empirical specifications, such as OLS and DOLS, show that FDI positively correlates with GDPGR, which is also consistent with DEGO on GDPGR.

2. Literature review

2.1. Conceptual Review

2.1.1. Foreign Direct Investment (FDI)

FDI is "a form of inter-firm cooperation that involves a significant equity stake in or effective management control of foreign enterprise" (L. Erdal & Göçer, 2015). FDI is a direct investment in production or business in a country by an individual or company in another country, either by buying a company in the target country or expanding the operations of an existing business in that country (Kunle et al., 2014). It can be analyzed in terms of the inflow of new equity capital (change in foreign share capital), re-invested earnings (unremitted profit), trade and supplier credit, net inflow of borrowing, and other obligations from the parent company or its affiliates (Nwankwo et al., 2013). FDI refers to the

long-term participation of one country in another country, usually in the form of participation in management, joint ventures, technology transfer, and expertise (K. H. Zhang, 2001).

The International Monetary Fund (IMF) (IMF, 1993, 2001) and the Organisation for Economic Co-operation and Development (OECD) (OECD, 1996) defined FDI as a long-term investment by foreign direct investors in an enterprise resident in an economy other than that in which the foreign direct investor is based. Rutherford (1992) defines FDI as a business investment in another country, which often takes the form of setting up local production facilities (through greenfield) or purchasing an existing business through mergers and acquisitions (M&As). Foreign direct investments are distinguished from portfolio investments, in which investors merely purchase the equities of foreign-based companies. The key feature of foreign direct investment is that it is an investment made to establish either effective control of or at least substantial influence over the decision-making of a foreign business entity.

The FDI relationship consists of a parent enterprise and a foreign affiliate that together form a transnational corporation (TNC). To qualify as FDI, the investment must afford the parent enterprise control over its foreign affiliates. For an investment to be regarded as FDI, the parent firm must have at least 10% of its foreign affiliates' ordinary shares, but the investing firm may also qualify for FDI if it owns voting power in a business enterprise operating in a foreign country (Sharma & Gani, 2004). UNCTAD defines control as owning 10 per cent or more of the ordinary shares or voting power of an incorporated firm or its equivalent for an unincorporated firm. Foreign investors may acquire control through subcontracting, management contracts, turnkey arrangements, franchising, leasing, licensing, and production sharing.

FDI influences production, employment, income, prices, exports, imports, economic growth, the balance of payments, and general welfare in the host country (F. Erdal & Tatoglu, 2002; Olokoyo, 2012). There are two types of FDI: inward foreign direct investment and outward foreign direct investment, resulting in a net FDI inflow (positive or negative) (Damooei & Tavakoli, 2006). The three major motives for inward FDI, apart from locating production in a foreign country, are resource-, market-, and efficiency-seeking (Dunning, 1993):

1. In the first category, MNEs aim to acquire particular types of resources that are not available at home (such as natural resources or raw materials) or that are available at a lower cost (such as unskilled labor offered at a cheaper price than in the home country) (Diyamett & Mutambla, 2014).
2. In the second category, MNEs invest in foreign countries to exploit the possibilities granted by markets with greater dimensions. Other reasons that push MNEs to choose market seeking (besides searching and exploiting new markets) include suppliers or customers that have built foreign production facilities, adapt goods to local needs or tastes, and save the cost of serving a market from a distance. Recently, it has become important to have a physical presence in the market to discourage potential competitors from entering the market (Diyamett & Mutambla, 2014).
3. In the third category, an MNE intends to take advantage of different factor endowments, cultures, institutional arrangements, economic systems and policies, and market structures that are amenable to efficient production (Diyamett & Mutambla, 2014).

2.1.2. Channels of FDI Spillovers

FDI builds local technological capabilities through several channels. These channels are vertical and horizontal. Through vertical linkages, on the one hand, FDI builds local technological capabilities through backward and forward linkages. Backward linkages are relationships with suppliers of parts, components, materials, and services. Forward linkages refer to relationships with buyers, either consumers or other firms, using MNEs' intermediate products in their processes. Downstream firms can use higher-quality and/or lower-priced intermediate goods in their processes, which benefits consumers through cheaper final products. However, through horizontal linkages, FDI builds local technological capabilities through demonstration, competition, and labor migration. The demonstration effect occurs when local companies see the superior technology of an MNE and therefore update their own (Saggi, 2002) or imitate the new technologies used by the MNEs.

In turn, MNEs upgrade their technologies as a result of competition. The greater the competition, the more MNEs will have to bring in new technology to retain their competitive advantage, leading to greater potential spillovers (Wang & Blomström, 1992). However, if local firms are not sufficiently developed to compete, the superior technology can crowd them out. Spillovers can also occur through the exchange of human capital, where technology is transferred through workers formerly employed by MNEs moving to local firms or setting up their firms.

There are three main channels through which FDI leads to economic growth: The first is the release it affords from the binding constraint of domestic saving. In this case, foreign direct investment augments domestic savings through capital accumulation. Second, FDI is the main conduit through which technology spillovers lead to an increase in factor productivity and efficiency in resource utilization, leading to growth. Third, FDI increases exports because of the increased capacity and competitiveness of domestic production. This linkage is often said to depend on another factor, called "absorptive capacity," which includes the level of human capital development, type of trade regimes, and degree of openness (Ajayi, 2006; Borensztein, De Gregorio, & Lee, 1998).

Todaro (2000) argues that FDI in services affects the host country's competitiveness by raising capital productivity and enabling the host country to attract new capital on favorable terms. Swenson (2004) contends that FDI improves competitiveness through technology transfer and the effects of myriad externalities. According to Kunle et al. (2014), FDI version and technology chnologilo and Edevelo,,N and nevNdevelop,,,ing economies such as Nigeria are being considered. This view is supported by Otepola (2002), who states that FDI is the most important source of external resource flows to developing countries. Lemma et al. (2014) observe that technological inflow through FDI is an important conduit for promoting local industries to upgrade and be competitive in the marketplace. FDI is an important source of non-debt inflows and is increasingly sought as a means of attaining competitive efficiency by creating a meaningful network of global interconnections (Olokoyo, 2012).

The factors that affect FDI include inflation, the exchange rate, uncertainty, credibility, government expenditure, and institutional and political factors. Other factors include domestic interest rates, debt service, credit ratings, and political stability (Ekpo, 1997). The FDI literature identifies and classifies the motives that encourage companies to invest overseas into four (UNCTAD, 2008). These are:

1) Market-seeking motives highlight access to new markets that are attractive because of their size and potential for expansion.
2) Efficiency-seeking motives aim to take advantage of cost-efficient production methods. This is approximated by the cost and productivity of capital, labor, infrastructure, and administrative costs of doing business.
3) The natural resource-seeking motive seeks to tap into the natural resource endowments in the locations being considered.
4) Strategic asset-seeking motives are oriented towards man-made assets, as embodied in the quality of the workforce, brand names, and market shares.

Table 1. Channels for the FDI spillovers to be materialized in the host economy

Backward linkages	Domestic firms with FDI cooperate with local suppliers and may transfer techniques for inventory and quality control, also providing technical assistance to improve intermediary products of suppliers assist in purchasing inputs.
Forward linkages	Foreign investors may contribute to the development of the sales network.
Training of local employees	Foreign investors may share their technical and managerial skills to spread over local industries. Mainly it happens when former foreign firms' employees change their workplace in favour of domestic firms.
Demonstration and competition effects	Higher quality of foreign products should stimulate improvements in the quality of domestic firms.

Source: Blomstrom and Kokko (1997).

Nigeria is immensely blessed with natural resources, such as vast agricultural land suitable for the cultivation of crops, an estimated 124 trillion cubic feet of proven natural gas reserves, huge deposits of crude oil and gas, and a large expanse of solid mineral deposits that have hardly been exploited. However, corruption, mismanagement, and inefficiencies have resulted in a country with a GDP of approximately US$212b, and an annual growth rate of 5.3%. The GDP amounts to approximately 41% of that of the sub-region, while the GDP per capita is $300. Globally, Nigeria is among the 20 poorest countries and has a very high debt profile (Group, 2012). The level of FDI attracted by Nigeria is mediocre compared to its resource base and potential need (Asiedu & Lien, 2004), which qualifies it as a major recipient of FDI in Africa (Olokoyo, 2012). Attempts to attract FDI into the Nigerian economy have been based on the need to maximize the potential benefits derived from them and minimize the negative effects of their operations on the country (Olokoyo, 2012).

In 1995, the government enacted two major laws to encourage FDI inflows. The two laws are the Nigerian Investment Promotion Commission (NIPC) Act 16 and Foreign Exchange (Monitoring and Miscellaneous Provision) Act 17 (Olokoyo, 2012). The NIPC was established to address the multiplicity of government agencies that investors confront when they come to Nigeria. Thus, the commission assists investors in going through the formerly cumbersome process of pre-investment registration within two weeks of application. The commission guarantees the protection of foreign interests in Nigeria against expropriation, administers appropriate incentive packages available to investors, guarantees the transferability of profits and other funds by investors, identifies difficulties and problems encountered by investors, proffers solutions, and assists them. The NIPC provides up-to-date information on investment opportunities available in the country, links foreign investors with local partners, provides information on available incentives for investment, issues business permits to foreign investors, coordinates the issuance of expatriate quotas, negotiates in consultation with appropriate government agencies, provides specific incentive packages for investors, enters directly into a bilateral agreement with investors for the purpose of investment promotion, and identifies the specific project and invites interested investors to partake in them (Olokoyo, 2012).

2.1.3. GDP

Gross Domestic Product (GDP) is a monetary measure of the market value of all final goods and services produced by a country in a specific period (OECD, 2023). GDP is most often used by the government of a single country to measure its economic status. GDP can be calculated in three ways: using expenditures, production, or income, and can be adjusted for inflation and population to provide deeper insights into the economy. Real GDP accounts for the effects of inflation, whereas nominal GDP does not. GDP calculates the total cost of all final products and services purchased in a nation (less imports) within a given period. We also calculated the income generated from these purchases. GDP is the most significant indicator of economic activity.

2.1.4. FDI and GDP nexus

FDI is the dominant channel for international technology transfer. Although non-FDI forms of international technology transfer have been growing since the 1960s, FDI forms have become dominant since the 1980s and are expected to become even more dominant in the foreseeable future. Factors accounting for this shift include, among others, the ongoing global trend of FDI liberalization, large-scale abolition of international trade barriers, increased globalization of economic activities, and the growing need for technological competitiveness to survive and grow economically. FDI can provide firms with new markets and marketing channels, cheaper production facilities, and access to new technologies, products, skills, and financing. For a host country or a foreign firm that receives the investment, it can provide a source of new technologies, capital, processes, products, organizational technologies, and management skills and can provide a strong impetus to economic development.

A different researcherAlemu Alemu ((Alemu, 2017) used a dynamic GMM model to analyze the effects of foreign aid and FDI on economic growth in middle- and low-income African countries. The results showed that middle-income countries tended to experience more FDI impacts than low-income countries. Another study (Koroci, 2018) that focused on Albania found a significant positive correlation

between FDI inflows and GDP from 1995 to 2012. Agrawal (2015) found that FDI and economic growth were cointegrated at the panel level in a study thatAgrawal (2015) examined the relationship between them over the 1989-2012 time period in five BRICS economies. This finding suggests a long-term equilibrium relationship.

2.2. Theoretical Framework

This study is based on the new trade theory (NTT) proposed by Samuelson (1939) and Stolper and Samuelson (1941). NTT examines the patterns and determinants of international commerce through the lens of economies of scale, imperfect competition, and product differentiation. This argument, put forth by economists Paul Krugman and Elhanan Helpman in the 1980s, contests the conventional wisdom that trade is driven only by comparative advantages. According to this theory, new or differentiated goods, markets separated into sections, changes in technology, and economies of scale have become the most important issues in obtaining more competitive power in the global market (Porter, 1998). Today, the new trade theory proposed by Krugman (1979) and Dixit and Stiglitz (1977) and strengthened by Melitz (2003) argues that international trade is no longer carried out by the state but by MNCs producing new high technology that makes them more competitive in the global market (Bakkalci, 2013). In other words, developing countries, even if they cannot produce different high-tech products, can import them via FDI (L. Erdal & Göçer, 2015). Nigeria is a country with rich and abundant natural resources. Although monolithic in nature, its growth and development are poor compared to its abundant natural resources. Therefore, growth can be achieved by importing high-technology products and managerial expertise through FDI.

2.3. Empirical Review

Using a sample of countries in South Asia and Southeast Asia, Rao et al. (2023) examined the interaction between foreign aid, FDI, and economic growth from 1980 to 2016. The multiple regression analysis showed, according to the results of alternative empirical estimations, that FA is negatively associated with FDI and economic growth, whereas FDI is positively associated with the economic growth proxy.

Shinwari, Zakeria, Usman, and Sadiq (2023) explored Afghanistan's FDI and economic growth nexus using data that spanned from 2001 to 2020. The data were analyzed using the autoregressive distributed lag (ARDL) technique, and the results showed that FDI positively affected economic growth. Magazzino and Mele (2022) investigated the effect of FDI changes on GDP growth in Malta from 1971 to 2017. Real GDP, trade, and manufacturing were all integrated into order 1, while FDI was stationary according to the unit root and stationarity tests. Given these tests, a statistically significant causal association emerges between FDI and economic growth. Ciobanu, Șova, and Popa (2020) examined the impact of FDI on economic growth. They employed panel data from annual statistics from Eurostat for the CEE nations of Bulgaria, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia, and Slovakia, between 2009 and 2018. The panel data regression model of CEE economies shows that FDI inflow is positively correlated with GDP growth.

Loukil (2016) examined the impact of FDI on technological innovation in developing countries. The sample comprises 54 developing countries for the period 1980-2009. The panel threshold model estimation shows the presence of nonlinear effects in the relationship between FDI and innovation. The study finds a threshold value of technological development below which FDI has a negative impact on innovation, and above which FDI has a significant positive impact on innovation.

Osano and Koine (2016) examined the role of FDI in technology transfer and economic growth in Kenya, focusing on the energy sector in Nairobi from 2001 to 2014. This study adopted a descriptive and inferential survey design. The study population comprised 60 senior managers, including directors and managers, from Kenya Power and Kengen. Questionnaires were used to collect primary data. This study established a relationship between foreign direct investment variables, such as infrastructure, technology diffusion, trade facilitation, knowledge management, technology transfer, and economic growth.

Seyoum, Wu, and Yang (2015) examined the impact of Chinese outbound direct investment on the productivity of domestic firms. They used survey data from 1033 manufacturing firms operating in Ethiopia in 2011. The results show that foreign firms are more productive and that their presence has different spillover effects on domestic firms' productivity. In particular, they found that domestic firms with higher absorptive capacity experience positive spillovers, whereas those with low absorptive capacity witness negative spillovers. They also found that small and non-exporting firms benefit more from spillovers than other types of domestic firms.

Awosusi and Awolusi (2014) studied technology transfer, foreign direct, and economic growth in Nigeria. They used time-series data from 1970 to 2010. They employed the multivariate co-integration technique developed by Johansen and Juselius (1990) to investigate the long-run equilibrium relationships between international factors and economic growth. The results confirm the existence of cointegrating vectors in the systems of this country during the study period. The short-term impact of inward FDI, trade, and economic growth on international technology transfer to Nigeria was also tested using the Granger Causality test based on the vector error correction model. The test results revealed a short-run causal effect, running unidirectionally or bidirectionally among the variables for the country.

Lemma et al. (2014) examined the role of FDI on technology transfer in Ethiopian metal and engineering industries. They surveyed 47 metal and engineering industries in China. The study finds that the technological capability of local industries to adopt, modify, and improve a given technology is very weak, there is an uncollaborative operating environment between foreign and local industries, and the national technology policies are very weak to benefit from FDI. They suggested policies and developed a framework.

Kunle et al. (2014) analyzed the impact of FDI on Nigeria's economic growth over the period of 1999-2013. This study used secondary data sourced from various publications of the Central Bank of Nigeria, such as the Statistical Bulletin, Annual Reports, and Statement of Accounts. They used the ordinary least squares (OLS) estimation technique to determine the relationship between and the impact of FDI on economic growth. The study finds that economic growth is directly related to foreign direct investment inflow and is statistically significant at the 5% level.

C. Zhang, Guo, and Wang (2014) investigated the effects of FDI on the Chinese industry by estimating several specifications. He used a large panel of data for 21 manufacturing sectors and 31 regions covering 2005–2010. He constructed a multidimensional index to measure the industrial performance. He used total share and per capita industrial output by FDI as independent variables, which seems to be more suitable for capturing the effects of FDI on the Chinese industrial capabilities. He suggests that FDI has become a driving force for industrial performance, as the Chinese Industrial Competitiveness (IC) ability to produce, competitively export manufactured goods, enhance low-tech manufacturing, and contribute to interaction with local human capital during the 2005–2010 period increased. The "*transfer of technology and managerial knowledge* to the host country is considered to have positive spillover effects on the economy.

Yang, Chen, and Huang (2013) investigated the impact of outward foreign direct investment (OFDI) on the technical efficiency of the OFDI firms. They used firm-level panel data from Taiwan's manufacturing industry from 1987 to 2000. They used propensity score matching to construct an appropriate group of non-OFDI firms to compare with OFDI firms and subsequently used a meta-frontier framework to calculate comparable technical efficiencies for both groups of firms. The results reveal that the technical efficiency of manufacturing firms in Taiwan increased over the entire sample period. The results also suggest that technological advances and technical efficiency of Taiwanese manufacturing firms are positively correlated with their OFDI activity.

Bodman and Le (2013) studied the impact of technology embodied in FDI on the total factor productivity (TFP) of FDI-receiving countries, shedding new light on where the sources of research and development (R&D) spillovers lie and directly addressing the important question of whether more FDI leads to a better-trained labour force. Their findings show that countries that have embraced a relatively

more open international investment regime have usually grown significantly faster than those that have not. It is suggested that FDI transmits technological knowledge and contributes to the physical capital stock, openness to direct physical investment, as well as trade and financial flows, providing an important driver of economic growth. It was also found that apart from human capital being necessary for the direct general enhancement of the technological level, it is essential for the ability to learn from foreign technological sources.

Solomon and Eka (2013) investigated the relationship between FDI and economic growth in Nigeria. The study covered the period–1981-2009 using annual data from the Central Bank of Nigeria Statistical Bulletin. A growth model using the ordinary least squares method was used to ascertain the relationship between FDI and Nigeria's economic growth. The OLS results indicate that FDI has a positive but insignificant impact on Nigeria's economic growth during the study period.

3. Research methodology

This study adopted an *ex post facto* research design. This design is deemed suitable considering the historical nature of the data and the lack of manipulation. The design also guided the nature and sources of data, step-by-step processes used for model specification (subdivided into the model for regression analysis, unit root test, a priori expectation, and description of variables), evaluation of estimates (i.e., the regression coefficients were evaluated in line with the econometric criteria [$p<.05$]), and testing of hypotheses.

3.1. Nature and Sources of Data

The data used for the empirical analyses were secondary. Data were collected from the World Bank (World Development Indicators). The data cover the period (1990-2021 to).

3.2. Model Specification

3.2.1. Model for the regression analyses

The model is adapted from the work of L. Erdal and Göçer (2015); in line with the objectives of the study the following regression models are specified:

That is:

$$GDPGR = f(FDNI, DEGO, INFL) \quad \text{---------- (1)}$$

The above functions are modelled as follows.

$$GDPGR = \alpha_o + \alpha_1 FDNI + \alpha_2 DEGO + \alpha_3 INFL + \mu_0 \quad \text{---------- (2)}$$

Where,
GDPGR is the GDP growth (annual %)
FDNI is the Foreign direct investment, net inflows (% of GDP)
DEGO is the Degree of Economic Openness
INFL is the Inflation rate

3.1.2. Unit root test

In probability theory and statistics, a unit root is a feature of stochastic processes (randomly determined) that can cause problems in statistical inference involving time series models. The tests of causality assume that the time-series data are stationary. Therefore, a test of stationarity precedes the test of causality. This study conducted an Augmented Dickey-Fuller (ADF) test for unit roots. The ADF test provides the convenience of producing an unbiased estimate because it has a pure white noise error term (ε_t), which is achieved by adding the lagged difference of the regressand. This is an obvious advantage of the ADF test over the DF test.

3.1.3. Description of Variables

The variables included in the model were FDNI, DEGO, and INFL. There are three categories of variables in the specified models: dependent, independent, and control variables. This can be explained as follows.

Table 2. Operationalisation of the model variables

Acronym	Description	Measurement
GDPGR	GDP growth (annual %)	This is the yearly growth rate of GDP over time, i.e., the annual average rate of change of the gross domestic product (GDP) at market prices based on constant local currency, for a given national economy, during a specified period.
FDNI	Foreign direct investment, net inflows (% of GDP)	This is an investment made by a company or individual in one country in business interests in another country, in the form of either establishing business operations or acquiring business assets in the other country, such as ownership or controlling interest in a foreign company.
DEGO	Degree of Economic Openness	The percentage that the sum of exports and imports represents over the GDP.
INFL	Inflation, GDP deflator (annual %)	Inflation as measured by the annual growth rate of the GDP implicit deflator shows the rate of price change in the economy as a whole. The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency.

Source: World Development Indicator (2023)

3.3. Estimation Technique and Procedure

Multiple regression analysis provides a means of assessing the degree and character of the relationship between the independent and dependent variables, and the regression coefficients indicate the relative importance of each independent variable in the prediction of the dependent variable (Sekaran & Bougie, 2013). This study adopted the ordinary least squares (OLS) technique for various analyses. The choice of this method is influenced by the optimal properties of OLS, which enable estimates to have minimum variance (Gujarati & Porter, 2009; Koutsoyiannis, 1977).

3.3.1. Statistical Criterion

The squares of the correlation R^2 and adjusted R^2 were used to evaluate the extent to which the explanatory variables were responsible for the changes in the dependent variable of the relationship. The standard error was used to evaluate the statistical significance of estimates. A very low standard error is preferred. Durbin-Watson d statistics test the validity of the assumption of non-autocorrelation disturbances. The research hypotheses were tested based on the significance of the parameter estimates. Considering the *a priori* criteria stated in this study, the conventional t and f values evaluated the individual and collective significance of the variables in the model at the 5% significance level. The null hypothesis is rejected when the computed t or f value is greater than the critical t or f value.

3.3.2. Apriori Expectation

FDNI > 0 (+)
DEGO > 0 (+)
INFL < 0 (-)

4. Results and discussions

4.1. Descriptive Statistics

In this section, we examine the descriptive statistics for both the model variables of interest. Each variable was examined based on the mean and median values. The statistical makeup of the time series under investigation was revealed by the minimum, maximum, and standard deviation. The Jarque-Bera-Bera statistic shows how the series is distributed and evaluates the assertion that the data are normally distributed. Table 2 displays the descriptive statistics for the study, and Figures 1 and 2 show the time-series plot. Skewness and kurtosis were computed for all the variables. In step two, the stationarity properties of the data are ascertained to ensure that the variables are devoid of stationarity defects that may affect the output of the regression equation.

Table 3. Descriptive statistics of the model variables

	GDPGR	FDNI	DEGO	INFL
Mean	4.320114	1.628123	36.16016	16.77771
Median	4.430627	1.487050	36.54016	10.17976
Maximum	15.32916	5.790847	53.27796	75.40165
Minimum	-2.035119	0.183822	16.35219	0.686099
Std. Dev.	4.017196	1.198091	9.393959	15.71815
Skewness	0.435426	1.867129	-0.157258	2.067465
Kurtosis	3.286568	6.889065	2.465263	7.494089
Jarque-Bera	1.120671	38.75935	0.513151	49.72598
Probability	0.571017	0.000000	0.773696	0.000000
Sum	138.2437	52.09992	1157.125	536.8867
Sum Sq. Dev.	500.2737	44.49810	2735.641	7658.868
Observations	32	32	32	32

Source: E-Views 11

The mean (median) of GDPGR of the studied years 1990-2021 was 4.320114(4.430627). The maximum value of GDPGR was approximately 15.32916, whereas the minimum value was-2.035119. The J-B statistic value was 1.120671, with a probability value of 0.571, indicating that the variables were normally distributed.

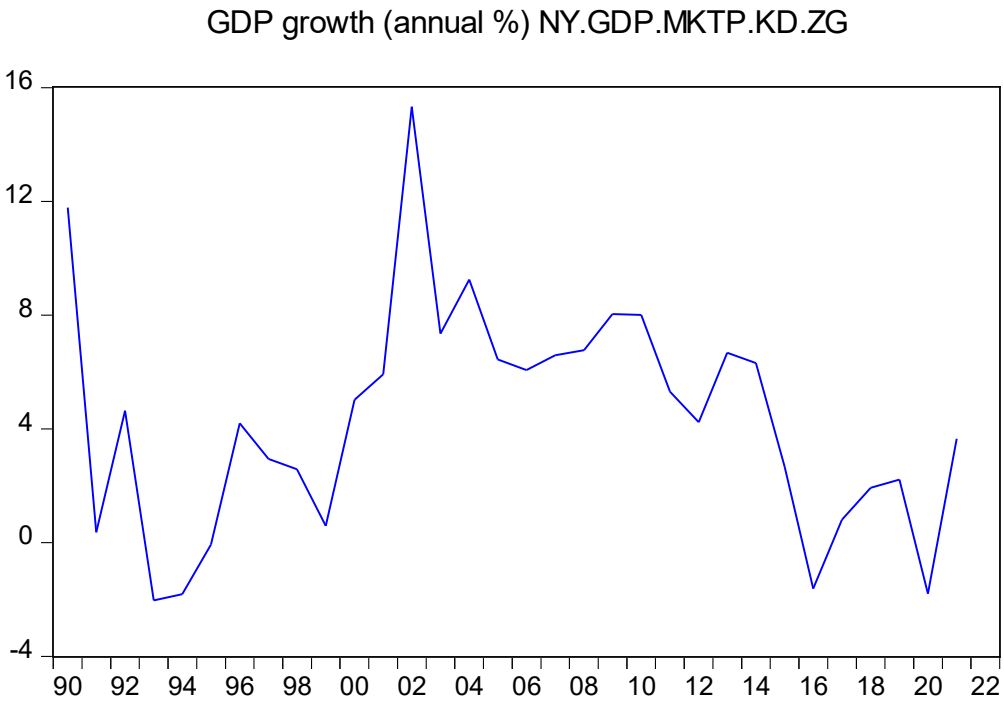

Figure 1. Line graph of GDPGR from 1990-2021

The mean FDNI of the studied years was 1.628123, and the median value was 1.487050. A low standard deviation indicates that the data are clustered around their mean. The maximum value of the FDNI was approximately 5.790847, and the minimum was approximately 0.183822. The J-B statistic value was 38.759, with a probability value of 0.000, indicating that the variables were not normally distributed.

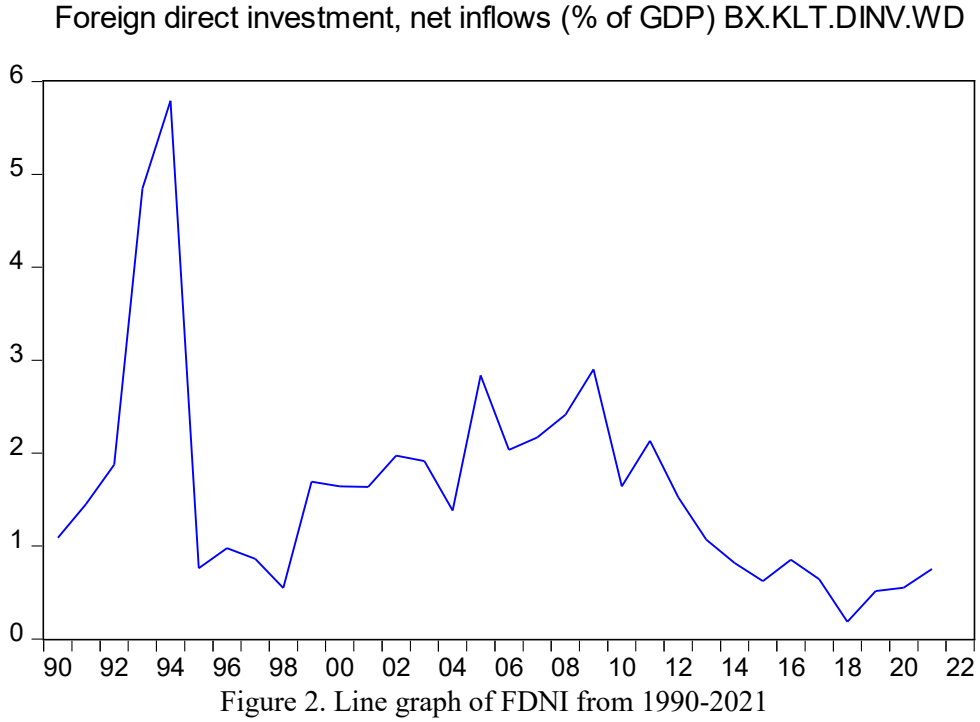

Figure 2. Line graph of FDNI from 1990-2021

The mean DEGO of the studied years was 36.16016, and the median value was 36.54016. A low standard deviation indicates that the data are clustered around their mean. The maximum value of DEGO was approximately 53.27796, and the minimum was approximately 16.35219. The J-B statistic value was 0.513, with a probability value of 0.773, indicating that the variables were normally distributed. The mean INFL for the study years was 16.77771, with a median value of 10.17976. A low

standard deviation indicates that the data are clustered around their mean. The maximum INFL value was approximately 75.40165, and the minimum was approximately 0.686099. The J-B statistic value was 49.725, with a probability value of 0.000, indicating that the variables were not normally distributed.

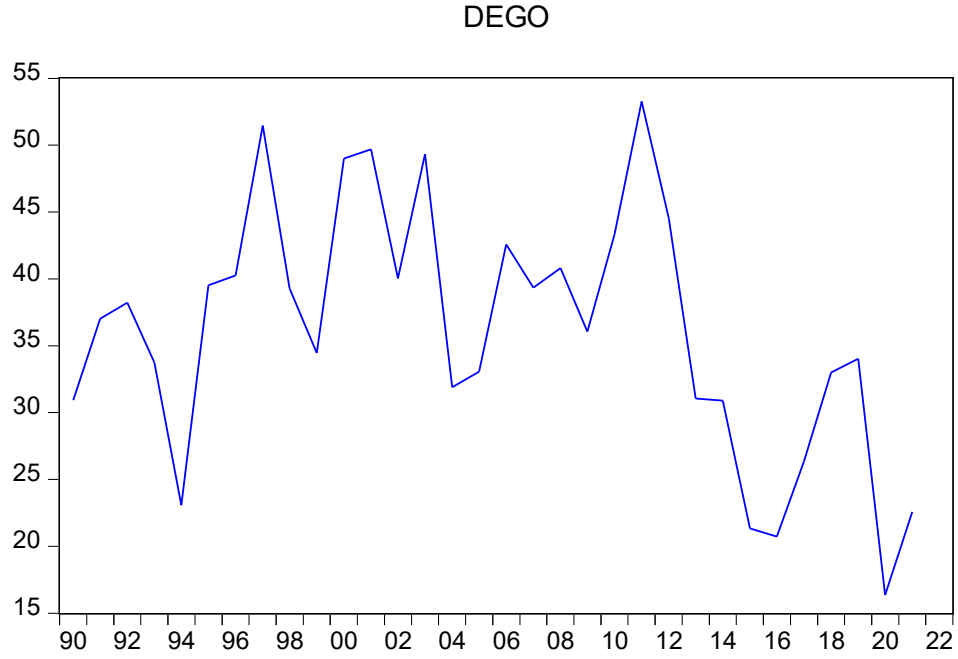

Figure 3. Line graph of DEGO from 1990-2021

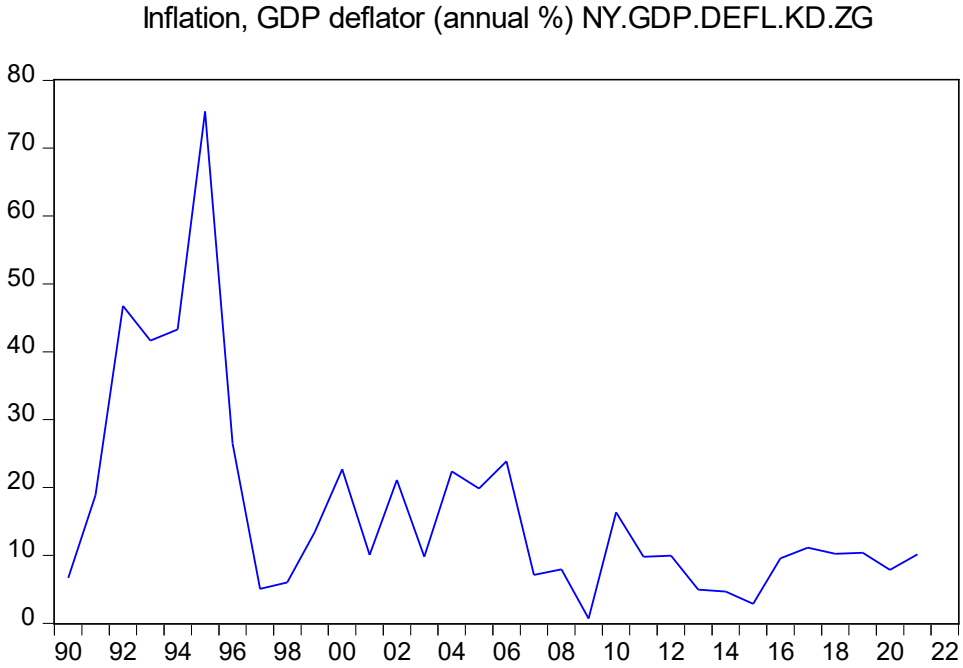

Figure 4. Line graph of INFL from 1990-2021

4.2. Correlation Matrix

To examine the association among the variables, we employed the Pearson correlation coefficient (correlation matrix), and the results are presented in the table below.

Table 4. Correlation analysis of the model variables for the test of the hypothesis

	GDPGR	FDNI	DEGO	INFL

GDPGR	1	0.598877	0.443217	0.301127
FDNI	0.598877	1	0.464183	0.198561
DEGO	0.443217	0.464183	1	0.21507
INFL	0.301127	0.198561	0.21507	1

Source: E-Views 11

In the table above, the GDPGR positively correlates with FDNI (0.598877), DEGO (0.443217), and INFL (0.301127). FDNI was positively correlated with DEGO (0.464183) and INFL (0.198561) (Table DEGO and DEGO were positively correlated with INFL (0.21507).

4.4. Diagnostic Tests

4.4.1. Unit Root Test

The data were subjected to unit root tests using the Augmented Dickey-Fuller (ADF) test. This was carried out using three criteria: intercept, intercept trend, and none. Our results, as depicted in Table 4, reveal that the data have no stationarity defect that may affect the statistical reliability of the regression output.

Null Hypothesis (H_o) : The variable X has a unit root
Alternate Hypothesis (H_1) : The variable X has no unit root

Table 5. ADF test for model-dependent and explanatory variables

Variable			ADF	Prob*
GDPGR	Level	1(0)	-2.571241	0.1120
	First difference	1(1)	-6.708041	0.0000 ***
FDNI	Level	1(0)	-1.886326	0.3318
	First difference	1(1)	-7.562516	0.0000 ***
DEGO	Level	1(0)	-2.255908	0.1931
	First difference	1(1)	-6.183074	0.0000 ***
INFL	Level	1(0)	-2.519710	0.1240
	First difference	1(1)	-5.381278	0.0003 ***

Source: E-Views 11

Note: *, **, and *** denote significance at the 10 %, 5 %, and 1% levels, respectively, whereas 1(0) and 1(1) denote the integration order at the level and the first difference, respectively. The outcomes shown in Table 4 support the stationarity of the data at the first difference (Nwosu et al. 2023).

4.5. Test of Hypotheses

To test the hypotheses stepwise regression was estimated since correlation analysis does not imply a cause-effect relationship (Alvindra, Hutagalung, & Sutiyoso, 2023). The model shows a good fit; thus, residual diagnostics were also conducted to look for serial correlation, heteroscedasticity, and distributional normality. For any model to have a meaningful predictive value, the absence of correlation, presence of homoscedasticity, and normal distribution of residuals are necessary prerequisites.

Table 6. Breusch-Godfrey Serial Correlation LM Test

F-statistic	1.487469	Prob. F(2,26)	0.2445
Obs*R-squared	3.285531	Prob. Chi-Square(2)	0.1934

Source: E-Views 11
Ho: No serial correlation at lag order h

4.5.1. Test of Hypothesis One

H_{o1}: There is no significant effect on the GDP growth rate of the FDI inflow.

Table 7. OLS regression output for the test of hypothesis
Dependent Variable: GDPGR
Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.817098	2.285720	-0.794978	0.4351
FDNI	2.292248	0.881226	2.601203	0.0163
DEGO	0.066470	0.066716	0.996320	0.3299
INFL	0.085502	0.086204	0.991858	0.3321

R-squared	0.419414	Mean dependent var	4.823074
Adjusted R-squared	0.340244	S.D. dependent var	3.605421
S.E. of regression	2.928518	Akaike info criterion	5.127508
Sum squared resid	188.6767	Schwarz criterion	5.321061
Log likelihood	-62.65760	Hannan-Quinn criter.	5.183244
F-statistic	5.297592	Durbin-Watson stat	1.722825
Prob(F-statistic)	0.006678		

Source: E-Views 11

The F-statistic value of 5.297 and its associated p-value of 0.006 show that the regression model is statistically significant at the 5% level, which means that the regression model is valid and can be used for the statistical inference. In the table above, the regression R-squared value of 0.419 and the Adjusted R-squared value of 0.340 show that approximately 34.02% of the systematic variations in GDPGR were jointly explained by the explanatory variables. The Adjusted R-squared value is often preferred to account for sample size adjustments.

4.6. Decision Rule

Since the p-value is less than .05, we reject the null hypothesis and accept the alternate hypothesis; thus, there is a significant effect of foreign direct investment net inflow on the GDP growth rate. The signs of the coefficients of the explanatory variables varied significantly. This evidence, therefore, leads to a rejection of the null hypothesis and acceptance of the alternate: "*There is a significant effect of foreign direct investment net inflow on the GDP growth rate*." The CVs, that is, DEGO (p=0.3299) and INFL (p=0.3321), had a positive but non-significant effect on GDPGR. Egbunike and Oranefo (2023) also find a positive effect of INFL on the ROA of pharmaceutical firms at the 75% quantile.

4.7. Robustness Check

According to studies by Hayakawa and Kurozumi (2008), Kao and Chiang (2001), and others, the dynamic OLS approach entails adding lags and leads to a cointegrating regression to make the resulting cointegrating equation's error term orthogonal to the full history of stochastic regressor innovations.

Table 8. DOLS Cointegrating regression output

Dependent Variable: GDPGR
Method: ML ARCH - (BFGS / Marquardt steps)
Date: 08/30/23 Time: 17:11
Sample (adjusted): 1991 2021
Included observations: 31 after adjustments
Cointegrating equation deterministics: C
Long-run covariance estimate (Prewhitening with lags = 1, Bartlett kernel,
Newey-West fixed bandwidth = 4.0000)

Variable	Coefficient	Std. Error	t-Statistic	Prob.

C	-4.067654	3.381017	-1.203086	0.2394
FDNI	0.779269	0.717595	1.085946	0.2871
DEGO	0.244512	0.085861	2.847749	0.0083
INFL	-0.119726	0.054838	-2.183273	0.0379

R-squared	0.187884	Mean dependent var	4.079573
Adjusted R-squared	0.097649	S.D. dependent var	3.842207
S.E. of regression	3.649796	Sum squared resid	359.6672
Long-run variance	19.89179		

Source: E-Views 11

Using DOLS, the variable FDNI also showed a positive coefficient, DEGO a positive coefficient, and INFL a negative coefficient. The coefficients were only significant for the latter two (since the p-value was less than .05).

4.8. Discussion of Findings

The study finds a significant positive effect of foreign direct investment net inflow on the GDP growth rate. Shinwari et al. (2023) using Afghanistan's FDI and economic growth data analysed using the ARDL technique showed that FDI positively affected economic growth. The results are consistent with Nairobi, Ambya, Afif, and Pratikno (2022), who used data from ASEAN-5 countries and found that FDI is positively associated with GDPPC.

Also, Liu, Luo, Qiu, and Zhang (2014), discovered that FDI supported growth by improving the accumulation of physical and human capital, it also had unfavourable consequences since it led to an interregional growth gap. Consistent with this, Nwaogu and Ryan (2015) examined the effects of FDI, aid, and remittances on the economic growth of SSA countries and discovered that FDI was positive and significant exclusively for SSA nations. Magazzino and Mele (2022) examined the association between FDI and economic growth in Malta from 1971 to 2017 and confirmed this. Using data from the CEE countries, Ciobanu et al. (2020)Ciobanu et al. (2020) showed that FDI inflows are highly positively correlated with GDP growth.

In contrast, using a sample of countries in South Asia and Southeast Asia, Rao et al. (2023) find that FA is negatively associated with FDI and economic growth, whereas FDI is positively associated with the economic growth proxy. Gunby, Jin, and Reed (2017) used meta-analysis to determine whether productivity spillovers from FDI at the firm level had been significant enough to impact China's overall growth. This study found a negligible impact of FDI on economic growth in China. However, Rajan and Subramanian (2008) found little evidence of a positive (or negative) relationship between FDI and economic growth using cross-sectional and panel data. Indeed, Sahoo and Sethi (2017) found that FDI has no favorable impact on India's economic growth.

5. Conclusion

The study concludes that these inflows have a specific and significant effect on the GDP growth rate. This study employed push and pull factors to describe the factors that affect foreign direct investment net inflows (FDI). Therefore, this study recommends that policymakers and stock market regulators develop robust policies that enhance the GDP growth rate.

This encourages authorities, especially in developing countries, to implement policies aimed at increasing economic growth, stock market development, and trade openness to attract more foreign portfolio investments. Furthermore, the degree of economic openness (DEGO) is crucial for countries in SSA to boost domestic investment and is positive in all empirical estimations, as it is positively associated with GDPGR. The emergence of FDI net inflows aids the host nation's development on several fronts, including the adoption of cutting-edge technologies and managerial concepts involving human capital and the flow of beneficial foreign capital.

References

Adigwe, P., Ezeagba, C., & Udeh, F. (2015). Effect of foreign direct investment on Nigerian economic growth. *European journal of research and reflection in management sciences, 3*(5), 28-34.

Agrawal, G. (2015). Foreign direct investment and economic growth in BRICS economies: A panel data analysis. *Journal of Economics, Business and Management, 3*(4), 421-424 https://doi.org 10.7763/JOEBM.2015.V3.221.

Ajayi, S. I. (2006). The determinants of foreign direct investment in Africa: A survey of the evidence. *Foreign Direct Investment in Sub--Saharan Africa: Origins, Targets, Impact and Potential*.

Alemu, A. M. (2017). Analyzing the Effects of Foreign Aid vs FDI on Economic Growth in Africa. *Journal of Economic Development, Management, IT, Finance & Marketing, 9*(2).

Alvindra, A., Hutagalung, S. S., & Sutiyoso, B. U. (2023). Forecasting of local tax realization with least square method in Tanggamus Regency. *International Journal of Financial, Accounting, and Management, 5*(1), 59-73 https://doi.org/10.35912/ijfam.v5i1.1299.

Asiedu, E., & Lien, D. (2004). Capital controls and foreign direct investment. *World Development, 32*(3), 479-490 https://doi.org/10.1016/j.worlddev.2003.06.016.

Awosusi, O. O., & Awolusi, O. D. (2014). Technology transfer, foreign direct investment and economic growth in Nigeria. *Africa Development, 39*(2), 1-20.

Bakkalci, A. C. (2013). Yeni yeni ticaret teorilerinin makro-ekonomik doğası ve Türk ekonomisi. *Yönetim Bilimleri Dergisi, 11*(22), 69-98.

Bassey, E., Amobi, B. N., & Okorie, A. N. (2022). Choice of location for Foreign Direct Investment by multinational corporations: Do tax burden matter? *International Journal of Financial, Accounting, and Management, 3*(4), 349-358 https://doi.org/10.35912/ijfam.v3i4.733.

Blomstrom, M., & Kokko, A. (1997). How foreign investment affects host countries Retrieved from https://documents.worldbank.org/en/publication/documents-reports/documentdetail/992201468765633696/how-foreign-investment-affects-host-countries

Bodman, P., & Le, T. (2013). Assessing the roles that absorptive capacity and economic distance play in the foreign direct investment-productivity growth nexus. *Applied Economics, 45*(8), 1027-1039 https://doi.org/10.1080/00036846.2011.613789.

Borensztein, E., De Gregorio, J., & Lee, J.-W. (1998). How does foreign direct investment affect economic growth? *Journal of international Economics, 45*(1), 115-135 https://doi.org/10.1016/S0022-1996(97)00033-0.

Chete, L. N., Adeoti, J. O., Adeyinka, F. M., & Ogundele, O. (2014). *Industrial development and growth in Nigeria: Lessons and challenges* (9292307401). Retrieved from

Ciobanu, R., Şova, R., & Popa, A. F. (2020). The impact of fdi over economic growth and how covid-19 crisis can impact the CEE economies. *CECCAR Business Review, 1*(4), 64-72.

Damooei, J., & Tavakoli, A. (2006). The effects of foreign direct investment and imports on economic growth: A comparative analysis of Thailand and the Philippines (1970-1998). *The Journal of Developing Areas*, 79-100 https://doi.org/10.1353/jda.2006.0002.

Dixit, A. K., & Stiglitz, J. E. (1977). Monopolistic competition and optimum product diversity. *The American economic review, 67*(3), 297-308.

Diyamett, B., & Mutambla, M. (2014). Foreign direct investment and local technological capabilities in least developed countries: Some evidence from the Tanzanian manufacturing sector. *African journal of science, technology, innovation and development, 6*(5), 401-414 https://hdl.handle.net/10520/EJC165725.

Dollar, D. (1992). Outward-oriented developing economies really do grow more rapidly: evidence from 95 LDCs, 1976-1985. *Economic Development and Cultural Change, 40*(3), 523-544.

Dunning, J. H. (1993). MNEs, technology and innovatory capacity: a host country perspective. *Multinational Enterprises and the Global Economy, Wokingham, United Kingdom and Reading, Mass.: Addison Wesley*.

Egbunike, C. F., & Oranefo, P. C. (2023). Macroeconomic factor, firm characteristics and inventory holding in Nigeria: A quantile regression approach. *International Journal of Financial, Accounting, and Management, 5*(1), 1-17 https://doi.org/10.35912/ijfam.v5i1.1096.

Ekpo, A. H. (1997). Foreign direct investment in Nigeria: evidence from time series data.

Encinas-Ferrer, C., & Villegas-Zermeño, E. (2015). Foreign direct investment and gross domestic product growth. *Procedia Economics and Finance, 24*, 198-207 https://doi.org/10.1016/S2212-5671(15)00647-4.
Erdal, F., & Tatoglu, E. (2002). Locational determinants of foreign direct investment in an emerging market economy: evidence from Tukey. *Multinational business review, 10*, 21-27.
Erdal, L., & Göçer, İ. (2015). The effects of foreign direct investment on R&D and innovations: Panel data analysis for developing Asian countries. *Procedia-Social and Behavioral Sciences, 195*, 749-758 https://doi.org/10.1016/j.sbspro.2015.06.469.
Group, O. B. (2012). *The Report: Nigeria 2012*. Retrieved from
Gujarati, D. N., & Porter, D. (2009). Basic Econometrics: Mc Graw-Hill International Edition.
Gunby, P., Jin, Y., & Reed, W. R. (2017). Did FDI really cause Chinese economic growth? A meta-analysis. *World Development, 90*, 242-255.
Hayakawa, K., & Kurozumi, E. (2008). The role of "leads" in the dynamic OLS estimation of cointegrating regression models. *Mathematics and Computers in Simulation, 79*(3), 555-560 https://doi.org/10.1016/j.matcom.2008.02.027.
IMF. (1993). Balance of Payments Manual
IMF. (2001). International Finance Statistics Yearbook: International Monetary Fund.
Ivarsson, I., & Alvstam, C. G. (2005). The effect of spatial proximity on technology transfer from TNCs to local suppliers in developing countries: the case of AB Volvo in Asia and Latin America. *Economic Geography, 81*(1), 83-111 https://doi.org/10.1080/23792949.2022.2058569.
Johansen, S., & Juselius, K. (1990). Maximum likelihood estimation and inference on cointegration—with appucations to the demand for money. *Oxford Bulletin of Economics and statistics, 52*(2), 169-210 https://doi.org/10.1111/j.1468-0084.1990.mp52002003.x.
Kadah, M. M. (2003). Foreign direct investment and international technology transfer to the south: case study of Egypt.
Kao, C., & Chiang, M.-H. (2001). On the estimation and inference of a cointegrated regression in panel data *Nonstationary panels, panel cointegration, and dynamic panels* (pp. 179-222): Emerald Group Publishing Limited https://doi.org/10.1016/S0731-9053(00)15007-8 .
Koroci, A. (2018). Does FDI influence economic growth in Albania? *Academic Journal of Business, Administration, Law and Social Sciences, 4*(1).
Koutsoyiannis, A. (1977). Theory of econometrics: an introductory exposition of econometric methods. *(No Title)*.
Krugman, P. R. (1979). Increasing returns, monopolistic competition, and international trade. *Journal of international Economics, 9*(4), 469-479.
Kunle, A. M., Olowe, S., & Oluwafolakemi, F. O. (2014). Impact of foreign direct investment on Nigeria economic growth. *International Journal of Academic Research in Business and Social Sciences, 4*(8), 234 https://doi.org/10.6007/IJARBSS/v4-i8/1092.
Kwark, N.-S., & Shyn, Y.-S. (2006). International R&D spillovers revisited: Human capital as an absorptive capacity for foreign technology. *International Economic Journal, 20*(2), 179-196.
Le, T. (2008). 'Brain drain'or 'brain circulation': Evidence from OECD's international migration and R&D spillovers. *Scottish Journal of Political Economy, 55*(5), 618-636.
Le, T., & Bodman, P. M. (2011). Remittances or technological diffusion: which drives domestic gains from brain drain? *Applied Economics, 43*(18), 2277-2285.
Lemma, Y., Kitaw, D., & Gatew, G. (2014). The impact of foreign direct investment on technology transfer in the ethiopian metal and engineering industries. *International Journal of Scientific & Technology Research, 3*(4), April2014.
Liu, X., Luo, Y., Qiu, Z., & Zhang, R. (2014). FDI and economic development: Evidence from China's regional growth. *Emerging Markets Finance and Trade, 50*(sup6), 87-106 https://doi.org/10.1080/1540496X.2014.1013852.
Loukil, K. (2016). Foreign direct investment and technological innovation in developing countries. *Oradea Journal of Business and Economics, 1*(2), 31-40.
Magazzino, C., & Mele, M. (2022). Can a change in FDI accelerate GDP growth? Time-series and ANNs evidence on Malta. *The Journal of Economic Asymmetries, 25*, e00243 https://doi.org/10.1016/j.jeca.2022.e00243.

Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica, 71*(6), 1695-1725 https://doi.org/10.1111/1468-0262.00467.
Nairobi, N., Ambya, A., Afif, F. Y., & Pratikno, D. D. (2022). Ownership rights and ASEAN-5 economic growth. *Studies in Economy and Public Policy, 1*(1), 1-13 https://doi.org/10.35912/SEPP.v1i1.1067.
Nwankwo, O., Ademola, O., & Kehinde, O. (2013). Effects of globalization on foreign direct investment in Nigeria. *Lorem Journal of Business and Economics (LJBE), 1*(1), 11-17.
Nwaogu, U. G., & Ryan, M. J. (2015). FDI, foreign aid, remittance and economic growth in developing countries. *Review of Development Economics, 19*(1), 100-115.
OECD. (1996). Benchmark Definition of Foreign Direct Investment.
OECD. (2023). Official development assistance (ODA). Retrieved from https://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/official-development-assistance.htm
Olokoyo, F. O. (2012). Foreign direct investment and economic growth: A case of Nigeria. *BVIMSR's Journal of Management Research, 4*(1), 1-30.
Osano, H. M., & Koine, P. W. (2016). Role of foreign direct investment on technology transfer and economic growth in Kenya: a case of the energy sector. *Journal of innovation and entrepreneurship, 5*, 1-25 https://doi.org/10.1186/s13731-016-0059-3.
Otepola, A. (2002). Foreign direct investment as a factor of economic growth in Nigeria. *Africa Institute for Economic Development and Planning (IDEP), Dakar, Senegal*.
Park, J. (2004). International student flows and R&D spillovers. *Economics Letters, 82*(3), 315-320.
Porter, M. E. (1998). *Clusters and the new economics of competition* (Vol. 76): Harvard Business Review Boston.
Rajan, R. G., & Subramanian, A. (2008). Aid and growth: What does the cross-country evidence really show? *The review of economics and statistics, 90*(4), 643-665 https://ideas.repec.org/a/tpr/restat/v90y2008i4p643-665.html.
Rao, D. T., Sethi, N., Dash, D. P., & Bhujabal, P. (2023). Foreign aid, FDI and economic growth in South-East Asia and South Asia. *Global business review, 24*(1), 31-47 https://doi.org/10.1177/0972150919890957.
Rutherford, D. (1992). Dictionary of economics *Dictionary of economics*: Routledge.
Sachs, J. D., Warner, A., Åslund, A., & Fischer, S. (1995). Economic reform and the process of global integration. *Brookings papers on economic activity, 1995*(1), 1-118 https://doi.org/10.2307/2534573.
Saggi, K. (2002). Trade, foreign direct investment, and international technology transfer: A survey. *The world bank research observer, 17*(2), 191-235.
Sahoo, K., & Sethi, N. (2017). Impact of foreign capital on economic development in India: An econometric investigation. *Global business review, 18*(3), 766-780 https://doi.org/10.1177/0972150917692198.
Samuelson, P. A. (1939). The gains from international trade. *Canadian Journal of Economics and Political Science/Revue canadienne de economiques et science politique, 5*(2), 195-205 https://doi.org/10.2307/137133.
Sekaran, U., & Bougie, R. (2013). *Research Methods for Business: A Skill-Building Approach*. United Kingdom: Jhon Wiley and Sons Inc.
Seyoum, M., Wu, R., & Yang, L. (2015). Technology spillovers from Chinese outward direct investment: The case of Ethiopia. *China Economic Review, 33*, 35-49 https://doi.org/10.1016/j.chieco.2015.01.005.
Sharma, B., & Gani, A. (2004). The effects of foreign direct investment on human development. *Global economy journal, 4*(2), 1850025 https://doi.org/10.2202/1524-5861.1049.
Shinwari, R., Zakeria, I., Usman, M., & Sadiq, M. (2023). Revisiting the Relationship Between FDI, Natural Resources, and Economic Growth in Afghanistan: Does Political (in) Stability Matter? *Journal of the Knowledge Economy*, 1-30 https://doi.org/10.1007/s13132-023-01264-2.
Soete, L., & Patel, P. (1985). Recherche-développement importations de technologie et croissance économique: Une tentative de comparaison internationale. *Revue économique*, 975-1000.
Solomon, H., & Eka, O. (2013). Impact of foreign direct investment on telecommunication sector on Nigerian economy. *International Journal of Modern Social Sciences, 2*(3), 195-215.

Stolper, W. F., & Samuelson, P. A. (1941). Protection and real wages. *The Review of Economic Studies, 9*(1), 58-73 https://doi.org/10.2307/2967638.
Swenson, D. L. (2004). Foreign investment and the mediation of trade flows. *Review of international economics, 12*(4), 609-629 https://doi.org/10.1111/j.1467-9396.2004.00470.x.
Talwar, S., & Srivastava, S. (2018). Integration of GDP and FDI in Economies at Different Stages of Growth. *Theoretical Economics Letters, 8*(11), 2199-2219 https://doi.org/10.4236/tel.2018.811144.
Todaro, M. (2000). *Economic Development* (7th ed.). England: Addison Wesley Inc.
Umoh, O. J., Jacob, A. O., & Chuku, C. A. (2012). Foreign direct investment and economic growth in Nigeria: An analysis of the endogenous effects. *Current Research Journal of Economic Theory, 4*(3), 53-66 http://www.maxwellsci.com/jp/j2p.php?jid=CRJET.
UNCTAD. (2001). World Investment Report 2001: Promoting Linkages. Retrieved from https://unctad.org/system/files/official-document/wir2001_en.pdf
UNCTAD. (2008). *World Investment Report 2008: Transnational Corporations and The Infrastructure Challenge*. Retrieved from https://unctad.org/system/files/official-document/wir2008_en.pdf
Wang, J.-Y., & Blomström, M. (1992). Foreign investment and technology transfer: A simple model. *European economic review, 36*(1), 137-155.
Yang, S.-F., Chen, K.-M., & Huang, T.-H. (2013). Outward foreign direct investment and technical efficiency: Evidence from Taiwan's manufacturing firms. *Journal of Asian Economics, 27*, 7-17 https://doi.org/10.1016/j.asieco.2013.04.007.
Zhang, C., Guo, B., & Wang, J. (2014). The different impacts of home countries characteristics in FDI on Chinese spillover effects: based on one-stage SFA. *Economic Modelling, 38*, 572-580 https://doi.org/ 10.1016/j.econmod.2014.02.007.
Zhang, K. H. (2001). How does foreign direct investment affect economic growth in China? *Economics of transition, 9*(3), 679-693 https://doi.org/10.1111/1468-0351.00095.