



FOREIGN DIRECT INVESTMENT AND ECONOMIC OUTPUT IN NIGERIA: THE MODERATING ROLE OF EXCHANGE RATE VOLATILITY

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ABSTRACT

The study examined the moderating role of exchange rate on the relationship between Foreign Direct Investment (FDI) and economic output in Nigeria for a period of 10 years covering 2010 to 2019. The Autoregressive distributed lag (ARDL) approach was utilised on secondary data collected from Central bank of Nigeria statistical bulletin. Economic output was measured as gross domestic product (GDP) while exchange rate was annual official exchange rate-end period (N/US\$1.00). The findings revealed a significant and negative influence of exchange rate on the relationship between foreign direct investment and GDP in Nigeria. Therefore, to aid the achievement of benefits of capital flows for sustainable development in the country, it was recommended that government should formulate a stable policy framework that would eliminate volatility in exchange rate; this will contribute significantly towards eliminating systemic risk.

Keywords: ARDL, FDI, Gross economic product, Exchange rate

1. INTRODUCTION

Capital importation, generally termed as “Foreign capital flow” is the bringing of funds into a country from abroad for economic activities. Foreign capital flow, according to Kester (1992), refers to transactions in financial assets between residents in a specific country and residents of different countries. It is the exchange of financial claims between residents and non-residents (Bank for International Settlements [BIS], 2009). Capital importation is a systemic and influent component in global economy. It has been acclaimed to reduce inefficient output fluctuations and global disequilibrium by reallocation of demand and expenditure (Acharya & Bengui, 2018). Moreover, in fragile state economies and developing economies, it



represents additional resources needed to improve economic performance and augment employment opportunities (Iheonu, et al. as cited in Ndubuisi & Abdul, 2018). However, beyond being a significant source of finance, theoretical and empirical evidence indicate that foreign capital flows bridge technology gaps and disparity, enhance managerial skills and develop export markets in the host economy (Laniran, 2019; Nasir, Ahmad & Ahmad, 2016). Furthermore, it also produces greater international financial integration which could potentially raise the depth and scope of domestic financial markets and risk sharing (Yesin, 2015).

Despite the aforementioned advantages of capital importation, some studies argue that capital flows may have destabilizing effects on domestic financial markets. Gourinchas and Obstfeld (2012) and Nguyen, Phan and Lobo (2019) argued that massive capital inflows can lead to greater volatility, credit build-up, asset price booms and higher incidence of financial crisis or systemic banking crisis. Similar studies also revealed that capital flow may “crowd out” domestic investment (Jude, 2019) and worsen certain vulnerabilities, such as amplified business cycles, financial and macroeconomic instability, and banking, sovereign, or currency crises (Yesin, 2015).

Specifically, Ha, Kose and Ohnsorge (2019) explained that procyclical capital inflows could potentially generate larger domestic demand swings and cause greater volatility in output and inflation. Likewise, on the significance of capital flows, Mishkin and Serletis (2016) posited that foreign capital flows heightened the international financial system’s impact on domestic economies. The study further explained that capital inflows could potentially lead to credit booms and excessive risk taking on the parts of banks. These factors can trigger a financial crisis. Wong and Eng (as cited in Chang 2017) also averred that foreign capital can promote financial instability in emerging countries as capital outflows tighten credit availability and lead to financial fragility, devaluation of currency and possibly economic downturn. These effects have been found to be far from homogenous across regions and country groups (Baum, Pundit & Ramayandi, 2017). The heterogeneity may be attributable to varying degree of absorptive capacity due to significant differences in the level of development, natural resources endowment, macroeconomic policies, and political systems and regulations (Baiashvili & Gattini, 2019; Onuoha, Okonkwo, Okoro & Okere, 2018). This justifies the call for studies that adequately consider country specific attributes to ascertain their ability to help or hinder the actualization of the expected impact of aggregates of capital flow on



economic growth. These attributes include geopolitical uncertainties, price instability, weak institutional frameworks, volatile exchange rate fluctuations and volatile oil prices. Therefore, this study examined the moderating role of exchange rate on the relationship between foreign direct investment, a major type of capital flow and economic output in Nigeria.

The rest of the paper is organized as follows: The next section presents literature review. Research methodology is provided in section three. Section four provides results and discussions. Finally, the conclusion is presented in section five.

2. LITERATURE REVIEW

Conceptual Review

Foreign capital flows is defined by Nkoro and Furo (cited in Ekwe & Inyama, 2014) as consisting of the movement of financial resources from one country to another. They consist of cross-border financial transaction recorded in a country's external financial accounts, which produce a change in the assets and liabilities of residents' vis-à-vis non-residents (Claeys, Demertzis, Efstathiou, Raposo, Hüttl & Lehmann, 2017). These flows can be divided into two major categories namely Foreign Direct Investment (FDI) and Foreign portfolio investment (FPI).

Empirical studies have distinguished these two flows in terms of their underlying attributes, motivation, time horizon, purpose or role and impact on the economy. While foreign investment above 10% is classified as FDI, it is FPI when less than 10% (Humanicki, Kelm & Olszewski, 2013). On technicality, Ragan (2016) stated that FDI involved the purchase or sale of assets that alter the legal control of those assets while FPI involves transactions in assets that do not alter the legal control of the assets. Another differentiating feature is that while profit making is the fundamental objective of FPI, FDI establishes a lasting and controlling interest in an enterprise (Musibah et al., 2015; Onuorah & Akujuobi, 2013). Furthermore, Chang (2017) and Nwosa and Adeleke (2017) observed that FDI are often considered long-run flows and more stable, while both FPI flows and other investments are considered short-run flows and more volatile. Concurring, Humanicki et al., (2013) noted that FDI is a much more stable source of financing than other forms of capital flows. These marked differences between the flows emphasize the import of appropriately incorporating the peculiarity of these flows when analysing the concept of foreign capital flow as observed by Chang.



Empirical Review

FDI and Economic performance

Ekwe and Inyama (2014) examined the extent to which foreign capital flows have impacted the growth performance of the Nigeria economy from 1982–2012. The multiple regression analysis method found that foreign capital inflows had a positive effect on economic growth as proxied by GDP. Contrariwise, Agbloyor, Abor, Adjasi and Yawson (2014) revealed that private capital flows had a detrimental effect on economic growth in 14 African countries covering the period 1990–2007. The panel Instrumental Variable Generalized Method of Moments (IV-GMM) estimation had specifically examined the effects of FDI, EFPI, private non-guaranteed debt flows. The study posited that the negative relationship may be attributable to the relatively underdeveloped financial markets in these economies.

In a related study, Hajilee and Nasser (2015) investigated the short-run and long-run relationship between financial market development and FDI in Latin American countries. Financial market development was proxied as banking sector development and stock market development and the value of inward foreign direct investment flow as FDI. In majority of countries, the linkage between the variables were established, however causality test shows that while FDI did not enhance banking sector development it positively affected stock market development. The study lent credence to the submission that the effects of FDI on economic growth depended on the absorptive capacity of host countries. MacDonald (2015) observed a negative correlation between net capital inflows and relative growth in 92 emerging markets. This finding was robust to several measures of economic productivity over the time periods 1980–2010 and 1990–2010. Furthermore, the study revealed that the size and significance of capital flow were conditioned by the level of capital account openness and level of country's financial market development. The series was normalized by GDP to control for the relative size of countries' economies.

Lleshaj and Malaj (2016) examined the interaction between FDI and economic growth in Albania. GDP was the proxy for economic growth. The regression (OLS) and Wald analysis on quarterly data for the period 1996–2013 revealed the existence of a positive significant correlation in both the short and long run. The study also emphasised the applicability of the Solow model in an emerging economy. This result is not consistent with the findings by Ojiambo and Ocharo (2016). Ojiambo and Ocharo had examined the effect of Foreign Aid, FDI and Remittances on economic growth in Kenya using Granger Causality and ARDL procedures. The



findings showed that FDI had a negative effect on economic growth. Foreign aid, on the other hand, exerted a positive and significant effect. Also utilising ARDL approach, Adams and Klobodu (2017) examined the effects of capital flows on economic growth in five SSA countries over the period 1970–2014. The results revealed that the while FDI had a significant positive effect in Burkina Faso, it exerted a negative influence in Gabon and Niger. In Ghana and Senegal, the effects were insignificant. The findings revealed the inconsistency in the effect of FDI within economies at the same income level and also across economies at different levels of development.

Nwosa (2018) investigated the relationship between the FDI and industrial sector growth in Nigeria for the period from 1970 to 2016. The ECM used revealed a negative and significant linkage between both variables. Industrialization is measured by the industrial output (that is the share of industrial output in real GDP less crude petroleum and natural gas sub-sector) while FDI was measured by the annual aggregate net inflow on direct investment in Nigeria. Neanidis (2019) also found a negative effect of FDI, equity and debt flows on economic growth using dynamic system-GMM technique on cross-country data spanning over four decades (78 countries over the period 1973–2013). Distinctly, the paper had examined the conditioning influence of banking supervision regulations on the adverse impact of volatility of capital flows. This negative association persisted in the study by Amadi (2019). Amadi had examined the impact of FDI on economic growth in Nigeria between 1970-2014 utilising OLS. Notably, the study opined that a country's capacity to take advantage of the externalities of FDI might be limited by local conditions within the economy.

Cakerri, Muharremi and Madani (2020) employed VAR and VECM model and found a long-term relationship between FDI and economic growth 2002 to 2017 in Albania. Consistent with Lleshaj and Malaj (2016) results, FDI inflows was found to positively influence GDP. Significantly, the work captured the uniqueness of the economy by including control variables such as financial sector development, trade openness and government expenditure. Similarly, Adekunle, Ogunade, Kalejaiye and Balogun (2020) revealed that FDI and portfolio investment had a significant positive relationship with industrial performance. The study had scrutinised linkage in Nigeria (from 1987 to 2017) utilising the two-step Engle and Granger estimation procedure and the Granger Causality. The effects of remittances inflows and official development assistance were however insignificant. Contrariwise, Anidiobu, Okolie, Onyia and Onwumere (2020) random effect panel regression estimators applied on



annualized data for 32 years (1986-2017) in Economic Community of West African States (ECOWAS) sub-region revealed that external finance had a negative and significant effect on economic growth.

Exchange rate and FDI

Kyereboah-Coleman and Agyire-Tettey (2008) examined the effect of real exchange rate volatility on FDI in Ghana with annual data covering 1970 to 2002. To generate the volatility series, the study aptly used ARCH and GARCH models, while the short and long run linkage between the variables were tested using Engel and Granger cointegration and ECM. The study revealed that exchange rate volatility exerted a negative impact on FDI inflow. Conversely, Sharifi-Renani and Mirfatah (2012) found a positive relationship in Iran using the Johansen and Juselius's cointegration system approach model covering the period 1980 to 2006.

Lily, Kogid, Mulok, Sang and Asid (2014) examined the exchange rate and FDI nexus using annual data on ASEAN economies (Malaysia, the Philippines, Thailand, and Singapore). Except in Thailand, the ECM and ARDL bounds test approach found a significant and negative short run and long-run linkage between exchange rate and FDI for the case of Singapore, Malaysia, and the Philippines. To control for country size, the FDI inflows had been adjusted by dividing the nominal FDI value at current US dollar prices by the GDP at a constant price.

Within the context of low-income countries of Sub-Saharan Africa, Suliman, Elmawazini and Shariff (2015) investigated the effect of the real exchange rate on FDI using a panel data approach and Two-Stage Least Squares method. The findings revealed that depreciation of the real exchange rate increased FDI. The results are robust across different measures. Contrariwise, Vincent, Salubi and Timothy (2017) found that exchange rate had a significant and positive effect on FDI inflows in Nigeria. The study used the OLS estimation technique on annual data spanning 1980-2014.

Exploring the advantage of non-linear methodology, Qamruzzaman, Karim and Wei (2019) investigated the relationship between exchange rate and foreign direct investment in Bangladesh by applying nonlinear ARDL on quarterly data for the period of 1974 to 2016. The results revealed the existence of a long-run asymmetric relationship as exchange rate appreciation decreased FDI flows while depreciation increased FDI. Beyond the difference in direction, the study showed the difference in magnitude of effect (greater intensity for positive sum).



Explicitly accounting for uncertainty and inflationary expectation, Eregha (2019) assessed the effect of exchange rate regimes on FDI flow for West African Monetary Zone (WAMZ). The fixed-effect panel regression model was utilised on data for the period 1980–2016. Generally, the results showed that during period of narrowing current account balance and declining foreign reserves, fixed exchange rate regime hampered FDI flow while the intermediate regime had a significantly positive effect. It should however be noted that conducting cross-country regressions might exhibit several endogeneity shortcomings.

Theoretical framework

Solow Swan Growth model (A Neoclassical growth model)

The Solow-Swan growth model, developed from the neoclassical framework, explains economic growth primarily by the accumulation of physical capital and labor (Hashi & Ericsson, 2019). It is a growth model that explains economic growth by factors such as capital, labour and exogenous technological change. Accordingly, the main thrust of the neoclassical model is that economy can grow by accumulating capital and subsequently sustained by technological change. Therefore since international capital flows increase the capital stock in the host country, it is expected to exhibit a positive relationship with economic growth (Mahembe & Odhiambo, 2014).

Further explaining the positive impact propounded by the model, Neuhaus (cited in Hashi & Ericsson, 2019) identified two channels of growth transmission. Firstly, capital flows will increase level of domestic capital stock and secondly, the technological transfer will sustain the growth in the long run. Mahembe and Odhiambo also explicated that capital flow, specifically FDI can impact economic growth directly through capital accumulation and indirectly via the inclusion of new inputs and foreign technologies in the production function of the host country.

The relevance of this view is its contribution in explaining the disparity between the levels of development across nations which is attributed to the identified scarcity of physical capital in developing economies where there is a wide savings and investment gap (Onuoha, Okonkwo, Okoro, & Okere, 2018).

Criticisms of neoclassical growth models emphasize the fact that within the context of the neoclassical models the remaining or the unexplained variability of output growth is a residual. Meier states that "the residual was initially thought of as a

coefficient of technical advance, but it was quickly recognized to be a composite of the effects of many different sources (Polimeni, Polimeni & Trees, 2007). The Solow growth model ignores human capital. Hamilton and Monteagudo (1997) also argued that while investment in physical capital was significantly important for economic growth, the reasons for this importance may not be fully captured by the augmented Solow growth model.

3. METHODOLOGY

The research design is ex-post facto design. It is a time series study covering the period from 2010 to 2019. Quarterly secondary data on Nigeria’s GDP, FDI, Exchange rate and Inflation rate were sourced from Central Bank of Nigeria Statistical Bulletin 2019. The study adopted the ARDL approach in order to avoid the deficiencies which may arise due to the classification of variables according to their integration order and use of small sample. The ARDL models can be helpful to explore short-run dynamics and long-run relationships

Table 1
Description of Variables

Type	Variables	Proxies
Dependent	Economic Performance	Real GDP
Explanatory	Foreign Direct Investment	FDI
Moderating	Exchange Rate	EXR
Control	Inflation Rate	INF

Model Specification

The baseline model relating FDI to economic growth in Nigeria is specified thus:

$$\Delta Gdp_t = \vartheta_0 + \sum_{i=1}^t \vartheta_1 \Delta Gdp_{t-i} + \sum_{i=1}^t \vartheta_2 \Delta Fdi_{t-i} + \sum_{i=1}^t \vartheta_3 \Delta Inf_{t-i} + \beta_1 Gdp_{t-1} + \beta_2 Fdi_{t-1} + \beta_3 Inf_{t-1} + \varepsilon_t$$

----- (i)

Building on the baseline model, the moderating effects of exchange rate in the FDI-economic growth relationship was investigated by introducing interaction term in a different model. Thus, our empirical model takes the following adjusted form:

$$\Delta Gdp_t = \vartheta_0 + \sum_{i=1}^t \vartheta_1 \Delta Gdp_{t-i} + \sum_{i=1}^t \vartheta_2 \Delta Fdi_{t-i} + \sum_{i=1}^t \vartheta_3 \Delta Fdi_Exr_{t-i} + \sum_{i=1}^t \vartheta_4 \Delta Inf_{t-i} + \beta_1 Gdp_{t-1} + \beta_2 Fdi_{t-1} + \beta_3 Fdi_Exr_{t-1} + \beta_4 Inr_{t-1} + \varepsilon_t$$

----- (ii)

where ϑ_i is the coefficient of the long-run multiplier, and β_i is the coefficient of the short-run multiplier for $i = 1, 2, 3$ and 4.

β_3 and ϑ_3 measure the moderation effects of exchange rate on FDI-economic growth linkage in the short run and long run respectively. A significant interaction variable coefficient represents observed moderation effects.

4. RESULTS AND DISCUSSION

Table 2
Descriptive statistics Result

	GDP	FDI	EXR	INF
Mean	16226.46	357.6400	216.9453	11.83000
Median	16157.60	319.7350	183.3150	11.40000
Std. Dev.	1731.885	197.4183	70.19533	2.737976
Skewness	-0.143298	0.804958	0.424169	0.437286
Kurtosis	2.323166	2.827012	1.288305	2.476484
Jarque-Bera	0.900404	4.369586	6.082629	1.731577
Probability	0.637499	0.112501	0.047772	0.420720

Source: Author's Analysis, 2019.

All the variables except exchange rate exhibit normal distribution as the p-value of their Jarque-Bera statistics are not significant. The values of their standard deviation describe a wide dispersion from their mean in all cases. With regards to kurtosis, a leptokurtic structure was observed for all variables. However, while FDI, EXR and INF were positively skewed, GDP was negatively skewed.

Unit Root Test:

The extract of the Phillips-Perron unit root test is presented in Table 3.

Table 3
Phillips-Perron Unit Root Test Results

Variable	Test Equation	T-Statistics	P-value	Order of integration
LnGdp	Trend & Intercept	-5.598633	0.0002	1(0)
LnFdi	Intercept	-5.863744	0.0001	1(0)
LnExr	Intercept	-5.026076	0.0002	1(1)

Source: Author's Analysis, 2019.



The results presented in Table 3 show that GDP and FDI stationary at I(0) while Exchange rate are I(1). This implies that the variables in the model are a mixture of I(0) and I(1) processes, and hence the appropriate technique would be the ARDL approach.

Baseline Model Results

The P-value of the coefficient of FDI in Table 4, clearly shows that FDI is insignificant in explaining the changes in GDP over the study period.

Table 4
Summary of ARDL Estimates on Effect of FDI on economic growth

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNGDP(-1)	0.160097	0.161641	0.990448	0.3292
LNFDI	0.004363	0.020187	0.216124	0.8302
LNEXR	0.019650	0.162844	0.120667	0.9047
LNEXR(-1)	0.249750	0.170094	1.468307	0.1515
LNINF	-0.221722	0.067935	-3.263722	0.0026
C	7.227464	1.404059	5.147551	0.0000
R-squared	0.673812	Adjusted R-squared		0.624389
F-statistic	13.63373	Prob (F-statistic)		0.000000
Durbin-Watson stat	1.925083			

Source: Author's Analysis, 2019.

The result of the baseline model presented in Table 4 revealed an insignificant relationship between FDI and economic growth.

Interaction Model Results: Estimates on the Moderating Effect of Exchange Rate in the FDI-Economic Growth Relationship

Table 5
Summary of ARDL, Bound Test and Diagnostic tests

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNGDP(-1)	0.196122	0.128218	1.529599	0.1366
LNGDP(-2)	-0.601106	0.127267	-4.723171	0.0001
LNFDI	-0.405104	0.055031	-7.361431	0.0000
LNFDI_LNEXR	0.078374	0.010676	7.340883	0.0000
LNINF	-0.999531	0.288819	-3.460751	0.0016
LNINF(-1)	1.314087	0.505911	2.597469	0.0144
LNINF(-2)	-0.719511	0.268846	-2.676295	0.0119
C	14.53086	1.681428	8.641975	0.0000
R-squared	0.805894	Adjusted R-squared		0.760602
F-statistic	17.79351 (F-statistic)		Prob	0.000000
Durbin-Watson stat	1.967376			
Bounds tests Result				
F-Stats	16.085			
Diagnostic Tests Results				
Diagnostic Tests	F-Statistics	P-value		
Autocorrelation	0.0064	0.936		
Heteroskedasticity	0.162246	0.6895		
Serial correlation	0.131298	0.8775		
Ramsay Reset	1.242642	0.2741		
Normality	0.954067	0.620622		

Source: Author's Analysis, 2019.

Table 5 shows that after the introduction of the interaction term, the effect of FDI became negative and significant which is an indication that exchange rate plays a vital role in the impact of FDI on economic growth. Specifically, the results reveal that 1% increase in FDI decreases GDP by 40%.

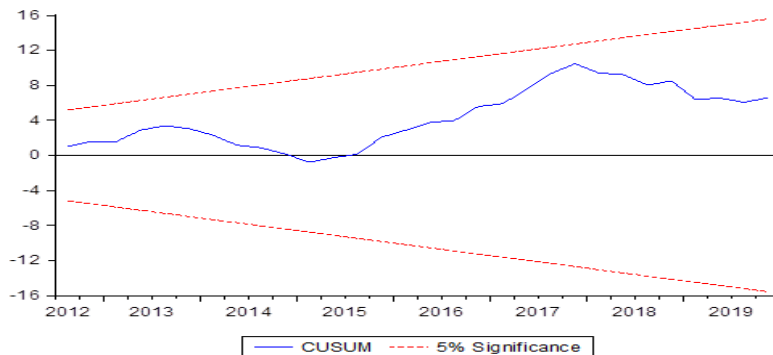
Turning our attention to the interaction term, we find a positive and significant coefficient hence there is strong evidence that exchange rate mitigate the negative growth effect induced by capital flows. This provides an indication that exchange

rate moderates and reduces the adverse impact of FDI on economic growth in Nigeria.

Furthermore, the long run results as presented in Table 6, is consistent with the short run effect as the interaction terms have a positive and significant effect while FDI exerted negative and significant effects. The high R-squares of the ARDL models suggest the high explanatory values of the models.

The existence of a long run relationship is revealed as the F-Statistics of the bound test (16.085) is higher than the upper bound value of 4.35. Furthermore, the diagnostic tests showed the absence of heteroscedasticity, serial correlation, and model misspecification. The CUSUM output also proved that the model was stable.

Figure 1
Cusum Result



The negative effect of FDI on GDP revealed by the study is consistent with the findings of Agbloyor, et al. (2014), Amadi (2019), Nwosa (2018) and Ojiambo and Ocharo (2016). The adverse effect, as explained by Lensink & Morrissey (cited in Neanidis, 2019) may be due to the procyclical nature of capital flows, relatively small equity markets and widespread corruption in most developing economies. Aside from these pertinent justifications, the effect of macroeconomic structure of economy is also valid as the positive effect of the interaction term within the model of this study implied that increase in Nigerian exchange rate, increased the negative effect of FDI on economic growth. The findings however differ from the works of Ekwe and Inyama (2014), Lleshaj and Malaj (2016) Cakerri, et al. (2020) and



Adekunle, et al. (2020). These studies had supported the applicability of Solow model.

5. CONCLUSION AND RECOMMENDATION

Empirical evidence of inconsistent interactions between FDI and economic performance has been attributable to variability in the nature of flows, the level of financial development of the economy, macroeconomic policies or country characteristics. This strongly suggests that the acclaimed growth inducing attribute of FDI might be deterred by local conditions; therefore, this paper examined the moderating role of exchange rate in the linkage between FDI and economic growth in Nigeria.

Diverging from the postulation of Solow growth model, the ARDL approach revealed that FDI had a considerable negative impact on economic growth in Nigeria. The study also identified exchange rate as an important determinant of this negative effect of FDI. Specifically, throughout the period 2010 to 2019, the sustained increase in exchange rate dampened the potential benefit of FDI as posited by the Solow model. This result supports the view that the impact of foreign flows in an economy is significantly dependent on the conducive structures that have been identified as essential for accruable benefits of foreign flows.

Owing to the significance of exchange rate as a moderator in the FDI-growth relationship in Nigeria, it is recommended that the Nigerian government should formulate a stable policy framework that would eliminate volatility in exchange rate; this will contribute significantly towards eliminating systemic risk and aid the achievement of benefits of capital flows for sustainable development in the country. Furthermore, CBN should develop macroeconomic structures and policies which shall complement the foreign integration. Finally, based on the results of the study, the government should institute reforms related to domestic resource mobilization through substantial increases in savings and domestic investment in Nigeria which may create higher levels of growth and more effective poverty reduction.



REFERENCES

- Acharya, S., & Bengui, J. (2018). Liquidity traps, capital flows. *Journal of International Economics*, 114(C), 276-298. <https://doi.org/10.1016/j.jinteco.2018.06.005>
- Adams, S., & Klobodu, E. K. M. (2017). Capital flows and economic growth revisited: Evidence from five Sub-Saharan African countries, *International Review of Applied Economics*, 2017, 1-21. <https://doi.org/10.1080/02692171.2017.1355357>
- Adekunle, I. A., Ogunade, A. O., Kalejaiye, T. G., & Balogun, A. M. (2020). Capital inflow and industrial performance in Nigeria: Including the excluded, AGDI Working Paper, No. WP/20/021, African Governance and Development Institute (AGDI), Yaoundé
- Agbloyor, E. K., Abor, J. Y., Adjasi, C. K. D., & Yawson, A. (2014). Private capital flows and economic growth in Africa: The role of domestic financial markets. *Journal of International Financial Markets, Institutions and Money*, 30, 137–152. <https://doi.org/10.1016/j.intfin.2014.02.003>
- Amadi, C. (2019). FDI and economic growth in Nigeria: an analysis of the role of financial development on linkages. (Doctoral dissertation, Manchester Metropolitan University, Manchester, England). Retrieved from <https://e-space.mmu.ac.uk/id/eprint/622600>
- Anidiobu, G.A., Paschal Okolie, P.I.P., Onyia, C.C., Onwumere, J.U.U. (2020). Impact of foreign capital inflow on economic growth in ECOWAS sub-region. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 10 (1), 172-188
- Baiashvili, T., & Gattini, L. (2019). *Impact of FDI on economic growth: The role of country income levels and institutional strength*. (EIB Working Paper No. 2020/20). Retrieved from European Investment Bank website: <https://library.oapen.org/handle/20.500.12657/43430>
- Baum, C., Pundit, M., & Ramayandi, A. (2017). *Capital Flows and Financial Stability in Emerging Economies*. (ADB Working Paper No. 179090-2. Retrieved from Asian Development Bank website. <http://dx.doi.org/10.22617/WPS179090-2>



- Cakerri, L., Muharremi, O., & Madani, F. (2020). An empirical study in Albania of foreign direct investments and economic growth relationship. *International Journal of Economics and Financial Issues*, 10(2), 193-202
- Central Bank of Nigeria Statistical Bulletins 2019
- Chang, C. (2017). *Capital flows, financial markets and banking crises*, (1st ed). New York, USA: Routledge
- Claeys, G., Demertzis, M., Efstathiou, K., Raposo, I. G., Huttl, P., & Lehmann, A. (2017). *Analysis of developments in EU capital flows in the global context; Taking the perspective of the capital markets Union*. (EC Report No. FISMA/2016/032/B1/ST/OP). Retrieved from European Commission website. https://www.bruegel.org/wp-content/uploads/2018/01/171215study-bruegel-capital-flows_en.pdf
- Ekwe, M. C., & Inyama, O. I. (2014). Foreign capital flows and growth of the Nigeria economy: An empirical review. *International Journal of Economics and Finance*, 6(4), 103-109. doi:10.5539/ijef.v6n4p103
- Eregha, P. B. (2019): Exchange rate regimes and foreign direct investment flow in West African monetary zone (WAMZ), *International Economic Journal*, DOI:10.1080/10168737.2019.1669689
- Gourinchas, P.-O., Obstfeld, M., 2012. Stories of the twentieth century for the twenty-first. *American Economic Journal: Macroeconomics*, 4 (1).
- Ha, J., Kose, A., & Ohnsorge, F. (2019). *Inflation in emerging and developing economies: Evolution, drivers, and policies*. Washington, DC: World Bank. <https://doi.org/10.1596/978-1-4648-1375-7>.
- Hajilee, M., & Nasser, O. M. (2015). The relationship between financial market development and foreign direct investment in Latin American countries. *The Journal of Developing Areas*, 49(2), 227-245
- Hamilton, J. D., & Monteagudo, J. (1998). The Augmented Solow Model and the Productivity Slowdown, *Journal of Monetary Economics*, Elsevier, 42(3), 495-509



- Hashi, M., & Ericsson, W. (2019). The effects of foreign direct investment on economic growth in OECD countries. (Bachelor Project) Jonköping International Business school, Jönköping, Sweden
- Humanicki, M., Kelm, R., & Olszewski, K. (2013). *Foreign Direct Investment and Foreign Portfolio Investment in the Contemporary Globalized World: Should They Be Still Treated Separately?* (Working Paper No. 167) Retrieved from National Bank of Poland website. <https://doi.org/10.2139/ssrn.2369231>
- Jude, C. (2019). Does FDI crowd out domestic investment in transition countries? *Economics of Transition and Institutional Change*, 27(1) 2019, 163–200. <https://doi.org/10.1111/ecot.12184>
- Kyereboah-Coleman, A., & Agyire-Tettey, K. F. (2008). Effect of exchange-rate volatility on foreign direct investment in Sub-Saharan Africa. *The Journal of Risk Finance*, 9 (1), 52 – 70. <http://dx.doi.org/10.1108/15265940810842410>
- Laniran, T. J (2019). Capital flows interactions in a fragile state: Evidence from Nigeria. *African Journal of Economic Review*, 7(1), 57-84
- Lily, J., Kogid, M., Mulok, D., Sang, L. T., & Asid, R. (2014). Exchange rate movement and foreign direct investment in Asean economies. *Economics Research International*, Article ID 320949. <http://dx.doi.org/10.1155/2014/320949>
- Lleshaj, A., & Malaj, A. (2016). The impact of foreign direct investments (FDIs) on economic growth: The solow model in the case of Albania. *European Journal of Economics and Business Studies*, 2 (1), 153-163.
- MacDonald, M. (2015). *Patterns of international capital flows and productivity growth: New evidence*. (Working Paper No. 1345), Retrieved from Queen's Economics Department website. <https://ideas.repec.org/p/qed/wpaper/1345.html>
- Mahembe, E., & Odhiambo, N. M. (2014). Foreign direct investment and economic growth: A theoretical framework. *Journal of Governance and Regulation*, 3 (2), 63 – 70



- Mishkin, F. S., & Serletis, A. (2016). *The Economics of Money, Banking and Financial Markets, Canadian Edition* (6th ed.). North York, Canada: Pearson.
- Musibah, A. S., Shahzad, A., & Fadzil, F. H. (2015). Impact of foreign investment in the Yemen's economic growth: The country political stability as a main issue. *Asian Social Science*, 11(4), 102-116. [https://doi:10.5539/ass.v11n4p102](https://doi.org/10.5539/ass.v11n4p102)
- Nasir, M. A., Ahmad, F., & Ahmad, M. (2017). Foreign direct investment, aggregate demand conditions and exchange rate nexus: A panel data analysis of BRICS economies. *Global Economy Journal* 2017. [https://doi10.1515/gej-2016-0012](https://doi.org/10.1515/gej-2016-0012)
- Ndubuisi, O. C., & Abdul, S.O. (2018). Capital flow components and industrial sector performance in Nigeria. *Ovidius University Annals: Economic Sciences Series*, 48-57.
- Neanidis, K. C. (2019). Volatile capital flows and economic growth: The role of banking supervision. *Journal of Financial Stability*, 40 (2019) 77–93
- Nwosa, P. I. (2018). Foreign direct investment in Nigeria: Its role and importance in industrial sector growth. *Acta Universitatis Danubius*, 14 (2), 41-52
- Nwosa, P. I., & Adeleke, O. (2017). Determinants of FDI and FPI volatility: An E-GARCH approach, *CBN Journal of Applied Statistics*, 8(2), 47-67
- Ojiambo, E., & Ocharo, K. N. (2016). Foreign capital inflows and economic growth in Kenya. *International Journal of Development and Sustainability*, 5(8), 367-413
- Onuorah, A. C., & Akujuobi, L. E. (2013). Impact of macroeconomic indicators on the performance of foreign portfolio investment in Nigeria. *European Journal of Business and Management*, 5(2), 81-90
- Onuoha, F. C., Okonkwo, I. C., Okoro, P., & Okere, K. (2018). The causal relationship between foreign direct investment (FDI) and the macro-economy of selected West African countries: Panel ARDL/Granger causality analysis. *African Research Review*, 12 (1), 140-163



- Polimeni, J. M., Polimeni, R. I., & Trees, S. W. (2007). Extending the augmented solow growth model to explain transitional economies. *Romanian Journal of Economic Forecasting, 1*, 65 -76
- Qamruzzaman, M., Karim, S., & Wei, J. (2018). Does asymmetric relation exist between exchange rate and foreign direct investment in Bangladesh? Evidence from nonlinear ARDL analysis. *Journal of Asian Finance, Economics and Business, 6 (4)*, 115-128
- Sharifi-Renani, H., & Mirfatah, M. (2012). The impact of exchange rate volatility on foreign direct investment in Iran. *Procedia Economics and Finance, 1 (2012)*, 365 – 373
- Suliman, A., Elmawazini, K., & Shariff, M. Z. (2015). Exchange rates and foreign direct investment: evidence for sub-saharan Africa. *The Journal of Developing Areas, 49(2)*, 203-226. <https://doi: 10.1353/jda.2015.0036>
- Vincent, A. E., Salubi, I. L., & Timothy, P. (2017). Evaluating the effect of exchange rate on foreign direct investment (FDI) in Nigeria. *Journal of Academic Research in Economics, 9(1)*, 34-48.
- Yesin, P. (2015). Capital flow waves to and from Switzerland before and after the financial crisis. *Swiss Journal of Economics and Statistics, 151 (1)*, 27-75