

Impact of Capital Flight in Developing Countries: A Threat to National Solvency and Economic Growth in Nigeria.

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Abstract

Irrespective of development status, capital flight poses a great danger to national economies as it symbolises a share of foregone investment and therefore set a foundation to other economic challenges. By depriving the country of the extremely desired financial resources, economic mismanagement aggravated by inappropriate policy measures have triggered the capital flight in Nigeria. In view of that, this study examines the impact of capital flight on economic growth in Nigeria using annual time series data spanning 1980 to 2019. Data are collected through different sources and are analysed using the Autoregressive Distributed Lag (ARDL) model. Findings indicate the presence of a long-run and short-run relationship between real GDP, capital flight, foreign reserve, external debt, and domestic investment in Nigeria. In addition, the impact of various coefficients shows that capital flight has a negative and significant impact, while foreign reserve, external debt, and domestic investment show a positive impact on economic growth in the long-run period. As a result, government should design a feasible economic reform measures to curtail the rising wave of capital flight. These economic reforms must be targeted toward sound macroeconomic stability, ensure transparency and accountability in the management of public resources as well as creating a favourable atmosphere for increase domestic production.

Keywords: *capital flight, economic growth, foreign reserve, external debt, domestic investment, ARDL model, Nigeria.*

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I. Introduction

International transactions constitute a significant proportion of aggregate economic activities in Nigeria. Like other developing nations, the country's economic prospects largely depend on foreign interdependence, but this is marred by the raising trend of capital flight. The size of capital flight in developing countries is assuming a stern dimension and poses a humongous menace to sustainable growth most particularly to the African continent. Numerous African countries are losing more resources through capital flight that via debt servicing; because the private assets held abroad that are accumulated via capital flight are greater than the external debt stock in Africa, hence the continent is becoming a net creditor to the rest of the world. Given these scenarios, capital flight represents bygone investments and other productive opportunities in producing technical machineries and equipment as well as human capital development. It also deprives an economy from generating sustainable revenues capable of reducing the size of deficit and limiting public spending on investment programmes. The inadequacy of investment fund due to growing trend of capital flight have resulted to huge increase in debt crisis, greater inflationary pressure and underdeveloped financial system. This scenario will result in decrease foreign and domestic investments thereby affecting the growth prospect of the country. Capital flight is also an outcome of corruption, weak regulations and poor enforcement of guidelines at the domestic and foreign stages. It is also a threat to the limited financial resources at the disposal of developing countries, tax revenue capacity, and the national solvency. In as much as there is continuity in capital flight, the Nigerian government efforts to reduce poverty and ensure sustainable development will be hampered.

Since the debt crisis of early 1980's, there has been profuse studies on the illicit capital outflows of domestic capital in response to anticipation or changes in domestic policies and political instability. Over time, this awkward situation of gigantic capital outflows became an indicator of a country's economic settings. The situation affects the aggregate economic system and was regarded as a distinctive element to the investment climate in an economy; also a determinant for a private investor. It is established that developing economies that are mouthful in capital flight are expected to have a weak economy due to debt burden and low economic performance. The capital flight is an essential variable which measure a country's capability in managing capital investments and other wealth in contrast to foreign debt repayment, and also a significant indicator to financial institutions in prospective business transactions for those countries netted by the effects of capital flight. The illicit capital transfer will outflow the tax base of an economy since any transferred fund to other

countries is no longer part of domestic resources, thereby resulting in a decreased social welfare, rapid economic instabilities and current account deficits. The fundamental variables to adjust this deficit include the foreign direct investment, portfolio investment, remitted funds from migrants, and other external sources. Because of the high fluctuating nature of the external sources, they can suddenly affect the sustainability of balance of payment account and exchange rate.

In spite of the numerous long-term capital investment and other private transfers, constant deficit in balance of payment and weak growth rate in various developing countries including Nigeria are related to capital flight. Over many years in Nigeria, substantial proportion of financial resources design for social infrastructure and capital investment have been windswept through capital flight, hence the country has the largest incidence of capital flight among Sub-Saharan African economies between 1970s to 1980s. Also, capital flight is estimated to be larger (10 times) than annual foreign aid, and twice the sum of debt repayment annually. This scenario therefore drains the limited resources and critically weaken the combined efforts to achieve sustainable growth in the country. More so, the ability of the government to finance public projects and other social services are hindered. For the country, the pace of growth and development is therefore reduced relative to it planned outcome. The disheartening incident involves a decrease in current output level and deterioration in future growth potentials. Consequently, government tax revenue declines thereby denying countries of capital wealth that can support the economies in the event of fiscal instabilities and other necessities related to developmental investment programmes.

To assist the Nigerian economy and other developing nations tackle this menace, both national and international policy debates have tended to concentrate on mobilisation of domestic and foreign financial resources in support of economic growth. This has resulted to increase developmental aids and other initiatives to enhance the efficiency of the succour. According to the UNDP (2014), the official development assistance from OECD members to Sub-Saharan Africa doubled in absolute terms between the periods of 2000 to 2010 from USD 14.5 billion to USD 29.5 billion. It is interesting to establish that for every dollar inflow (official development assistance) into the developing countries in 2012, ten dollars goes out in the form of illicit capital flows. Within this time frame, capital flight from developing economies amplified from \$465 billion to \$1,091 billion US dollars, recording a growth rate of over 12% annually. The accelerating pace of increased illicit capital outflows denote a poor governance and worsening policy regulations. The movement of these illicit funds are facilitated by the global financial system comprising of secrecy jurisdictions, money laundering approach, tax havens, unnamed bank accounts, disguised corporations, and trade mis-invoicing. The massive outflow of fund through capital flight in Nigeria has destruct the growth potentials of the economy, drain the nation's foreign reserve and deter capital investments. These outcomes also affect the investment climate and established a direct impact on the expected risk and returns.

A considerable number of studies are available in the literature on the relationship between capital flight and economic growth in Nigeria (Effiom, Achu, & Edet, 2020; Orimolade & Olusola, 2018; Ogbonnaya & Ogechukwu, 2017; Clement & Ayodele, 2016, etc), but little attention was given to critical macroeconomic indicators especially domestic investment and external debt on how they influence an outcome in the analysis of capital flight. Based on the current size of capital flight and the fluctuating nature of economic growth in Nigeria, it becomes necessary to examine this phenomenon. Furthermore, this study significantly contributes to the academic community and differ with the previous literature in that the analysis is conducted using a recent data estimate computed by the Global Financial Integrity (GFI). The GFI uses a robust approach to record illegal capital flows; it cogitates on the differences in the balance of payments data and trade statistics reported to International Monetary Fund (IMF) to detect flows of capital that are illegally earned, transferred or utilised.

The rest of this study is categorised into sections as follows: section 2 presents the transmission channels of capital flight in developing countries including Nigeria; section 3 presents the synthesised empirical literature across both developed and developing economies; section 4 identifies the various sources of data and the technique of analysis; section 5 shows the results and other empirical findings including the diagnostic tests; and finally; section 6 provides the concluding remarks and policy implications.

II. Transmission Channels of Capital Flight in Developing Countries

There are various means through which capital flight can occurs, such that it becomes difficult and challenging to provide a thorough catalogue of the conduits. Once the flow of capital flight has started, there is no calm approach to instantly halt the situation. Conventionally, most people are regarded as being risk-averse. Meaning that, they favour a guaranteed return on investment capital. As such, they attempt to circumvent losses and risks as far as possible to expanding their wealth in order to maximise return on investment. Therefore, there is correlation between risk-averse individual and the capital flight. In the economic literature, there are many factors identified as the major transmission mechanism of capital flight in developing countries including Nigeria; and they include the followings:

a. *Anticipated devaluation of local currency:*In major developing countries including Nigeria, the common channel for capital flight is the anticipation or fear of currency devaluation. No investor either local or foreign wants to hold an asset that may suddenly lose its value abruptly. Such rumours or anticipated fears of devaluation can prompt capital outflows. High expectations of devaluation now become the source of economic challenge; as the withdrawals of deposit by upset clients may result to financial instability. This scenario mostly occurs when the exchange rate is not stable in domestic financial market and fluctuations in commodity export prices. When exchange rate is overvalued, it implies that economic agents would forecast a future depreciation. Initial depreciation would make foreign commodities to become costly relative to domestic goods. In order to avoid future losses, citizens will prefer to keep their capital in foreign economies, hence resulting to capital flight.

b. *Capital control:*Capital control may also decrease the confidence in local financial markets and ensure that transferred capital to developed countries probably do not return. Capital control encourages black market for foreign currency and other expensive processes of evasion, as seen in Nigeria where bureau de change operators are on the increase. Business operators who either import or export commodities can also export capital funds by over-invoicing the value of import or under-invoicing the value of export earnings. Before the year 1973, whenever the fixed exchange rate regime fails, most developing countries and also the US fall back to capital control. This measure deteriorates and reduces the investors' confidence in domestic financial market while discouraging the return of already-flown capital flight. A viable approach to hinder the rising trend of capital flight is to ensure that holding domestic currency is more attractive by keeping it undervalued relative to other foreign currencies especially the US dollar, or by keeping it overvalued and raising high the domestic interest rate. One of the demerit of raising interest rate high is that the cost of import for essential commodities would be expensive which may decrease the domestic capital flight.

c. *Borrowed funds:*Many developing countries borrowed capital funds from the international financial institutions and other lending agencies for developmental purposes. Regrettably, large portion of this fund return back to the lenders through capital flight. As a result, the common populace are allowed to bear the burden of interest and loan repayment. More to that, external borrowing typically depicts that a country is under performing or the investment climate is not conducive which prompts capital flight. External borrowings are usually used to finance illicit movement of capital. In some instances, business dealings are solely conducted via the financial institutions and such may not be accounted in the domestic country. As mentioned previously, government transfer the burden of external borrowings to the generality of the populace through the imposition of higher taxes. On the contrary, the citizens try to escape such heavy tax burden by keeping their financial resources in foreign economies which result to capital flight.

d. *Precious metals:* Precious metals and collectibles in addition to work of arts are another essential channel of capital movement. In Nigeria, local currency is converted into gold, silver or other precious metals, precious stones, jewellery and other similar assets. These precious metals are not only transferred overseas but they also retain, if not appreciate their value. The market prices of these items are frequently high in foreign currency. Typically, there are public sector laws that always tend to limit, check and prohibit imports and exports of such items. Foreign transaction or movement of these items across borders are usually through conducted smuggling and other underground economic channels.

e. *Foreign aid:*Ordinarily, foreign aid or foreign assistance is envisioned to provide succour in fighting poverty in afflicted countries or be utilised for infrastructural development. Unfortunately, fraudulent public officeholders, non-governmental organisations and company operators explore various means of channelling this international support to foreign countries via capital flight, hence becomes difficult for the economy to finance public and other productive private investment.

f. *Trade mis-invoicing:* This is the most common and popular channel of illegal movement of capital resources to foreign countries. It is usually related to changes in the value and size of the traded commodities. This form of illegal capital transfer is conducted predominantly by multinational corporations due to their presence, influence and size in the global business environment. Their presence and operation capacity allow them to perform inter-subsidiary transfers between countries which encourage and facilitate capital flight. In this case, the expectation is that exporters will analytically involve in under-invoicing while over-invoicing in the case of importers. In the process, they obtain colossal foreign currencies that cannot be accounted for or recorded in the domestic economy. The mechanism for conducting this menace is that business suppliers in foreign countries issued an invoice to the importer which usually exceed the actual amount of the transaction. On receipt of the excess foreign currencies, the importer deposits such funds in foreign financial institutions as his property. For the exporter, the invoice is issued in foreign currencies for the amount usually lower than the actual transactions, while the remnants are kept in foreign financial institutions as personal wealth of the exporter.

III. Empirical Review of Literature

Various studies on the impact of capital flight on economic growth and other macroeconomic indicators have been conducted across both developed and developing economies with varying outcomes and conclusion. A good number of such studies are reviewed and synthesised including Salandy and Henry (2017) who investigate the relationship between capital flight, domestic investment and economic growth in the small resource based economy of Trinidad and Tobago by employing the Vector Error Correction Model (VECM) covering the period of 1971 to 2011. Result shows that capital flight is a fundamental problem that affects economic growth and domestic investment. Likewise, Cheung, Steinkamp and Westermann (2016) investigate the illicit capital flows in China which is perceived to be a non-negligible channel through which Chinese capital interacts with the rest of the world, and further observed a pattern change in the country's capital flight in post-2007 period. Result shows that china's capital flight pattern and its determinants are affected by the crisis event. More so, there is uncertainty of understanding both china's capital flight and its underlying driving forces, and thereby indicates a weakened effect in the post-2007 sample.

In addition, Asongu and Amankwah-Amoah (2018) evaluate the thresholds at which military expenditure moderates the effect of terrorism on capital flight by utilising a panel data of 37 African countries covering the period of 1996 to 2010. Based on ordinary least square, fixed effect regression, general method of moment, and quantile regression; result shows that a critical mass of between 4.224 and 7.363 of military expenditure as a percentage of GDP is needed to reverse the negative effect of terrorism on capital flight. Moreover, Ahmad and Sahto (2015) examine the relationship between capital flight and its determinants comprising of foreign direct investment, external debt, exchange rate, foreign reserves, growth rate of gross domestic product, and inflation. Using the residual method to calculate the model coefficients for the period of 1971 to 2011, finding indicates the existence of long-run relationship among the variables, and an adverse effect between capital flight, exchange rate and other determinants. Correspondingly, Gouider and Nouira (2014) determine the role of the misalignment of the real exchange rate in capital flight for a sample of developing countries over the period spanning 1980 to 2010. By adopting a method proposed by World Bank, result shows that a strong exchange rate overvaluation can encourage capital flight, while a strong undervaluation may discourage capital flight.

Similarly, Ogbonnaya and Ogechuckwu (2017) examine the impact of illicit financial flows on economic growth and development in Nigeria using annual time series data covering the sample period of 1980 to 2015. Using a cointegration analysis, results show the presence of long-run relationship among the variables, and that illicit financial flows had a significant impact both on economic growth and development in Nigeria. Another evidence from the Asian region, Tabassum, Quddoos, Yasee and Sardar (2017) examine the relationship between capital flight, labour migration and economic growth in Pakistan using annual time series data spanning the period of 1983 to 2014. To estimate the data collected, granger causality test, ordinary least square and two-stages least square are employed for that purpose. Findings from the two-stage least square indicate that political instability, labour migration, unemployment and capital flight have a negative impact on the economic growth of Pakistan; while the Granger causality test reveals a bidirectional causality between capital flight and economic growth.

In supporting the literature, Gachoki and Nyang'oro (2016) analyses the impact of capital flight on private investment in Kenya using annual time series data covering the period of 1970 to 2012. The authors further provide a summary of why private investment in Kenya is undermined by capital flight due to the resource gap which it creates, and also develop an equation to estimate investment which is derived from the flexible accelerator theory of investment. Using the OLS regression technique, result shows the existence of a negative relationship between capital flight and private investments in Kenya for the period under consideration. More so, Al-Basheer, Al-Fawwaz and Alawneh (2016) examine the constraint of capital flight in Jordan using annual time series data covering the period of 2000 to 2013. By employing a regression analysis, result shows that rate of capital flight established a negative effect on the rate of economic growth for the period under consideration.

Moreover, Lawal et al. (2017) investigate the impact of capital flight and its determinants on the economic growth in Nigeria using the Autoregressive Distributed Lag (ARDL) model to analyse collected data from the period of 1981 to 2015. Findings indicate the existence of long-run relationship among the variables, and that capital flight has a negative impact on economic growth in Nigeria for the period under consideration. Also, Liew, Mansor and Puah (2016) examine the macroeconomic determinant of capital flight in Malaysia spanning the period of 1980 to 2010. By adopting the World Bank's method of estimating capital flight and the ARDL model, findings indicate the presence of long-run relationship among the variables. While political risk and financial crisis have positive effect on capital flight, foreign direct investment, external debt and stock market established a negative impact on capital flight in Nigeria.

According to Almounsor (2017), capital flight from Saudi Arabia reached over USD 212 billion in 2010, resulting to declining growth of 3.57%. The author further provides new estimates of illicit capital flight

in Saudi Arabia for the period covering 1971 to 2015 using a residual methodology and accounts for the social opportunity cost of those unregulated funds in terms of foregone economic growth. Result shows that capital flight established a negative effect on economic growth. To provide further evidences, Chigbu, Ubah and Chigbu (2015) investigate the impact of capital inflows on economic growth of developing economies comprising of Nigeria, Ghana and India covering the period of 1986 to 2012. Using the cointegration analysis, granger causality technique and the OLS method, result shows that capital inflows have significant impact on the economic growth of these economies. Also, Makova, Kadir, Muhoyi, Mukura and Ndedzu (2014) examine the impact of capital flight on economic growth in Zimbabwe using time series data spanning 1980 to 2010. Based on the regression estimates, result shows that two-period lagged capital flight has a negative impact on economic growth.

Correspondingly, Zobeiri, Roshan and Shahrazi (2015) examine the magnitude of capital flight on the Iranian economic growth and further investigate the long-run effects of estimated capital flight using annual data covering the period of 1981 to 2012. Based on the ARDL model, result shows that capital flight has a negative impact on the economic growth in Iran for the period under review. In another perspective, Asongu (2014) investigates the beta-convergence of capital flight across a set of 37 African countries using data covering the period of 1980 to 2010 sourced from African Development Indicators (ADI) and the Financial Development and Structure Database (FSDS) of the World Bank. Result shows that petroleum-exporting and conflict-affected countries significantly play out in absolute and conditional convergences respectively.

In the views of Ngwenya (2016), the impact of illicit financial flows not only has adverse economic and social effects, but also possess the potential to threaten the stability of governments. Likewise, Orimolade and Olusola (2018) examine the impact of capital flight on the economic growth in Nigeria in accordance with the World Bank residual approach to the measurement of capital flight. Using the ARDL model to estimate the model coefficients on the time series data spanning 1970 to 2016, result shows the presence of negative relationship between capital flight and economic growth. Besides, Kennedy (2014) examines the impact of capital flight on the real GDP and educational development in Nigeria using annual time series data spanning 1980 to 2012. The author employs the regression analysis to estimate the model coefficients; and result shows that the explanatory variable is negatively related to GDP. Implying that, increase in capital flight adversely affects economic growth.

In addition, Effiom, Achu and Edet (2020) examine impact of capital flight on domestic investment in Nigeria using time series data covering the period of 1980 to 2017 by employing the ARDL model. Result shows the presence of long-run relationship among the variables and that capital flight established a negative and significant effect on domestic investment in Nigeria. Similar to that, Obidike, Uma, Odionye and Ogwuru (2015) examine the impact of capital flight on the economic development in Nigeria using annual time series data spanning 1980 to 2011. The authors employ the ARDL model as technique of analysis, hence result shows that capital flight has negative and significant impact on economic development in Nigeria. More so, Johannesen and Pirttilä (2016) offers a critical review of the methods used to estimate the extent of capital flight and illicit financial flows from developing countries. Result indicates that the extent of capital flight from developing countries is still a matter of concern in terms of developmental process.

Using a panel framework, Osei-Assibey, Domfeh and Danquah (2018) investigate the effect of corruption and institutional governance indicators on capital flight using a portfolio choice framework through the GMM and fixed effect regression on panel data of 32 countries in Sub-Saharan Africa (SSA) over a sample period covering 2000 to 2012. Result shows that high perception of corruption facilitates an increase in capital outflow from SSA. Implying that, corruption encourages capital flight in the continent thereby retard economic growth in the long-run. In a mixed reaction, Ndiaye (2014) investigates the impact of capital flight on economic growth in the Franc zone spanning the period of 1970 to 2010 using time series data. Results show mixed reaction as capital flight has a negative impact on economic growth of 5 countries, and positive for 15 countries all within the franc zone. One potential explanation for negative capital flight may be more related to trade misinvoicing, foreign aid and external debt.

From a short-run perspective, Ogun (2017) investigates the impact of capital flight on the Nigerian economy based on two different approaches and further evaluates the effect of macroeconomic factors on capital flight. The author restricts the estimation only to short-run analysis in order to avoid the likely pitfalls inherent in the uncertainty over the direction of effect of possible long-run variables. Result shows that trade deficit, nominal exchange rate and capital control are important determinants of short-run capital flight in Nigeria. According to Ndikumania (2017), over one trillion dollars (USD 1 trillion) had been lost through capital flight since 1970s in the African continent. This huge amount exceeded the total sum borrowed or received by the continent in the form of financial aids within the same period. If this huge capital had been retained and invested in profitable ventures, the continent would be better positioned to achieve the Sustainable Development Goals (SDGs).

On the issues of debt and foreign direct investment phenomenon, Uddin, Yousuf and Islam (2017) examine the factors affecting capital flight in Bangladesh using annual time series data spanning 1975 to 2013.

The authors employ OLS estimation technique and found that external debt, foreign direct investment flows, foreign reserves, interest rate differentials, current account surplus are main causes of capital flight in Bangladesh. Further result shows a strong positive correlation between interest rate differential and capital flight and between change in external debt and capital flight. Also, Ndikumana and Sarr (2019) provides theoretical and empirical intuitions into the concurrent rise in foreign direct investment inflows in Africa and capital flight from the continent using annual data covering the period of 1970 to 2015. Based on a sample of 30 African countries, findings indicate that FDI flows are positively related to capital flight, suggesting that higher FDI inflows lead to higher capital flight within the continent.

Furthermore, Clement and Ayodele (2016) examine the impact of capital flight on the economic growth in Nigeria using time series data covering the period of 1980 to 2014. By adopting OLS and cointegration approach as techniques of analysis, result shows that capital flight inflow has a positive relationship with exchange rate and economic growth in Nigeria for the period under review. Likewise, Onyele and Nwokocha (2016) examine the impact of capital flight on poverty in Nigeria using time series data covering the period of 1986 to 2014. By employing the Johansen co-integration test and error correction model, results show the presence of long-run equilibrium relationship among the variables; and that capital flight has a positive relationship with poverty hence retarding economic growth in the long-run. On the contrary, Ubi and Bassey (2017) examine the relative impact of remittances and capital flight on poverty in Nigeria using time series data covering the period of 1970 to 2010. The authors adopted a cointegration approach and ECM technique to estimate the model coefficients. Result shows the existence of long-run relationship among the variables and that capital flight has a negative impact on poverty within the period under review.

In a different viewpoint, Nguena (2014) assesses the impact of capital flight and poverty reduction in 14 African countries within the Franz Zone region using a TSLV-IV estimation technique over the sample period of 1983 to 2013. Result shows that external debt contracted with constraint outflow the continent as capital flight, and also capital flight contributes to improving the level of poverty in Africa. More so, Asongu and Nwachukwu (2016) examine the effect of governance on capital flight by bundling and unbundling governance on the 37 African countries covering the period of 1996 to 2010 using the General Method of Moment (GMM) approach. Result shows that while economic governance increases capital flight, political stability and accountability reduce it. In addition, controlling corruption is the most effective governance weapon in the fight against capital flight.

Similarly, Lawanson (2014) investigates how indebtedness and capital flight have affected the growth of 14 West African countries directly, and via investment and fiscal balance mechanisms. The author utilises a time series data covering the period of 1970 to 2008 using both the fixed effects and GMM estimation techniques to show how results differ when econometric issues such as endogeneity and dynamic panel biases are taken into account. Results show that capital flight has a positive influence on the fiscal balance, and a significant impact on investment thereby leading to a decline in private capital flows. The coefficients of capital flight indicate that a percentage increase in capital flight generates a decline in investment of around 0.9%. On tax related matters, Uguru (2016) examines the impact of capital flight on tax revenue in Nigeria using annual time series data based on regression analysis. Result shows that capital has a negative and significant impact on tax revenue in Nigeria.

From the agricultural perspective, Mpenya, Metseyem and Epo (2015) examine and evaluate the relationship between capital flight in the natural resource (oil and wood) sector in Cameroon, caused by trade misinvoicing and economic growth using data from the World Bank over the period of 1995 to 2010. Result shows that natural resources sector is a major source of capital flight in Cameroon, and that capital flight established an adverse effect on economic growth. However, if capital from trade misinvoicing in the woods and oil sectors were reinvested in the economy (without outflow to foreign countries), then economic growth will increase rapidly over time period. In a similar approach, Usman and Arene (2014) examine the impact of capital flight and its macroeconomic determinants on agricultural growth in Nigeria using time series data covering 1970 to 2013. The authors employ the cointegration test and regression approach, result shows the presence of negative relationship between capital flight and agricultural growth in Nigeria.

However, Saheed and Ayodeji (2012) investigate the impact of capital flight on exchange rate and economic growth in Nigeria using OLS method to analyse the annual secondary data covering the period of 1981 to 2007 obtained from the various sources. Result shows that capital flight has a positive and significant effect on economic growth in Nigeria. Nevertheless, Egbe (2015) examines the dynamic effect of capital flight on the real exchange rate in Nigeria using quarterly time series data spanning the period of 1981 to 2009. Based on cointegration and error correction model, result supports only short-run impact as there is no evidence of long-run relationship among the variables. Even in the short-run, capital flight and exchange rate are not significant in the model.

It can be deduced from the empirical literature review that there is inconsistency of findings among various researches on the precise impact of capital flight on economic growth in both developed and developing countries. These conflicting findings might be due to different variables employed across all studies, the

methodology utilised, and the study time coverage. Towards this end, it is apparent that the debate is still continuous and never-ending given the high economic uncertainties, regional conflicts and political instabilities in Nigeria. It is in this light that this study derives its motivation to place its contribution in the global academic community as it extends the scope of earlier literature by thoroughly examining this phenomenon via incorporating some relevant macroeconomic variables that received little attention in previous literature, hence contributing to the academia and the Nigerian economy.

IV. Data Sources and Technique of Analysis

This study utilises a time series data covering the period of 1980 to 2019; obtained mainly from secondary sources. Data on capital flight are solely sourced from the archived of Global Financial Integrity (GFI) and world development indicators of the World Bank, while data on real GDP, foreign reserve, external debt, and domestic investment are obtained from the statistical bulletin of the Central Bank of Nigeria (CBN). Capital flight ascends mainly from the return differential incentives; relative risk incentives, and portfolio diversification incentives. These factors limit the available capital designed for domestic investment and therefore hinder economic growth.

Given the concentration of the literature on other techniques especially the OLS, Johansen cointegration, VECM, and the VAR model, this study employs the Autoregressive Distributed Lag Model (ARDL) model to conduct the analysis. The rationale for chosen the ARDL model relative to other techniques is that the model can be applied even if the variables exhibit mix stationary, and therefore avoid the problem of pre-testing which is largely among the challenges associated with other techniques of analysis. In order to measure the impact of capital flight on economic growth, this study adapts the residual approach (1985) by incorporating additional relevant variables to suit the peculiarities of the Nigerian economy. The study developed a growth model which is significantly extended to accommodate relevant indicators that appears pertinent to the growth potentials of the Nigerian economy, and also specified an empirical model that integrates real GDP, capital flight, foreign reserve, external debt, and domestic investment into a single ARDL model. The model in a functional format is given as:

$$GDP = f(KF, FR, ED, DI) \tag{1}$$

To state the model in algebraic expression, it is given as:

$$GDP = \alpha + \beta_1 KF + \beta_2 FR + \beta_3 ED + \beta_4 DI + \varepsilon \tag{2}$$

Where, GDP = real GDP (proxy for economic growth); KF = capital flight; FR = foreign reserve; ED = external debt; DI = domestic investment; α = intercept; $\beta_1 \dots \beta_4$ = coefficients of the explanatory variables; μ = error term.

In addition, the ARDL technique also involves the measurement of both the short-run and the long-run relationship among the variables. To formulate the general framework of the ARDL model, equation (2) is transform and express as follows:

$$\begin{aligned} \Delta GDP_t = & \alpha_0 + \sum_{i=0}^k \beta_{1i} \Delta GDP_{t-1} + \sum_{i=0}^k \beta_{2i} \Delta KF_{t-1} + \sum_{i=0}^k \beta_{3i} \Delta FR_{t-1} + \\ & \sum_{i=0}^k \beta_{4i} \Delta ED_{t-1} + \sum_{i=0}^k \beta_{5i} \Delta DI_{t-1} + \beta_6 GDP_{t-1} + \beta_7 KF_{t-1} + \beta_8 FR_{t-1} + \\ & \beta_9 ED_{t-1} + \beta_{10} DI_{t-1} + \varepsilon_{it} \end{aligned} \tag{3}$$

Where Δ is the first difference operator; β_{1i} , β_{2i} , β_{3i} , β_{4i} and β_{5i} are the short-run dynamics of the model; β_6 , β_7 , β_8 , β_9 and β_{10} are the long-run dynamics; k is the number of optimal lag length that is relevant to each of explanatory variables and would be determined either by Akaike (AIC), Schwarz Bayesian (SBC) or Hannan-Quinn (HQC) criteria.

The essential condition for estimating an empirical model by means of an ARDL model to be inclined towards the long-term equilibrium condition is that the sum of dependent variable coefficient in the various short-term estimated lags be less than one. The short-term dynamic also known as the Error Correction Model (ECM) for estimating the impact of capital flight in Nigeria is given as follows:

$$\Delta GDP_t = \alpha_0 + \sum_{i=0}^k \beta_{1i} \Delta GDP_{t-1} + \sum_{i=0}^k \beta_{2i} \Delta \varphi_{t-1} + \beta_3 ECM_{t-1} + \varepsilon_{2t} \tag{4}$$

Where, ECM_{t-1} is the error correction term which indicates the speed of adjustment parameters back to a long-run equilibrium after short-run shock; φ_{t-1} is the vector of independent variables; ε_{2t} is the error term.

V. Results and Discussion

The nonstationary time series variables are tested for the likelihood of cointegrating relations in response to the loss of long-run information due to regression analysis with first differenced variables and misspecification due to its omission. The existence of a cointegrating vector of variables permit for an OLS regression to be conducted keeping the long-run and short-run dynamics through a vector error correction model (Enders, 1995). The cointegrating long-run relationship among the non-stationary variables is identified using the ARDL model.

Unit root test

To ensure that the estimates do not produce spurious output, the variables are tested for order of integration and stationarity. Following the previous discussions and the ARDL model specification that includes the time series variables, it becomes necessary to conduct the unit root testing with the view to determining the stationarity property of the variables and also avoid spurious regression. In the literature, several techniques for unit root testing are developed with varying magnitudes. For the purpose of this study, Augmented Dickey Fuller (ADF) and Phillips Perron (PP) tests are employed in order to ensure the reliability of findings. Hence, results for both unit root tests are presented in Table 1 and Table 2 as follows:

Table 1: ADF Unit Root Test

Variable	Augmented Dickey Fuller Test				Order of Integration
	Intercept		Trend		
	Level	First difference	Level	First difference	
GDP	0.9954	0.0000*	0.0927**	0.0000*	I(0), I(1)
KF	0.0196*	0.0000*	0.0189*	0.0001*	I(0), I(1)
FR	0.7719	0.0000*	0.1453	0.0001*	I(1)
ED	0.0981**	0.0012*	0.2465	0.0040*	I(0), I(1)
DI	0.8814	0.0189*	0.0256*	0.0240*	I(0), I(1)

Note: *denotes significance at 5% level

**denote significance at 10% level

Table 2: PP Unit Root Test

Variable	Phillips Perron Test				Order of Integration
	Intercept		Trend		
	Level	First difference	Level	First difference	
GDP	0.8830	0.0000*	0.7836	0.0000*	I(1)
KF	0.0213*	0.0000*	0.0032*	0.0000*	I(0), I(1)
FR	0.7957	0.0003*	0.0920**	0.0026*	I(0), I(1)
ED	0.1246	0.0012*	0.4581	0.0037*	I(1)
DI	0.8162	0.0000*	0.7452	0.0000*	I(1)

Note: *denotes significance at 5% level

**denote significance at 10% level

Results from Table 1 and Table 2 show the unit root estimates from the ADF test and the PP test, respectively with the inclusion of intercept and a trend with virtually no significant variation between the two estimates. In both tests, results suggest that all variables are stationary at first difference using intercept and a trend, except for capital flight (KF) which is stationary both at level and at first difference in ADF and the PP tests at 5% level. Therefore, it can be established that the order of integration for certain variables (KF and FR) are in mixed order while others are stationary after first differencing, hence desirable for estimating the long-run relationship using the ARDL model.

Bound test

Since the variables exhibit mix stationary and different order of integration, it is essential to evaluate the presence or otherwise of a long-run relationship between the real GDP, capital flight (KF), foreign reserve (FR), external debt (ED), and domestic investment (DI). Result for the ARDL bound test is given as follows:

Table 3: Bound test

F-statistics = 11.41*		
Critical value bounds	Lower bound	Upper bound
10%	3.03	4.06
5%	3.47	4.57
2.5%	3.89	5.07
1%	4.4	5.72

Note: **denotes significance at 1%, 2.5%, 5% and 10% levels

Table 3 presents the result of bound test based on the appropriate lag lengths as selected by the SIC. The value of F-statistics shows 11.41 which is greater than all the critical values at different significance level. The result implies the existence of a long-run relationship between real GDP, capital flight, foreign reserve, external debt, and domestic investment. As such, the null hypothesis of no long-run relationship shall be rejected.

Long-run coefficients

In addition to the bound test which measures the long-run relationship among the variables, the impact of long-run coefficients for the aforementioned ARDL model are also estimated. The results are presented as follows:

Table 4: Long-run coefficients

Variable	Coefficient	Std. error	t-Statistic	Probability
KF	- 0.046205	0.023825	-1.939366	0.0936**
FR	0.189034	0.044259	4.271093	0.0037*
ED	0.106180	0.011477	9.251947	0.0000*
DI	0.294355	0.077448	3.800694	0.0067*
C	-0.073038	1.425090	-0.051251	0.9606

Note: *denotes significance at 5% level

**denotes significance at 10% level

From Table 4, the coefficient of all the variables are significant at 5% level except for the capital flight which is significant at 10% level. More so, the result shows that increase in capital flight has a negative and significant impact on economic growth (proxy by real GDP) as indicated by the p-value of 0.0936 at 10% level. In addition, one percent increase in capital flight leads to about 4% decrease in economic growth. This finding is consistent with the literature by Orimolade and Olusola (2018) who established the existence of a negative relationship between capital flight and economic growth in Nigeria. In Nigeria, revenue generated through various sources and other inflows are expected to plough back into the economy thereby increasing the size of national income. Unfortunately, these gargantuan fund are diverted away via illegal channels to foreign economies thereby denying the domestic country the opportunity for increase local investment, infrastructure development, and employment generation. In the long-run period, the combine effects of these measures hinder economic growth and sustainable development. In addition, foreign reserve has a positive and significant impact on economic growth as indicated by the positive coefficient of 0.1890 and p-value of 0.0037 at 5% level. This implies that one percent increase in foreign reserve leads to an increase of 18% in economic growth in the long-run period. This result is consistent with the study of Lawal et al. (2017) who established the presence of a positive relationship between foreign reserve and economic growth in Nigeria.

Furthermore, external debt also established a positive and a significant impact on economic growth as depicted by the non-negative coefficient with p-value of 0.0000 at 5% level. This shows that one percent increase in external debt leads to about 10% increase in economic growth. This result is consistent with the literature as established by Lawal et al. (2017) who established the presence of a positive relationship between external debt and economic growth in Nigeria. The rationale for any country going for external debt is to utilise the fund for the provision of basic infrastructure that will accelerate the pace of development. Productive utilisation of external debt would encourage inflow of foreign investors, raise employment opportunities, increase social welfare, and improve the domestic economy. Consequently, the positive relationship between external debt and economic growth implies that the borrowed fund were injected into capital projects which in the long-run translate to economic growth. Likewise, domestic investment has a positive and significant impact on economic growth as shown by the positive coefficient of 0.2943 and p-value of 0.0067 at 5% level. This means that one percent increase in domestic investment leads to about 29% increase in economic growth. This result is consistent with other literature on capital flight as submitted by Salandy and Henry (2017) who established a positive relationship between domestic investment and economic growth.

Error correction estimates

The presence of cointegrating relations among the variables provide evidence for the application of error correction (ECM₁). It is estimated to measure the dynamics in the short-run period and to further examine the speed of adjustment as a response to departure from the long-run equilibrium. In absolute term, the value of ECM₁ lies between 0 and 1, and the larger the coefficient of the ECM₁, the greater the speed of adjustment. Estimated findings for the ECM₁ is presented as follows:

Table 5: Result of the error correction estimates

Variable	Coefficient	Std. error	t-Statistic	Probability
KF	-0.011151	0.005380	-2.072408	0.0769
FR	-0.073325	0.022675	-3.233778	0.0144
ED	0.040513	0.016044	2.525095	0.0395

DI	-0.088600	0.052667	-1.682251	0.1364
ECM ₁	-0.559281	0.148434	-3.767881	0.0070*

Note: *denotes significance at 5% level

Information from Table 5 shows the result of ECM₁ for the estimated ARDL model as shown in equation (11). The estimated coefficient is found to be negative and statistically significant at 5% level. Meaning that, 55% of the long-run disequilibrium is adjusted from lagged period error shocks in the current period. This also shows the speed at which economic growth adjusts to its steady state in the long-run. It also depicts that variables are well defined as it has the desirable negative sign which enable the system to adjust to the equilibrium position whenever there is disequilibrium. Unlike the long-run period, the coefficient of foreign reserve and domestic investment exhibit a negative response in the short-run period. Hence, all the variables appear to be relevant in measuring economic growth in Nigeria.

Diagnostic test

Several diagnostic tests are conducted with the view to ensuring reliability of the findings including serial correlation, heteroskedasticity test and the normality test. The results are presented as follows:

Table 6: Results for diagnostic test

Diagnostic test	Probability value
Serial correlation test: Breusch-Godfrey	F-statistic = 3.255 P-value = 0.1103**
Heteroskedasticity test: Breusch-Pagan-Godfrey	F-statistic = 0.596 P-value = 0.8458**
Normality test	Jarque_Bera = 0.637P-value = 0.7272**

Note: **denotes insignificance at 1%, 5% and 10% level.

Estimates from Table 6 show the results of diagnostic tests based on the ARDL framework. Using the Breusch-Godfrey serial correction and heteroskedasticity tests, both results show a non-significant p-values, hence indicating the absence of serial correlation and heteroskedasticity in the residuals generated by the model. This implies that the variance of the dependentvariable from the line of fit is constant and do not vary with the increasein the value of independent variable. In addition, the result for Normality test established that the examined model is normally distributed since the Jarque-Bera statistic is insignificant. In entirety, all tests confirmed that the residuals do not violate any of the classical assumptions.

VI. Conclusion and Policy Recommendations

Capital flights denigrate the growth prospects, affect employment rate and the aggregate welfare of the populace. The failure of the global economy to find a suitable approach that would curtail the illegal flow of capital from developing countries suggest that the challenges of capital flight will not be alleviated sooner. Combating this global misfortune entails the process of recognising the wrongdoers and identify the rationale and how they commit this act. For an economy like Nigeria that is starved of foreign earnings given a recorded huge external debt and raising fiscal deficit, increase in illicit transfer of funds would impose a greater challenge on import financing and economic growth. It is understand that, foreign investors in the Nigerian financial system, higher political officeholders, multinational corporations operating in various sectors, and the business agents involving in import and export activities, are identified as the most influential groups involves in capital flight. In lieu of that, this study examines the impact of capital flight on the Nigerian economic growth by utilising an annual time series data spanning 1980 to 2019. Data are collected via numerous sources and are analysed using the ARDL model. Findings indicate the presence of a long-run and short-run relationship between real GDP, capital flight, foreign reserve, external debt, and domestic investment in Nigeria. In addition, the impact of various coefficients shows that capital flight has a negative and significant impact, while foreign reserve, external debt, and domestic investment show a positive impact on economic growth in the long-run period.

As a result, government should design a feasible economic reform measures to curtail the rising wave of capital flight. These economic reforms must be targeted toward sound macroeconomic stability, ensure transparency and accountability in the management of public resources as well as creating a favourable atmosphere for increase domestic production. Even though, the coefficient of domestic investment is positive, still; there are needs to evaluate the Nigerian business environment because capital flight may not only be an outcome of poor regulatory framework but also unfavourable investment environment. Hence, the needs for appropriate policy interventions that would identify the fundamental causes of capital flight in Nigeria. This would go a long way in curtailing this menace and thereby improves local capacity. Furthermore, international communities have a role to play in reforming the international financial system, such that all tax havens and corresponding countries that are encouraging and protecting the illicit funds from developing countries be held accountable and penalised.

Reference

- [1]. Ahmad, B., & Sahto, Q.D. (2015). Determinants of capital flight in Pakistan. *IBT Journal of Business Studies (Formerly Journal of Management & Social Sciences)*, 11(2), 55-64.
- [2]. Al-Basheer, A.B., Al-Fawwaz, T.M., & Alawneh, A.M. (2016). Economic determinants of capital flight in Jordan: An Empirical Study. *European Scientific Journal*, 12(4), 322-334.
- [3]. Almounsoor, A.H. (2017). New analysis of capital flight from Saudi Arabia: the relation with long-term economic performance. *Applied Economics and Finance*, 4(6), 17-26.
- [4]. Asongu, S.A. (2014). Fighting African capital flight: Empirics on benchmarking policy harmonization. *The European Journal of Comparative Economics*, 11(1), 93-122.
- [5]. Asongu, S.A., & Amankwah-Amoah, J. (2018). Mitigating capital flight through military expenditure: Insight from 37 African countries. *Research in International Business and Finance*, 45, 38-53.
- [6]. Asongu, S.A., & Nwachukwu, J.C., (2016). Fighting capital flight in Africa: evidence from bundling and unbundling governance. *J Ind Compet Trade*, Springer.
- [7]. Cheung, Y., Steinkamp, S., & Westermann, F. (2016). China's capital flight: Pre- and post-crisis experiences. *Journal of International Money and Finance*, 66, 88-112.
- [8]. Chigbu, E.E., Ubah, C.P., & Chigbu, U.S. (2015). Impact of capital inflows on economic growth of developing countries. *International Journal of Management Science and Business Administration*, 1(7), 7-21.
- [9]. Clement, A.O., & Ayodele, S.O. (2016). An empirical analysis of the impact of capital flight on Nigeria economy. *International Journal of Academic Research in Economics and Management Sciences*, 5(2), 1-14.
- [10]. Effiom, L., Achu, A.C., & Edet, S.E. (2020). Capital flight and domestic investment in Nigeria: Evidence from ARDL Methodology. *International Journal of Financial Research*, 11(1), 348-360.
- [11]. Egbe, O.J. (2015). A dynamic analysis of the impact of capital flight on real exchange rate in Nigeria. *IOSR Journal of Economics and Finance (IOSR-JEF)*, 6(1/II), 31-35.
- [12]. Enders, W. (1995). *Applied Econometric Time Series*. 2nd ed. New York: Wiley.
- [13]. Gachoki, C., & Nyang'oro, O. (2016). Impact of capital flight on private investment in Kenya. *International Journal of Economics*, 1(2/1), 1-15.
- [14]. Global Financial Integrity (2010). Estimated amount of capital flight for various countries. Available at: www.gfintegrity.org
- [15]. Gouider, A., & Nouria, R., (2014). Relationship between the misalignment of the real exchange rate and capital flight in the developing countries. *Theoretical and Applied Economics*, XXI (11/600), 121-140.
- [16]. Johannesen, N., & Pirttilä, J. (2016). Capital flight and development: An overview of concepts, methods and data sources. United Nations University, WIDER Working Paper 2016/95.
- [17]. Kennedy, D.N. (2014). The impact of capital flight on educational development in Nigeria. *International Journal of Advanced Studies in Business Strategies and Management (IJASBSM)*, 2(1), 71-80.
- [18]. Lawal, A.I., Kazi, P.K., Adeoti, O.J., Osuma, G.O., Akinmulegun, S., & Ilo, B. (2017). Capital Flight and the Economic Growth: Evidence from Nigeria. *Binus Business Review*, 8(2), 125-132.
- [19]. Lawanson, A.O. (2014). Impact of external debt accumulation and capital flight on economic growth of West African countries. AERC Research Paper 279, African Economic Research Consortium, Nairobi.
- [20]. Liew, S., Mansor, S.A., & Puah, C. (2016). Macroeconomic determinant of capital flight: an empirical study in Malaysia. *International Business Management*, 10(13), 2526-2534.
- [21]. Makova, T., Kadira, G., Muhoyi, E., Mukura, T., & Ndedzu, D. (2014). Impact of capital flight on economic growth in Zimbabwe (1980-2010). *University of Zimbabwe Business Review*, 2(1), 16-19.
- [22]. Mpenya, H.T.A., Metseyem, C., & Epo, B.N. (2015). The effects of capital flight from oil and wood sectors on economic growth in Cameroon. Paper presented at Centre for the Study of African Economies (CSAE); Conference on Economic Development in Africa; St Catherine's College, Oxford, United Kingdom March 22 – 24, UK.
- [23]. Ndiaye, A.S. (2014). Capital flight from the Franc zone: Exploring their impact on economic growth. AERC Research Paper 269, African Economic Research Consortium, Nairobi.
- [24]. Ndikumana, L., & Sarr, M. (2019). Capital flight, foreign direct investment and natural resources in Africa, Working Paper, No. 2019-12, University of Massachusetts, Department of Economics, Amherst, MA.
- [25]. Ndikumana, L. (2017). Curtailing capital flight from Africa: The time for action is now. Friedrich Ebert Stiftung. International policy analysis.
- [26]. Nguena, C. (2014). External debt origin, capital flight and poverty reduction in the Franc Zone: Does the economic consequences of Sino-African relationship matter? AGDI Working Paper, No. WP/14/016, African Governance and Development Institute (AGDI), Yaoundé.
- [27]. Ngenya, L. (2016). The spillovers of illicit financial flows. High level conference on illicit financial flows: inter-agency cooperation and good tax governance in Africa, 14-15 July, 2016; Pretoria.
- [28]. Obidike, P.C., Uma, K.E., Odionye, J.C., & Ogwuru, H.O.R. (2015). The impact of capital flight on economic development: Nigeria in focus. *British Journal of Economics, Management & Trade*, 10(3), 1-13.
- [29]. Ogbonnaya, A.K., & Ogechukwu, O.S. (2017). Impact of illicit financial flow on economic growth and development: Evidence from Nigeria. *International Journal of Innovation and Economic Development*, 3(4), 19-33.
- [30]. Ogun, O. (2017). The incidence of capital flight in an African open economy. *Open Access Library Journal*, 4(e3736), 1-18.
- [31]. Onyele, K.O., & Nwokocha, E.B. (2016). The relationship between capital flight and poverty: the case of Nigeria. *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development*, 16(3), 225-236.
- [32]. Orimolade, E.M., & Olusola, A.B. (2018). Capital flight and the growth of Nigerian economy: An Autoregressive Distributed Lag (ARDL) modeling. *IARD International Journal of Economics and Business Management*, 4(2), 1-15.
- [33]. Osei-Assibey, E., Domfeh, K.O., & Danquah, M. (2018). Corruption, institutions and capital flight: evidence from Sub-Saharan Africa. *Journal of Economic Studies*, 45(1), 59-76.
- [34]. Saheed, Z. S., & Ayodeji, S. (2012). Impact of capital flight on exchange rate and economic growth in Nigeria. *International Journal of Humanities and Social Science*, 2(13), 247- 255.
- [35]. Salandy, M., & Henry, L. (2017). The impact of capital flight from beautiful places: The case of the small open economy of Trinidad and Tobago. *Journal of Economics and International Finance*, 9(6), 54-61.
- [36]. Tabassum, S., Quddoos, A., Yasee, M.R., & Sardar, A. (2017). The relationship between capital flight, labor migration and economic growth. *European Online Journal of Natural and Social Sciences*, 6(4), 594-600.
- [37]. Ubi, P., & Bassey, E. (2017). Remittances, capital flight and poverty: lessons from Nigeria. *SSRG International Journal of Economics and Management Studies (SSRG-IJEMS)*, 4(5), 49-61.

- [38]. Uddin, M.J., Yousuf, M., & Islam, R. (2017). Capital flight affecting determinants in Bangladesh: an econometric estimation. *International Journal of Economics, Commerce and Management*, *V(8)*,223-248.
- [39]. Uguru, L.C. (2016). On the tax implications of capital flight: evidence from Nigeria. *Journal of Research in Economics and International Finance (JREIF)*, *5(1)*, 001-007.
- [40]. UNDP (2014). A snapshot of illicit financial flows from eight developing countries: results and issues for investigation. Issue Brief.
- [41]. Usman, F.R., & Arene, C.J. (2014). Effects of capital flight and its macroeconomic determinants on agricultural growth in Nigeria (1970-2013). *International Journal of Food and Agricultural Economics*, *2(4)*, 107-126.
- [42]. Zobeiri, H., Roshan, N.A., & Shahrazi, M. (2015). Capital flight and economic growth in Iran. *International Economic Studies*, *45(2)*, 9-20.

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