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CAPITAL FLIGHT AND INVESTMENT IN NIGERIA: 2000-2022

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Abstract
This paper provides indication on the negative impact of the assessment of capital flight on economic growth in Nigeria for 23 years (2000-2022). It provides a comprehensive analysis of capital flight and its resultant impact on domestic investment and the growth rate of the economy. The study used Unit Root Stationary Test to know stationary level of the variables, cointegration and Error Correction Mechanism (ECM) as its main estimation techniques. It was discovered that capital flight and its assessments are significant factors for explaining economic trends in Nigeria. It was also discovered that capital flight has negative impact on the domestic investment in the economy. Consequently, it was recommended that funds from foreign sources in form of loans, gifts, grants and aids should be judiciously used for economic development of Nigeria. It also recommended that government officials should place their public duties ahead of their personal gain. By so doing, the economy will experience a boost as enough funds will be available to execute developmental projects such as power generation and opening of new vibrant sectors. Also recommended is that adequate penalties should be imposed on past and serving corrupt public office holders to serve as deterrent factors to others who have the ambition of occupying public positions for treasury looting.

Keywords: Capital Flight, Portfolio Theory, Gross Domestic Product, Cointegration, Error Correction Model

Introduction

Many developing countries of the world, especially those in sub-Saharan Africa, have suffered colossal amount of money to capital flight leaving the economic growth and development of these economies at base. The sluggish economic growth and persistent balance of payment deficits in these developing countries are traceable to high levels of illegal capital outflows from them to advanced countries of the world. Capital flight in Nigeria is hampering growth and intimidating economic development with negative consequences on the economy. It could also be seen as a threat to the growth prospects of the Nigerian economy. Exponents of this theoretical framework dispute that capital flight has affected the economy by hindering potential growth because it comprises the exportation of savings and foreign exchange. In a country like Nigeria with low income, capital flight will weaken growth potential.

Where capital flight exists, the country experiences macroeconomic instability. This unpredictability manifests itself in a number of ways which include rise in budget deficits, increase in current account deficits, overvaluation of exchange rate, increase in inflation and declining terms of trade. As a result, this will lead to a contraction in economic activities and lack of prospects for profitable investment in the domestic economy, (Pandey, 2006).

At this point, given the multifaceted nature of capital flight and its effects on Nigerian economy, this study examined the cause and effect of capital flight and tried to draw the line between what is and what is not capital flight and how it can be measured. The following objectives were captured; to examine if the variables that determine capital flight also have any significant relationship with economic growth as measured by GDP, to estimate the relationship between capital flight and domestic investment in Nigeria and to evaluate the extent to which capital flight poses a threat to national affluence and economic growth.

This study attempted to verify the following research hypotheses:

i. **H_{01}:** There is no statistically significant determinant between capital flight and economic growth as measured by GDP.
ii. **H_{02}:** There is no statistically significant positive relationship between capital flight and domestic investment in Nigeria.
iii. **H_{03}:** There is no statistical significance to evaluate the extent to which capital flight poses a threat to national affluence and economic growth.

Review of Related Literature

Cuddington (2006) defined capital flight as temporary speculative discharges out of a country. This is taken to mean outflows that would involve the attainments of assets overseas plus net errors and omissions in the Balance of Payments of the country. Capital flight occurs through the transfer of a substantial part of domestic private savings abroad, the persistence of which can lead to a serious deleterious effect on domestic saving, thereby preventing the bank's ability to provide credit to domestic investors capable of promoting and enhancing economic growth and development. In developing countries, capital flight reduces foreign reserve, exacerbates inflation, reduces tax revenue, hinders investment and undermines free trade. Apart from removal of domestic resources that could otherwise be used for poverty alleviation and promotion of economic growth and development, it tends to restrict the capacity and ability of affected countries to mobilize domestic resources and access foreign capital necessary to finance economic growth and development of third world countries like Nigeria.

Capital Market and Economic Growth

Ekezie (2002) saw the capital market as the driver of any economy to growth and development because it is essential for the long-term growth capital formation. It is crucial in the mobilization of savings and channeling of such savings to profitable self-liquidating investment. The Nigerian capital market provides the necessary lubricant that keeps turning the wheel of the economy. It not only provides the funds required for investment but also efficiently allocates these funds to projects of best returns to fund owners. This allocative function is critical in determining the overall growth of the economy.

The functioning of the capital market affects liquidity, acquisition of information about firms, risk diversification, savings mobilization and corporate control (Ali and Benard, 2011, Amadi, 2000, Anyanwu, 1998). Therefore, by altering the quality of these services, the functioning of stock markets can alter the rate of economic growth (Equakun, 2005, Ajayi, 2007).

Pandey (2006) posited that the cheap source of funds from the capital market remains a critical element in the sustainable development of the economy. She enumerated the advantages of capital market financing to include no short repayment period as funds are held for medium and long-term period or in perpetuity, funds to state and local government without pressures and ample time to repay loans.

Nyong (2017) developed an aggregate index of capital market development and used it to determine its relationship with long-run economic growth in Nigeria. The study employed a time series data from 1970 to 1994. For measures of capital market development, the ratio of market capitalization to GDP (in percentage), the ratio of total value of transactions on the main stock exchange to GDP (in percentage), the value of equities transaction relative to GDP and listings were used (Deppler, and Williamson, 2011). The four measures were combined into one overall composite index of capital market development using principal component analysis. A measure of financial market depth (which is the ratio of broad money to stock of money to GDP) was also included as control. The result of the study was that capital market development is negatively and significantly correlated with long-run growth in Nigeria. The result also showed that there exists bi-directional causality between capital market development and economic growth.

Mishra and Joshua (2010) examined the impact of capital market efficiency on economic growth in India using the time series data on market capitalization, total market turnover and stock price index over the period spanning from the first quarter of 1991 to the first quarter of 2010. The application of multiple regression model showed that the capital market in India has the potential of contributing to the economic growth of the country. Specifically, the study revealed that there is a linkage between capital market efficiency and economic growth in India. This linkage, according to the study is established through high rate of market capitalization and total market turnover. Thus, the study suggested that the market organizations and regulations should be such that a large number of domestic as well as foreign investors enters the market with huge listings, investments, and trading so that the very objective of optimal allocation of economic resources for the sustainable growth of the country can be ensured. (Equakun, 2005).

Portfolio Theory in Capital Flight

One common reason for preference for overseas' investment is found in portfolio theory argument. Should external portfolio diversification be taken as capital in flight? This

might be so if diversified investment does not report returns or have records at home. The deliberations of real effective exchange rates, possibility of foreign or home bias, impacts of the level of currency risks and real rates of return make matters to be slightly difficult (Tille and Wincoop, 2007, Al-Faki, 2006). However, the portfolio approach to international flows and flights of capital have been accepted as the most popular (Obstefeld, 2004). In the analyses of many of the flights of capital investigated, the portfolio approach seems to have gained upper hand. This depends so much on the choice of investors as to where to hold their wealth. The choice is nevertheless influenced by risk and return trade-off and other considerations.

Empirical Review

Levine and Zervos (2016) examined whether there is a strong empirical association between stock market development and long-run economic growth. The study used pooled cross-country time-series regression of forty-one countries from 1976 to 1993 to evaluate this association. The growth rate of Gross Domestic Product (GDP) per capita was regressed on a variety of variables designed to control for initial conditions, political stability, investment in human capital, and macroeconomic conditions; and then include the conglomerated index of stock market development. The finding was that a strong correlation between overall stock market development and long-run economic growth exists. This means that the result is consistent with the theories that imply a positive relationship between stock market development and economic growth.

Model Specification

The paper relies solely on documentary data drawn from statistical bulletin, World Bank estimates, journals and papers, and other published materials. These data were explored to draw inferences and conclusion on the outcome of the study. This study adopts a qualitative regression approach to data analysis, with the use of **ECM** Technique to examine effect of capital flight on investment in Nigeria based on this model structure. Data were collected based on time series and taken from the year **2000-2022** for the political period. So, there were total 20 years data which were obtained to conduct the study. Data on Gross Domestic Product (GDP), Exchange Rate (EXR), Inflation Rate (INFR), Capital Inflows/FDI (FDI) and Total Capital Flight (CAPF) were used to capture the effect of capital flight on economic growth.

Following the literature reviewed above, the authors of this paper adopted the Residual approach to capital flight by the World Bank (2015). This is because it encompasses Macro-Economic variables that determine the economic growth of Nigeria. Neoclassical Growth Model in line with Developmentalist/Neo-Classical View (Optimist) seems more appropriate to explain the effect of remittance on economic growth. Empirical literature includes two methodologies of modelling economic growth. The first is known as "growth accounting", where variables such as Capital Inflows (FDI) and Total Capital Flight (CAPF) are considered as additional inputs in an augmented neo-classical production function for economic growth. For the purpose of this study and in order to achieve the objective of this study, the model can thus be specified as follows

Functional form;

GDINV= f (EXR, INF, FDI, CAPF).....1

Expressing the above in structural form and further analysis, we have;

Where;

(GDINV)= Gross Domestic Investment, (₦)

(EXR)= Exchange Rate, (%)

(INFR)= Inflation Rate, (%)

(FDI)= Capital Inflows/FDI (₦)

(CAPF)= Total Capital Flight (₦)

Econometric form;

$GDINV = \beta_0 + \beta_1 EXR_t + \beta_2 INF_t + \beta_3 FDI_t + \beta_4 CAPF_t + U_t$.....2

Where **β_0, β_1, β_2, β_3 and β_4** are all parameters or coefficients and which are divided into intercept and slope or coefficients.

The System Equation

$GDINV = \beta_0 + \beta_1 EXR_t + \beta_2 INF_t + \beta_3 FDI_t + \beta_4 CAPF_t + \beta_5 ECM_t + V_t$.....3

A Priori Expectation

β_0= Intercept parameter/coefficient

β_1, β_2, β_3, and β_4 are all slope parameters that show the impact of each variable on investment (i.e. economy).

U_t=the stochastic disturbance term to capture unexplained residual.

β0, which is intercept, shows the level of economic growth in the absence of all variables captured, means, $\beta_0 \neq 0$. Where $\beta_0 > 0$, $\beta_1 < 0$, $\beta_2 < 0$, and $\beta_3 >< 0$, $\beta_4 >< 0$

Equation Model (3) was incorporated for the analysis of Error Correction Modelling (ECM).

$GDINV = \beta_0 + \beta_1 EXR_t + \beta_2 INF_t + \beta_3 FDI_t + \beta_4 CAPF_t + \beta_5 ECM_t + \mu_{t-1}$.....4

Stationary Test

Before the estimation of the equation (2), all the variables were subjected to stationary tests of time series data. If the data are differenced and it is found that they are stationary, then they can be integrated to the order of one or greater; otherwise, a non-stationary series exist.

Hypotheses Test Rule for Unit Root

H_0= P>0.05 (means that, there is presence of unit root in the variable)

H_1= P<0.05 (means that, there is no presence of unit root in the variable) (i.e. stationary)

Table 1: Augumented Dickey Fuller Statistics of the Variables

Variables	ADF Stat	1%	5%	Order of Integration	Remarks
(GDINV)	-7.338990	-4.439407	-2.351125	I(1)	Stationary
(EXR)	-6.440532	-2.839407	-1.361687	I(1)	Stationary
(INFR)	-4.853336	-2.459407	-2.961687	I(1)	Stationary
(FDI)	-6.020657	-3.639407	-2.739210	I(1)	Stationary
(CAPF)	-6.230532	-1.639423	-1.961687	I(1)	Stationary

Source: Author's Computation using E-view 9.0

Unit root tests are conducted for the variables using the Augumented Dickey Fuller test and the results are presented in Table 1 above. Note that the Mackinnon (1996) critical values for the Augumented Dickey Fuller test estimation at 1% and 5% significance levels are stated in the table above. Stationary (unit root) test conducted for the set of variables enumerated has above shown that all the variables are I(1) variables (Integrated of order 1). That is, they are not stationary at levels but are all stationary at their various first differences.

Co-Integration Test and Error Correction Model

Having conventional stationary of the variables, we determined the existence of a long-run equilibrium relationship among the variables in the model. To realize this, the study employed the Johansen Cointegration Technique. The cointegration results of the variables are presented below:

Hypotheses Test: H0= P>0.05 (means that, there is no co-integration among variables) and H1= P<0.05 (means that, there is at least one co-integration among variables).

Table 2: Johansen Co-Integration Test

Null Hypothesis	Eigen Value	Trace Stat	0.05% C.V	Prob;	Max-Eigen Value	0.05% C.V	Prob;
r=0	0.355464	36.43545	29.79707	0.0074	19.32583	21.13162	0.0878
r≤1	0.223149	25.60113	13.41466	0.0487	17.02583	29.68098	0.0678
r≤2	0.207462	17.10963	15.49471	0.0283	10.23063	12.26460	0.1972
r≤3	0.144732	6.878997	3.841466	0.0487	6.878997	3.841466	0.0087
r≤4	0.305164	**5.60113***	**3.241066**	0.0387	**4.32583***	**2.842466**	0.0378

Source: Author's Computation using E-view 9.0

In table 2 above, the Johansen Cointegration Test result was presented. The result of the co-integration test shows that both the trace statistic and maximum eigenvalue statistic confirm the existence of co-integrating equations among the variables used. The trace statistics indicate that at least four co-integration vectors occurred and also, that of Max Eigen shows four co-integration vectors by null hypothesis (H_0) at 0.05 (5%) level of significance, therefore showed that null hypothesis of non-Cointegration vector existence should be rejected while accepting alternative hypothesis (H_1) of Cointegration vector. This proves that there exists a long-run equilibrium relationship among the variables. Since the variables are co-integrated, this satisfies the convergence property for long-run relationship. Therefore, Error Correction Mechanism (ECM) was used to capture the effect of parameterized model or residual for the long-run and short-run convergence into equilibrium relationship between endogenous/dependent variable and the exogenous/explanatory variables, since more than one Co-integrating vector exists, ECM was the most appropriate econometrics technique to

be used since each of underlying variables stands as a single long-run relationship equation.

The Error Correction Model measures the speed of adjustment to equilibrium. The Error Correction Model (ECM) is significant, if it has a negative sign in either over parameterized or parsimonious ECM. This implies that the present value of the dependent variable adjusts rapidly to changes in the independent variable. A higher percentage of ECM indicates a response of that value or an adjustment of that value from the previous period disequilibrium of the present and the past levels of the independent variables. The over parameterized ECM is being made by leading and lagging each variables while the parsimonious ECM consider the variables that adjust rapidly to equilibrium between the leading and the lagged variables. The tables below show the result of both overparameterised and parsimonious ECM conducted on the specified parameters.

Table 3: Overparameterised Error Correction Model (ECM)

Variable	Coefficient	Std. Error	T-statistics	Probability
D(GDINV(-1)2)	-0.3721222	0.174548	-2.143952	0.0412
D(EXR,2)	0.022078	0.011212	1.969158	0.593
D(EXR(-1)2)	0.014935	0.012166	1.227351	0.2302
D(DFI1,2)	0.112763	0.047860	2.356130	0.0260
D(DFI(-1)2)	0.001820	0.039370	-0.046231	0.9635
D(CAPF,2)	0.072545	0.019333	3.752335	0.0008
D(CAPF(-1,)2)	-0.035226	0.024685	-2.237263	0.0337
D(INFR(-1)2)	1.010114	0.015052	0.671900	0.5074
ECM (-1)	-0.740563	0.089417	-8.282127	0.0121
R^2 = 0.68619, DW = 1.671511				

Source: Author's Computation using E-view 9.0

Table 4. Parsimonious ECM

Variable	Coefficient	Std. Error	T-statistics	Probability
D(EXR,2)	-0.012886	0.011821	-1.090022	0.2838
D(DFI1,2)	-0.014984	0.043259	-0.34369	0.7313
D(CAPF,2)	0.011442	0.020147	0.567905	0.5741
D(CAPF (1),2)	-0.062094	0.020620	-3.156873	0.0035
ECM (-1)	0.080560	0.039370	-2.046231	0.0535
R^2 = 0.460923, DW = 2.617338				

Source: Author's Computation using E-view 9.0

The tables above show the over-parameterized ECM (ECM-1) and parsimonious ECM (ECM-2) of model 4. The negative sign of ECM value in both model (ECMs) showed that the Error Correction Model is significant. This implies that the present value of GDINV adjusts rapidly to changes in EXR, DFI, CAPT and INFR. The ECM value of 0.740563 shows a response of about 74.05% from the previous period disequilibrium of the present level of GDINV in the determination of causality between the past level of GDINV and the present and past level of EXR, DFI, CAPT, and INFR. The coefficient of multiple determinations denoted as R2 shows that 68.62% variation in GDINV can be explained by EXR, DFI, CAPT, and INFR while the remaining 32.38% is being included by the stochastic error term. The Durbin Watson statistics of 1.67 shows that the presence of autocorrelation in the model is inconclusive as the Durbin Watson statistics falls under the positive side of the inconclusive region. The results of the short-run ECM are in contrast to the long-run cointegrating equation.

Discussion

The motive behind external debt is to provide basic infrastructural facilities that boost economic growth and development of a nation. Nigeria is not an exception. Judicious use of external debt can also lead to inflow of foreign investors, increase in external reserve and can boost economic growth and development.

Unfortunately, this is not so in Nigeria as revealed by the empirical findings of this study. External debt reduces gross domestic product, degree of openness, gross capital formation (that is, domestic investment, and external reserve).

Findings also show that the interest being paid on foreign debt is now higher than the principal itself. The negative relationship between external debt and economic development in the long-run implies that increase in external borrowing by the Nigerian government fails to transform into increase in the level of economic development. This is an indication that the borrowed funds were diverted to other uses that do not translate to economic development. Previous studies revealed that most of these funds were diverted by corrupt government functionaries to their private use or to other countries (Elumilade and Asaolu, 2006).

Ideally, external borrowings and aids are expected to induce and attract foreign private capital thereby improving the domestic economy; but the reverse is the case. Foreign direct investment and gross domestic investment are among the largest sources of external finance from developing countries including Nigeria. The positive and negative relationship observed in the model formulated in model 4 indicated that foreign direct investment could have both adverse and beneficial effects on the economy. For instance, foreign direct investment inflows into an economy may facilitate capital flight or cause a reduction in capital flight. If the returns from foreign direct investment are repatriated into foreign countries, it is detrimental, but if the returns on foreign direct investment are reinvested in the local economy, there will be improvement in the gross domestic product in the economy. Our findings had revealed that capital flight had negative impact on economic growth and this is in line with a study by David (2012). Results of our study also revealed that capital flight has a significant negative impact on economic growth. This is in line with our a priori expectation.

Conclusion and Recommendations

Investment implications of capital flight and exchange rate in Nigeria have become a thing of concern so far. Empirical analysis was conducted by applying the multiple regression of error correction technique to the annual data on the Nigerian economy for the period 200-2022. A number of conclusions can be drawn from this study. The first is that there is no generally accepted definition of capital flight, hence the use of several concepts in this study. Significant amount of capital flight in relation to exchange rate took place over the years covered by this study. Secondly, Trade forging has been discovered as an important vehicle of effecting capital flight.

Thirdly, domestic macroeconomic policy distortion is the culprit in the capital flight occurrence. Of significance in the area of policy errors is lack of opportunities for profitable investments within the domestic economy. The attractive incentives offered by the foreign sector cannot be left out. Lastly, the present level of the economy cannot only be explained or judged by the current level of capital flight but also the previous level of capital that fled the economy as evident by our findings. However, this may seem unachievable as the pivot of capital flown out of Nigeria is unrecorded.

Against the background of the findings in this study, policy-makers and the relevant authorities should pay more attention, more than ever, to the issue of capital flight, in order to stem its counterproductive effects on economic growth and investment in Nigeria. The study hereby recommends fiscal discipline so that deficit as a proportion of the gross domestic product is kept in check. This is crucial to the maintenance of macroeconomic stability and appropriation of exchange rate and interest rate in the economy. This should be high enough to attract funds but not too high to stifle investment initiatives.

In addition, an integrated and unified tariff structure would be useful, as it will reduce the rewards of trade faking. The issue of the existence of and how to deal with corruption is certainly more difficult to prescribe. It is part of the general problem of capital flight; one can only say that there is a need for change of attitude on the part of those who hold public offices who have access to foreign funds directly or indirectly through the contracts they award. This attitudinal change involves the seriousness and commitment on the part of government and its functionaries.

It is also recommended that government officials should place their public duties ahead of their personal gain. By so doing, the economy will experience a boost as enough funds will be available to execute developmental projects such as power generation and opening of new vibrant sectors.

Furthermore, adequate penalties should be imposed on past and serving corrupt public

office holders to serve as deterrent factors to others who have the ambition of occupying public positions for treasury looting.

Of paramount importance is the provision of enabling environment for business to thrive. It is more important to make the domestic economy more attractive for the investors by creating a wider menu of domestic financial assets on which domestic capital can be assessed and invested at lower rate comparable to foreign financial instruments.

If the policy packages discussed in this paper are pursued rightly and with consistency, it should be possible to hope for the repatriation of capital flight from Nigeria for investment.

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