Impact of Capital Flight on Exchage Rate and Economic Growth in Nigeria

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Abstract

Capital flight has been a source of major concern in developing countries, especially in Africa, where there is shortage of capital essential for development. Capital flight from resource starved countries to economically advanced countries is viewed as a diversion of domestic savings away from financing domestic real investment and in favor of foreign financial investment. consequently, the pace of growth and development of the economy is retarded. More so, since it involves transferring capital to foreign countries, it encourages increasing demand for foreign currency, especially dollar, which tends to exert pressure on exchange rate.The objective of this paper is to examine the impact of capital flight on exchange rate and economic growth in Nigeria, using OLS method to analyse the secondary data obtained through the Central Bank of Nigeria, National Bureau of Statistics and other sources. The findings indicate that capital flight has a positive and statistically significant impact on the exchange rate in Nigeria, and in contrast to previous work, capital flight has a positive effect on economic growth in Nigeria. Based on the findings, recommendations were made on how to check the menace of capital flight in developing countries, especially Nigeria. Among such recommendations is the need for further training for the Nigerian customs so as to improve their effectiveness in tackling cases of misinvoices in import and exports.

Key Words: Capital flight, Economic growth, Exchange rate, Investment and foreign

1.0 Background Information

The speed and magnitude of capital flight tend to hold that the causative factors of capital flight are not purely economic, but a correspondence between political decisions and the economic environment, just like the definition holds an element of political sentiment. For instance, according to Ajayi (1997), capital shift out of developed countries is regarded as capital outflows, because the investors from developed countries are responding to investment opportunities while those from developing countries are said to be escaping the huge risks perceived at home, hence regarded as capital flight.

In whichever way it is viewed, Capital flight takes place through transferring a part of domestic private savings abroad, the persistence of which can lead to a serious decline in domestic savings and when this occurs, banks domestic resources in form of savings fall, curtailing the bank's ability to provide credit. The impact of this is staggering, especially for Africa, as it drains foreign reserves, heightens inflation, reduces tax collection, cancels investment and undermines free trade (Global Financial Integrity, 2010). Besides removing resources that could otherwise be used for poverty alleviation and economic growth, 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. Consequently, capital flight contributes to the retardation of economic growth and development of developing countries.

According to Ndikumana and Boyce (1998;2001), the capital flight from Zaire (Congo DR) between 1968 and 1980 was estimated atUSD12 billion, and the amount of capital flightfrom 25 low-income African countries within the sub-Saharan region for 1970 to 1996, after adjusted for trade misinvoicing, is estimated at USD193 billion. The Global Financial Integrity (2010), in its study which covers 1970-2008, estimated the volume of illicit flows out of Africa to be closer to USD1.8 trillion.

Capital flight from seven sub-Saharan African countries namely; Nigeria, Ghana, Congo, Zaire, and Zambia from 1970 to 1992 was estimated at 91, 58, 35, and 32 percent of external borrowing, respectively (Nyatepe-Coo, 1994). To her, this study linked the results to the unreliability of the governments' actions, macroeconomic volatility and political flux. Capital flight in Nigeria is more severe than it is elsewhere in other Sub-Saharan Africa countries. Although reliable and comprehensive data does not exist on the magnitude of capital flight from countries of low-income Africa, but it is believed that capital flight particularly from Nigeria has been substantial (Ajadi, 2008).

The political instability, labor strife (conflict) and corruption in the Nigeria economy have increased the intensity of capital flight with the occurrence of 1985 military coup, which brought General Ibrahim Babangida to power, 1987 coup, and 1991 attempted coup against President Babangida and more. Capital flight in Nigeria became more pronounced between 1976 and 1991 during which it accounts for an average of about 7.4% of the GDP (Gross Domestic Product), and the trend has been on increase ever since then. Between 1981 and 1990, capital flight from Nigeria has increased by more than 511.17 percent as compare to the economic growth of just 30.89 percent within the period of observation. Within the next one decade (1990 and 1999), the percentage increase in capital flight and economic growth is estimated at 1,825.57 percent and 19.63 percent respectively, Then between 1999 and 2007, the rate of increase in capital flight tend to be on decrease, as it increase by only 268.70 percent compare to previous decade, while the economy also grew by only 61.34 percent compare to the previous decade.

According to the Vanguard Newspaper (2010), the trend of capital flight in Nigeria was more noticeable between September and November 2009 when several billions of US Dollars was purchased through the banks and bureax-de-change. Within the period, a total of USD13.894 billion (N2,153.57 billion) went out of the country. In 2010, by the records available at the Central Bank of Nigeria, between January 22, 2010 and March 5, 2010, a total of USD6.734 billion (N1,043.77 billion) went out of the country.

The fundamental economic concern about capital flight is its tendency to reduce welfare in the sense that it leads to a net loss in the total real resources available to an economy for investment and growth. That is, capital flight is viewed as a diversion of domestic savings away from financing domestic real investment and in favor of foreign financial investment. As a result, the pace of growth and development of the economy is retarded from what it otherwise would have been(Deppler and Williamson, 1987).Hence, on one hand, capital flight is considered to slow down the pace of economic growth. On the other hand, however, during 2000-2008, when Sub-Sahara Africa enjoyed its strongest period of sustained economic growth, the pace of illicit flows from the region also accelerated relative to previous decades. The acceleration could be connected to an increased opportunities to misinvoice trade that typically accompany increasing trade volume (Global Finance Integrity, 2010).

More so, capital flight encourages increasing demand for foreign currency, which tends to exert pressure on exchange rate, thereby increasing the rate, particularly Naira against U.S Dollar. Between January and March, 2010, for instance, a total of USD4.648 billion (N720.44 billion) was purchased through the CBN Dutch auction while a total of USD1.344 billion (N208.32 billion) was done through direct remittance by the CBN (Vanguard newspaper, 2010).

Exchange rate risk is the variability in returns on securities caused by currency fluctuations. A negative fluctuation of currency decreases the purchasing power of domestic currency leading to a high import prices. Within the period of observation, particularly, between 1991 and 1993, the average depreciation of Naira against the U.S Dollar was 51.2 %, that is, from 9.9 Naira against 1USD in 1991 to N22.1 against 1USD in 1993. It depreciated further to N90.1 against 1USD in 1998, that is, 54.6% depreciation (Saheed, 2010). As at 2004, the exchange rate of naira for one USDollar was 133.5. When a currency loses its purchasing power, in such an economy, too much money will be chasing few goods, which implies inflation.

Given the foregoing, this paper proposes to critically examine and/or analyse:

    i. The impact of capital flight on exchange rate in Nigeria.
    ii. The effect of Capital flight on the economic growth in Nigeria.

To this end, the paper is organized into five sections. Following this introduction is section II, which focuses on literature review and theoretical framework. Section III discusses the methodology adopted in the study, whilesection IV summarises the findings and offer some policy recommendations.

2.0 Literature Review and Theoretical Framework

This section discusses relevant literature and theoretical framework on the relationship between capital flight, exchange rate and economic growth. Many researchers have attempted to examine the effect of capital flight on economic growth. For instance,Gusarova (2009),examines the impact of capital flight on economic growth. His findings indicate that capital flight has a negative influence on the GDP growth by reducing domestic investment. In turn, lower level of domestic investment reduces the capital-labor ratio, which reduces labor productivity and, consequently, the output produced. A study by Ndikumana and Boyce (2008) uncovered the prevalence of a positive connection between external debt and capital flight and a negative link between differential growth rates and capital flight.

Harrigan et al. (2007), observed that an overvalued exchange rate leads to increasing expectations of depreciation in the near future. Thus to avoid impending future welfare losses, residents will be motivated to hold at least part of their assets abroad. Another offshoot of exchange rate over-valuation is foreign exchange in the parallel market premium. The presence of high parallel market premium is normally interpreted as a symptom of 'sick' economy.The finding in essence indicates that an expectation of future depreciation of currency encourages capital flight, an indication of a relationship between the two variables. Building on this literature, this study will explore further on the impact of capital flight on exchange rate in Nigeria, using capital flight as the independent variable.

Ayadi (2008) reviewed the works of Dooley (1988) who examined the relationship between inflation rate and capital flight for 5 Latin American countries between 1973 and 1986. He found a significant positive relationship between inflation and capital flight. While Victor (2004) used a panel data of 77 developing countries between 1971 and 2000, and formulated the hypothesis that inflation has a positive additional impact on post-war capital flight flows. His results consistently support the hypothesis that post-war, inflation exacerbates annual capital flight flows by about 0.005 to 0.001 percentage points of GDP. He further concluded that low inflation helps in dampening capital flight in post-conflict economies. Therefore, the impact of inflation in the economy cannot be ignored because the higher the inflation rate in the country the lower the investment trend and the higher the occurrence of capital flight. Even though the study show indirect link between inflation and output, in the sense that inflation encourages capital flight, which in turn reduces the capital available for investment, thereby affecting the total output (GDP). However, this study, rather than looking at the causes of capital flight, will examine the direct impact of capital flight on the economic growth which in the context of this study proxy by the gross domestic product in Nigeria.

In another study, Ayadi (2008) investigates the linear determinants of capital flight in Nigeria utilizing the ordinary least squares (OLS) and the error correction method (ECM). One of the conclusions of the study is that exchange rate significantly explains capital flight (in the long-run) in Nigeria. However, this study will build on the finding by investigating thereverse case of the study, that is, the impactof exchange rate itself on capital flight in Nigeria. Busari (2010), examinesthe impact of capital flight on some economic recession indicators in Nigeria, whereby capital flight was regressed against GDP, Inflation, interest rate, unemployment and exchange rate, using OLS method. The result shows that capital flight has a negative effect on GDP, inflation, interest rate and unemployment.Except for the GDP and unemployment, other variables are statistically insignificant. However, this study will diverge in the aspect of approach to study. Rather than adopting multiple regression, this study will adopt segregation approachto examine the impact of capital flight on exchange rate, and then the impact of capital flight on economic growth (GDP).

2.2 Theoretical Framework

This theoretical framework establishes a vantage point, sharpens focus and also increases clarity on the problem under study, that is, Capital flight, exchange rate and the economic growth in Nigerian. This theoretical framework does not only analyze the concept, but it also designs images of their inter relationship in accordance with varying back up theories.

2.3 Residual Method

In the residual method, adopted by the World Bank (1985) capital flight is measured indirectly by comparingthe sources of capital inflows (i.e. net increases in external debt and the net inflow offoreign investment) with the uses of these inflows (i.e., the current account deficit andadditions to foreign reserves). Symbolically, this method expresses capital flight as:

KFr = f (ΔED, FDI, CAD, ΔFR). That is

KFr = ΔED + FDI – CAD – ΔFR……………………….(1)

Where

*KFr*is capital flight according to the residual method,

Δ denotes change,

ED isstock of gross external debt reported in the World Bank or IMF data,

FDI is the netforeign investment inflows,

CAD is the current account deficit/surplus and

FR is the stockof official foreign reserves.

This broadest definition of capital flight has the advantage of incorporating all the reported as well as unreported build-up of foreign assets for both public and private sectors (World Bank 1985) and thus would seem to be appropriate if one thinks that most of the funds used for capital flight would have been utilized for more productive and beneficial domestic investment activities. This definition thereforepostulates that foreign asset increase is mostly associated with national disutility due to capital flight.

Dooley (1986) sees capital flight as all capital outflows based on the desire to place wealth beyond the control of the domestic authorities. In this scenario, capital flight (outflows) refers to the increase in that part of the foreign stock that does not yield a recorded investment income. Symbolically, the method expresses capital flight:

TKO = f (FB, FDI, CAD, ΔFR, EO, ΔWBIMF). That is:

TKO = FB + FDI – CAD – ΔFR – EO – ΔWBIMF ……………………..(2)

where

TKO is total capital outflows,

FB is foreign borrowing as reported in the balance of payments statistics,

EO is net errors and omissions (debit entry), and

WBIMF is the difference between the changes in the stock of external debt reported by the World Bank and foreign borrowing reported in the balance of payments statistics published by the IMF.

Exchange rate

Exchange rate is the rate at which one currency will be exchanged for another, that is, the value of a country's currency in terms of another. Exchange rate systems set rules, arrangements and institutions under which payments are made among nations. Historically, the most important exchange rate systems have been the gold exchange standard, the Breton Woods system and the flexible exchange rate system. The floating exchange rate is determined by the market forces of demand and supply. According to Jhigan (2005), the factors which cause changes in the exchange rate are changes in export and imports, and structural influences. If the exports of the country are more than imports, the demand for its currency increases and the rate of exchange moves in favor of such country. Conversely, if imports are more than exports, the demand for foreign currency increases will move against the country. Structural changes, on the other hand, are those changes which bring changes in the consumer demand for commodities. Such changes tend to increase foreign demand for domestic currency, appreciation of its value and raise in exchange rate. Since capital flight involves capital outflow which involves demand for foreign currency, an increase or decrease in demand of foreign currency tends to exert pressure on the exchange rate which is reflected in the appreciation or depreciation of the local currency.
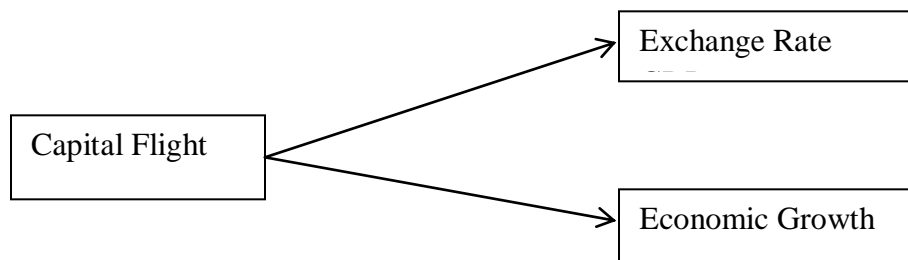

Figure 2.0 Diagram of Relationship between the Independent and Dependent variables

Hypotheses

From the problem statements analyzed above in relations to the literature reviewed, temporary answers or proposed explanations are written below:

a. H_o: r = 0, Capital flight has no significant impact on GDP in Nigeria.

    H_A: r ≠ 0, Capital flight has a significant impact on GDP in Nigeria.

b. H_o: r = 0, Capital flight has no significant impact on Exchange rate in Nigeria.

    H_A: r ≠ 0, Capital flight has significant impact on Exchange rate in Nigeria.

3.0 Methodology of Study

3.1 Nature and Sources of Data

The data used for this research was basically time series data which are quantitative in nature. They are mainly secondary data obtained from publications and other sources. For instance, capital flight estimates was sourced from Global Finance Integrity estimates and Ndikumana and Boyce (2008), however the data was converted into Nigerian currency (Naira) by the author for purpose of uniformity.Data on the GDPand exchange rates are generated from the publications of the Central Bank of Nigeria, National Bureau of Statistics and others.

3.2 Model Specification

In order to capture the precise relationship between capital flight, exchange rate and economic growth, we specified an empirical model that incorporates the effect of capital flight on exchange rateand capital flight oneconomic growth (GDP).

The models used for this study are derived from the literature and theories reviewed, particularly, Gusarova (2009) who affirmed a relationship between capital flight and economic growth, and Harrigan et.al. (2007), who attributed capital flight to fluctuation of the exchange rate.Hence, the models which are all bivariate or simple regression analysis models are specified as follows:

MODEL I

    GDP = *F* (Capital Flight)   i.e. GDP= $\beta_0 - \beta_1 Kf + \varepsilon$ (3)

MODEL II

    Exchange Rate (ER) = F (Capital flight)   i.e. ER= $\beta_0 - \beta_1 Kf + \varepsilon$(4)

Where:

    Kf   = Capital flight

    GDP   = Gross Domestic Product

    ER   = Exchange Rate

In the second model, since there is a large gap between the values of the two variables, that is, capital flight and exchange rate, there is need to transform one of the variable, that is, Capital flight, through Numeric Expression using SPSS. Hence, the capital flight variable becomes Kf/1000 (Nachrowi, 2006).

3.4 Data Processing and Estimation Techniques

The estimation techniques employed in this study is parametric statistical techniques since the research is experimental and the data is quantitative in nature. Hence the hypothesis is tested with the use of the Ordinary Least Square (OLS). The simple regressions are used to estimate the parameters.

The Ordinary Least Square (OLS) method is an econometric technique that is used to estimate the parameters of the linear regression technique model, because the OLS properties are known as the Best Linear Unbiased and Efficient estimator (BLUE). The objective of regression technique is to minimize the error term with the view of finding the model or regression equation that explain the data.

4.0 Data Presentation and Analysis

4.1 Presentation of Data

Table 4.1 Capital Flight, Gross Domestic Product and Exchange Rate in Nigeria

Years	Adjusted KF in 'N' Million (Y)	GDP at Factor Cost 'N' million (X_1)	Exchange Rate (ER)
1981	9,460.37	251,052.3	0.61
1982	23.85	246,726.6	0.67
1983	1,658.86	230,380.8	0.72
1984	126.01	227,254.7	0.76
1985	3,236.22	253,013.3	0.89
1986	9,843.06	257,784.5	2.02
1987	29,992.42	255,997.0	4.02
1988	6,097.22	275,409.6	4.54
1989	20,411.92	295,090.8	7.39
1990	57,818.86	328,606.1	8.04
1991	28,680.09	328,644.5	9.91
1992	41,239.74	337,288.6	17.30
1993	36,922.73	342,540.5	22.05
1994	40,739.48	342,288.5	21.89
1995	236.41	352,646.2	21.89
1996	116.02	367,218.1	21.89
1997	59.10	377,830.8	21.89
1998	369.94	388,468.1	21.89
1999	1,113,345.94	393,107.2	92.69
2000	646,948.54	412,332.0	102.11
2001	611,584.19	431,783.2	111.94
2002	621,229.34	451,785.7	120.97
2003	1,261,337.62	495,007.2	129.36
2004	2,001,271.80	527,576.0	133.50
2005	2,466,275.81	561,931.4	132.15
2006	2,986,918.51	595, 821.6	128.65
2007	4,104,917.11	634,251.1	118.57

Source: CBN Statistical Bulletin, Volume 18, 2007 and National Bureau of Statistics, and Global Finance Integrity,(2010).

Between 1981 and 1990, capital flight from Nigeria increased by more than 511.17 percent, while the economic growth attained 30.89 percent within the period of observation. Meanwhile the Nigerian Naira depreciated by more than 1,218 percent against the United States of America's Dollar. Within the next one decade (1990 and 1999), the percentage increase in capital flight and economic growth is estimated at 1,825.57 percent and 19.63 percent respectively, while the Naira depreciated further by 1,052.87 percent against the United State of America's Dollar. The rate of increase in capital flight tend to be on decrease between 1999 and 2007, as it increase by only 268.70 percent compare to previous decade, while the economy also grew by only 61.34 percent compare to the previous decade. Meanwhile the rate of depreciation of Naira against US Dollar also slowed down as the Naira depreciated by just 27.92 percent compare to the previous decade. The trend of changes in these three variables, that is, capital flight, economic growth and exchange rate, signifies existence of relationship between the variables, however, this can only be confirm through data analysis carried out below.

4.2   Data Analysis and Interpretation

Table 4.2.1 Regression Result on the Impact of Capital Flight on Exchange rate

Dependent Variable   : Exchange rate (ER)
Independent Variable : Capital flight (Kf)
Method   : Least Squares
Period of Observation: 25 years

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	23.103	7.202		3.208	.004
	Kf.ad	.039	.006	.799	6.650	.000

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.799[a]	.639	.624	32.60977

$$ER = \beta_0 + \beta_1 Kf + \varepsilon$$
$$ER = 23.103 + 0.039Kf$$
$$S.E = (7.20) \quad (0.006)$$
$$T = (3.208) \quad (6.650)$$

Table 4.2.2 Regression Result on the Impact of Capital Flight on Economic Growth

Dependent Variable   : Economic growth (GDP)
Independent Variable : Capital flight (Kf)
Method   : Ordinary Least Squares
Period of Observation: 25 years

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	312610.405	11899.981		26.270	.000
	Kf	.094	.010	.887	9.618	.000

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.887[a]	.787	.779	53878.67804

$$GDP = \beta_0 + \beta_1 Kf + \varepsilon$$
$$ER = 312610.405 + 0.094Kf$$
$$S.E = (11899.981) \quad (0.010)$$
$$T = (26.270) \qquad (9.618)$$

The result in table 4.2.1, shows the regression analysis of the impact of capital flight on exchange rate, where the variable of capital flight (Kf) has a positive impact on exchange rate. The value of coefficient is 0.039 which indicates that a change of 10% in capital flight will lead to a change of 0.39% in the exchange rate. With a T-statistic of 6.650, and probability of 0.0, it indicates a statistically significant effect on the dependent variable (Exchange rate).

The coefficient of determination (R-square) and adjusted R-square are high at 0.639 and 0.624 respectively, which implies that about 63.9% in exchange rate can be explained by changes in capital flight, while about 36.1% can be explained by factors outside this model; and if adjusted for degree freedom, then 62.4% variation in exchange rate is explained by the independent variable, that is, capital flight. However table 4.2.2 shows the regression result of impact of capital flight on economic growth proxyl by GDP. The impact of the variable of capital flight (Kf) impact on economic growth is positive. With a coefficient of 0.094 indicating that a change of 10% in capital flight will lead to a change of 0.94% in the economic growth.

This coefficient is statistically significant considering the fact that the T-statistic is high at 9.618. The coefficient of determination (R-square) and adjusted R-square are moderately high at 0.787 and 0.779 respectively, with implication that about 78.7% in economic growth can be explained by changes in capital flight, while the remaining 21.3% can be explained by factor outside this model.The variation in economic growth that could be explained by capital flight will be 77.9% if adjusted for degree freedom.

5.0 Conclusion and Recommendations

The objective of this study is to examine the impact of capital flight on exchange rate and economic growth in Nigeria. From the result obtained through econometric analysis of data on each of the variables, and within a minimum error tolerance, conclusion can be drawn thus:

Capital flight has a positive and statistically significant impact on exchange rate. The continuous demand for foreign currency especially the United State of American dollar, resulting from capital outflow tends to put pressure on the exchange rate, that is, the amount of dollar that can be purchased by a unit of Nigeria's currency. This result is in line with that of Ayadi (2008), except that in his study concluded that the exchange rate significantly explains capital flight (not the other way round).

More so, capital flight has a weak but statistically significant impact on economic growth, in contrast to Gusarova (2009)'s finding of negative relationship between capital flight and GDP growth. The basis for Gusarova's negative relationship is the fact that capital flight reduces domestic investments, which in turn lead to decrease in output. However, the positive effect observed in this study is not unconnected with the fact that part of the capital outflow were used for importation of industrial or capital goods, which are then used domestically in the process of production.

Based on this finding, the following recommendations are being made:

Since most illicit capital outflow resulted from misinvoices like under invoice of exports and over invoice of imports, the effectiveness and efficiency of the custom officials need to be improved upon through further training and workshops, especially on how to detect and handle misinvoicing in import and export activities.

Government need to regulate goods that are imported into the country, especially luxury goods and other items that can otherwise be produced locally, to avoid wastage of the foreign reserves, which could have been directed toward importation of industrial goods to help create more jobs and boost economic growth.

The Central Bank of Nigeria record has shown that an average of USD1 billion (N155 billion) is spent on weekly basis by the federal government of Nigeria for the importation of refined petroleum products. This amount is far greater than what the country earns from exportation of crude oil. The implication is that more dollars will be required to foot the difference between our exports of crude oil and importation of refined petroleum products. Therefore, the government should put in more effort towards revitalising all its refineries across the country, to enable them operate at full capacity so as to reduce the country's over dependence on imported refined petroleum products. This will go a long way to preserve the country's foreign reserves.

The government should try to minimize the activities of the foreign exchange parallel market. Only the licensed money changers should be allowed to operate bureau de change, and their activities should be closely supervised by the Central Bank of Nigeria.

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