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Capital Flight and the Nigerian Economy

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Abstract

The paper explores empirically the relative effect of capital outflows on the growth rate of GDP in Nigeria. To accomplish this task, three models of GDP growth rate were specified with each model incorporating a different measure of capital flight from Nigeria. The variables in the models were examined for possible co-integration. Research findings shows that capital flight impacts adversely on the growth rate of GDP and such growth rate effect of capital outflow is significant, capital control is insignificant in stimulating GDP growth rate in Nigeria, exchange controls are weak, industrial output is a veritable resource of GDP growth rate in Nigeria, public expenditure has significant positive impact on GDP growth rate in Nigeria and that the growth effects of domestic investment is insignificant in Nigeria. There is therefore the need for effective control of capital outflows. Also, there is an acute need to implement economic policies that can re-invigorate domestic investment and discourage capital flight in order to enhance economic growth in Nigeria.

Key Words: Capital flight, balance of payment approach, residual approach, bank deposit approach, Nigeria

1. Introduction

Capital flight is the outflow of capital in the form of massive transfer of currency from one country to another. It has often been regarded as the economic responses to the portfolio choices of wealth resident of some debtor countries in recent years [Dombush (1985), Cuddington (1986) and Conesa (1987)]. This is in search of protection against adverse economic and political development. In the words of KindleBerger,

> capital flight is an illegal movement of capital from one country to another.
> Indeed, it is an abnormal flow of capital as it is not sanctioned by the government.
> This is because exchange of capital controls imposed by the particular country
> is not adhered to[KindleBerger (1987)].

Carlvo and Hermandez (1996), Uchenolu (1994), Pierre (1998), Stevens (2003) and Obadan (2004) have attributed capital flight to macroeconomic mismanagement, policy distortions, exchange rate misalignment and budget deficit respectively. For example, as investors anticipate higher taxes, they divert their investment abroad. Also, where the local currency is overvalued, it leads to real exchange rate appreciation in order to correct the over valuation. When currency devaluation is expected, investors usually move out their domestic assets and invest in foreign countries in order to avoid the capital loss that will result from devaluation. In order to finance the budget, government usually prints more money, a practice which is inflationary. If inflation persists, individuals will choose to reduce their real holdings of domestic currency in order to protect themselves against the so-called inflation tax. In relation to this, when fiscal deficit is financed through bond sales, domestics resistant may expect that at some future date, their tax base liability may increase in order to pay for national debt. This as it were, induces domestic investors to move their assets to foreign countries to avoid potential tax liability [Uchenolu (1994), Deppler and Williamson (1987), Dooley (1986)].

According to Obadan (2004), the important question is why capital flight from Nigeria has acquired so much significance over the years. The massive capital flight from the country has often been linked to globalization and to large balance of payment deficits which in turn give rise to massive waves of currency speculation [Ajayi (1992), (1997)]. One important economic consequences of globalization for developing countries has been the massive and unprecedented outflows of foreign private capital. *FDI* inflow is supposed to be essential source of private foreign finance for developing countries. The traditional economic approach to *FDI* argues that it is net addition to investible

resources in host countries and thus helps to increase their rate of growth of *GDP* [Asante, (2000)]. This is fundamental two-gap model of development which presents foreign capital inflows as a solution to the dual problems of insufficient savings and scarcity of foreign exchange resources in the typical developing countries. What is most captivating is the fact that since *FDI* flows and portfolio investment are subject to many of the same "push" factors such as globalization, financial integration and technological innovation and "push" factors which include large market size and high per capital incomes, economic political and social stability, favourable investment climate, liberalized trade and financial regime and active privatization policy, the aggregate private capital flows into African countries is quite low. Thus, it is rather disturbing to note that official capital flow, particularly official development assistance [ODA] has continued to decline since the early 1980s [Morgan Guaranty Trust Company (1986), (1988), Wertz and Lizane (1998), Collier et al. (2001), (2003), (2004)]. Clearly therefore, the challenges to attract more inflows for investment has become acute in sub Saharan Africa.

The Nigerian economy is opened to world trade and this is yet to enhance better resource allocation, greater competition and innovation and the transfer of technology. However, such globalization has intensified access to foreign savings with the outflow of capital being on the increase. In the main, we have as an objective to empirically evaluate the relationship between capital flight from Nigeria and the growth rate of *GDP* in Nigeria. The empirical assessment will generate policy implications as regards the outflows of capital and its impact on the Nigerian economy. Drawing from the empirical determinants of capital flight, we shall discuss and evaluate the policy implication of what to do in order to contend capital flight. For the purpose of empirical assessment therefore, we hypothesized that capital outflow has no adverse effect on the growth rate of real *GDP* in Nigeria. The focus of this study could be justified as it attempts to empirically evaluate the determinants of capital flight from Nigeria. Following the introduction is the empirical review of literature. Next is the theory of capital flight from which a model is specified. Empirical analysis of results and policy implications arising there from are discussed and finally we have the concluding section.

2. Trend Analysis of Capital Flight from Nigeria

In Nigeria, the analysis of UNCTAD data shows that between 1980 and 1997, global foreign direct investment [FDI] outflows increased at an annual average rate of 13 percent which was much more than the annual growth rates of 7 percent reported for world GDP at current prices and world export of goods and non-factor services (IMF, 2007). Between 1987 and 1996, the private capital totaled US$40 billion with Nigerian residents accounting for US$17.5 billion of the said amount and the Sudan accounting for US$7.0 billion [Ndikumana (2003)]. Residents of sub-Saharan African countries increase their holdings of unreported foreign assets by US$132.0 billion over the same period. As it were, Nigeria accounted for about US$11.7 billion and Sudan accounted for US$7.2 billion [Chang and Cumby (1991), Ndikumana et al. (2008), Ndikumana and Boyce (2003) and (2007)].

The massively outflow of funds from the country and from naira to dollar is a serious indication that the global financial crisis has begun to take its toll on the Nigerian economy. In the last quarter of 2012, a total US$13.894 billion went out of the Nigerian economy [CBN, (2012)]. While about US$757 million went out in September 9, 2012 the amount of foreign exchange flowing out of the country rose to US$1.359 billion in the week ending September 19, 2012 (IMF, 2012). It, however, dropped to US$452 million on October 3, 2012 and moved astronomically to US$3.290 billion on October 17, 2012 [CBN, (2012)]. The foreign exchange outflow went further up to US$3.356 billion on October 31, 2012 and declined slightly to US$2.397 billion on November 4, 2012 and to US$2.02 billion and to US$1.262 billion for the weeks ending November 21, 2012 and November 28, 2012 respectively. This has resulted in the crash of the Naira-US$ exchange rate. The CBN has attributed the collapse of the naira at the interbank market to currency speculators who buy and hold currency for them to sell later to make some gain [Leite and J. Weidmann (1999) Lensink et al. (2000)]. ". Market operators have as well attributed currency outflow to the reduction of credit line to Nigerian banks by their foreign counterparts as a result of the global financial meltdown given that the usual 90 days trade credit line has dried up in some banks who have had to meet the needs of their customers through direct sales.

Money market operators have equally maintained that the US dollar demand is mostly driven by importers before the Christmas trading season as well as by portfolio investors who have been taking money out of Nigeria as the global credit crisis dampens desire for risk. It has also been fuelled by banks, businesses and individuals worried by the long-term impact of falling oil prices on Nigeria's economy thereby shifting their balance sheets out of naira into US

dollars. The *CBN* might have deliberately restricted dollar supply to the market to flush out speculators and ascertain the true level of underlying demand. The movement of funds out of the country comes by way of Nigeria residents buying up US dollars with their naira and moving it offshore. For example, in October 2012, a number of billions of dollars were purchased through the banks and Bureaux de change.

According to data obtained from CBN, the total amount of foreign exchange that went out through travels amounted to US$72.067 million (CBN, 2012).

Investigation showed that the CBN sold $180 million at the interbank market. The problem is this: even if the Naira-US$ exchange depreciates, the Nigeria's interbank foreign exchange market will always remained stagnant as dealers waited to see the outcome of the sale of securities by the CBN if it would stabilize the naira. The *CBN* claims it always meet demands at a market determined exchange rate and ready to buy and sell securities as required. In actual fact, what the *CBN* does is to allow the naira to be stable for months and to depreciate further against the dollar at its bi-weekly auction.

3. Empirical Review

The empirical relationship between capital flight and macroeconomic variables have been thrust of several studies [see Ajayi (1999), (2003), Awung (1995), NgEno (1994), Olopoenia (1995), Cuddington (1986), Bhinda et al. (1998), Dooley (1986), Khan and Hague (1985), Eaton (1987), Gordon and Levine (1989), Duwendage (1989)]. The devastating effects of capital flight on macroeconomic variables have been empirically ascertained on the ground that it widens fiscal deficits to the extent that deficits are most often financed by printing money. This in turn engenders domestic inflation [see Ajayi (1999), (2003), Awung (1995), NgEno (1994), Olopoenia (1995)]. Ajayi (1999) and Ajayi (2003) found a link between capital flight and external debt in Nigeria. He particularly noted that outflow of capital persistently aggravates balance of payments deficits.

The empirical document of Ngeno (1994) has it that outflow of capital is the major cause of currency overvaluation, excessive fiscal deficit and high inflationary tendencies in the domestic economy. In his portfolio adjustment model, Cuddington (1986) found expected inflation rate, foreign interest rate, domestic interest rate and disbursement of public and publicly guaranteed loans as key factors responsible for capital flight. According to Dooley (1987), capital flight stimulates poor private domestic investment, it significantly exacerbate financial repression and risk premium. Studies have attributed capital outflow to different causes [Khan and Hague (1985), Eaton (1987), Calvo et al. 1994), Carlvo and Hermandez (1996), Chacssens and Naude (1993), Siegd (1998), Obadan (1999), Rodrick and Velasco (1999), Duwendage (1989), Pierre (1998), Ajayi (2003), Obadan (2004)]. Khan and Hague (1985), Eaton (1987) attributed the phenomenon to differentials in taxation and asymmetric investment guarantees. While Calvo et al. (1994) established that low output growth as measured in gross domestic product [GDP], unsustainable balance of payments [BOP] and insufficient investment are the consequences of capital outflow, others attributed excessive borrowing to the phenomenon [see Erbe (1985), Kindleberger (1987), Chacssens and Naude (1993), Siegd (1998), Obadan (1999), Rodrick and Velasco (1999), Gerth (1999)]. According to Gordon and Levine (1989), capital outflow stimulate low investment returns and public sector foreign liability. Given that private sector liability increases as national output falls, most residents expect increase in taxes and as such embark on the path to diverting their investments abroad [Hermes and Lensink (1992), (2002), Duwendage (1989)].

4. Economic Theory of Capital Flight and Model Specification

4.1. Theory

In the theory of international economics, there are three approaches to the measurement of capital flight. These include the balance of payment approach, the residual approach and the bank deposit approach. The balance of payment approach measures capital flight as the sum of recorded short-term capital outflows and unrecorded net flows or net errors and omissions. Cuddinton (1986) observed that private short-term capital movement is imprecisely reported or not reported at all especially in countries which impose capital controls. The imprecise record short-term positive capital flows is however captured as net errors and omissions of the countries balance of payments. In the residual approach, capital flight is calculated as the difference between sources and uses of capital inflows. The sources of capital inflows are increases in external debt and foreign direct investment these capital inflows are used to finance either current account deficits or increase in official reserves [World Bank (1985) and Erbe (1985), Gordon and Levine (1989), Murinde et al. (1996), Gupta et al. (2007), Pattillo (2007)]. The inflows that finance neither current account deficits now increase in reserve constitute capital flight. If the sum of external

debt changes, foreign direct investment and current account balance minus increase in reserves is positive we have capital flight. The bank deposits approach measures capital flight as the increase in recorded foreign bank deposits of a country's resident.

4.2. Simultaneous Equation Model: Complete Specification

In line with the theory, we specify a simultaneous three-equation model. In each equation of the model, a different measure of capital flight is adopted. These include the balance of payments measure, residual measure and bank deposits measure. The empirical error correction representation of the simultaneous equation model is given as:

$$Ln\ GGDP = a_0 + a_1 LnCFLT + a_2\ Ln\ EXRC + a_3\ Ln\ DOMV + a_4\ Ln\ PUDT + a_5\ LnINDQ + a_6\ ECT_{t-1} + u_{1t} \quad (3.1)$$

$$Ln\ TTOT = w_0 + w_1 LnCFLT + w_2\ LnGGDP + w_3\ Ln\ DOMV + w_4\ Ln\ OWLT + w_5 LnEXTS + w_6 ECT_{t-1} + u_{2t} \quad (3.2)$$

$$Ln\ DOMV = f_0 + f_1 LnCFLT + f_2\ LnRINT + f_3\ Ln\ TTOT + f_4\ Ln\ FDNV + f_5\ LnGGDP + f_6\ ECT_{t-1} + u_{3t} \quad (3.3)$$

Where *GGDP* is the growth rate of the Nigeria economy as measured by the growth rate of *GDP, CFLT* is capital flight, *EXRC* exchange controls, *DOMV* is the domestic investment, *PUDT* is public expenditure, *INDQ* is the level of industrial output in Nigeria, *TTOT* is terms of trade, *OWLT* is oil proceeds, *EXTS* is the exchange rate misalignment, that is, instability, *RINT* is the domestic real interest rate, *FDNV* is the foreign direct investment ECT_{t-1} is the one-period lag of the error correction term generated as the *OLS* residuals from the respective equation and u_t's are the standard white noise stochastic disturbances.

5. Methodology and Data

Given that the paper estimates a simultaneous equation model, the numerical coefficients of the model are estimated with the *Generalized Method of Moment [GMM]* estimator. The *GMM* estimator eliminates estimation biases that most often arise from simultaneity and possible omission. Thus, having conducted the unit root and co-integration tests, an error correction representation of the simultaneous three-equation model is estimated using the *GMM* method of estimation. The system *GMM* has the advantage of identifying the system errors which are interpreted as linear combinations of exogenous shocks [Shapiro and Watson (1988)]. Structurally, the *GMM* is an instrumental variable methodology often utilized to correct functional error of measurement. The data used in this study are obtained from the database of the *Central Bank of Nigeria [CBN]*. All series are annually and the sample extends from 1980 to 2010. Accordingly, the empirical measurement covers the sample period, 1980-2010. Unless otherwise stated, all the series namely, the growth rate of the Nigeria economy as measured by the growth rate of gross domestic product, the capital flight series, the series for capital controls, the foreign direct investment series, the series for oil proceeds, the series for industrial output in Nigeria are in their natural logarithm. As earlier mentioned we utilize the *BOP,* residual and bank deposit measures of capital flight.

6. Results

6.1. Analysis of Unit Root Results

The unit tests results as indicated in Table **1** in appendix section is designed to ascertain the order if integration of the variables. The *Augment Dickey Fuller [ADF]* regression includes an intercept and a linear trend. While -3.5514 is the 95 percent critical values for rejection of the hypothesis of a unit root under the *Philips-Peron [PP]* test, is the 95 percent critical value for rejecting the presence of unit root under the *ADF* test. As it were, none of the series was stationary at level under the *Augmented Dickey Fuller.* However, some variables were found to exhibit stationary at level under the *Philips-Peron [PP]* test. For sake of empirical consistency, the first differences of the variables were tested for stationary. The first differences of the variables were tested for stationary. All the exchange rate and reserve-flight, openness, fiscal deficit, inflation, real exchange rate and reserve-flight ratio became stationary in their first differences. This can easily be seen from the *Philips-Peron* as they exceed the 95 percent Mackinnon critical vales for the rejection of the null hypothesis of a unit root in absolute values.

6.2. Co-integration Test Analysis

The determination of the order of integration of each the variables in the study facilitated the co-integration test. This

is because in the short-run dynamic specification, the order of integration was utilized. Evident in Table **2** are the co-integration test results. The tests were carried out on the basis of the trace and maximum eigen value statistics under the *Johansen's Maximum Likelihood* test for co-integration. As shown in the Table, the trace and maximum eigen value statistics indicate at least five co-integrating ranks. This indeed established a co-integrating relationship between capital flight, the growth rate of real *GDP* and the vector of control variables.

6.3. Analysis of Simultaneous Equation Results

Using the Error correction mechanism, we estimated the short-run adjustment dynamics of the model. The highest lag order utilized in this estimation was one. The results are as shown in Table **3**. The simultaneous equation results in panel **A** adopted the *BOP* measure of capital flight. The coefficient of model determination explains 66 percent of the total variation in Nigeria's gross domestic product. The proportion of such variation that is unexplained by the error correction model is infinitesimal. The error correction term is statistically significant and negative. The coefficient of the speed of adjustment is negative and significant. Thus, it will rightly act to correct any deviations from long-run equilibrium between the growth rate of gross domestic product, capital fight, public expenditure, domestic investment, capital controls and industrial output in Nigeria. Capital flight has negative effect on the growth rate of output. The estimated impact is given by (-1.059). By intuition, 10 percent increase in capital outflow will induce 10.59 percent decline in output growth. Also, capital control had negative impact on the growth rate of *GDP*. However, it estimated negative impact is insignificant. Public expenditure, domestic investment and industrial output impacted positively and significantly on the growth rate of national output. The estimated impacts are given by 0.928, 1.299 and 0.539 respectively. The numerical coefficient of capital control is insignificant with a positive sign.

Panel **B** shows that the estimated impact of capital outflow and exchange instability are negatively significant in explaining terms of trade balance in Nigeria. With the residual measure of capital flight, the estimated coefficient of capital outflow becomes -1.329. Accordingly, one percentage point increase in capital outflow stimulates about 1.329 percentage point instability in the Nigerian trade balance. The growth rate of output, domestic investment and oil revenue impacted positively on trade balance However, only the estimated impact of output growth and oil revenue are significant. Their respective t-ratios are given by 5.003 and 3.000. The estimated impact of domestic investment failed the significance test with a t-ratio of 1.233. The adjusted coefficient of determination stood at 80.6 percent. In effect, capital outflow, growth of national output, domestic investment, exchange rate instability and oil revenue explains more about 81 percent of the total variation in terms of trade. The proportion of such variation that is unexplained by the error correction model is infinitesimal. The coefficient of the error correction term is -0.593 with a t-ratio of -3.022. Thus, the coefficient of the speed of adjustment is negative and significant. Thus, it will rightly act to correct any deviations from long-run target of the trade balance in view of changes in the aforementioned variables. The F-statistic is 109.34. This passes the significant test at the 1 percent level.

The simultaneous equation in panel **C** adopted the bank deposit measure of capital flight. The equation estimates the impact of capital flight, real interest rate, terms of trade, foreign direct investment and growth rate of GDP on domestic investment in Nigeria. The result shows that capital outflow has adverse effect on domestic investment in Nigeria. With a coefficient of -1.083, it thus implies that domestic investment will fall by 16.245 percent in line with 16 percent outflow of capital. Foreign direct investment impacted positively and significantly on domestic investment. This is conformed to theoretical expectations. The estimated domestic investment effect of foreign direct investment is 0.228. As it were, domestic investment will rise by 2.28 percent in view of 10 percent increase in foreign direct investment inflow. As expected, real rate of interest had negative impact on domestic investment. This in essence signifies inverse correlation between investment and interest rate. Thus, an increase in interest rate leads to a decline in domestic investment in Nigeria. The estimated investment effect of interest rate is -1.359 with a t-ratio of -2.069. A positive correlation is estimated between the growth rate of *GDP* and domestic investment. The estimated investment effect of output growth is 1.339. The said effect is significant given that the estimated t-ratio exceed 2 based on the rule of thumb. The explanatory variables namely, capital outflow, real interest rate, terms of trade balance, foreign direct investment and the growth rate of real *GDP* explain 90.3 percent of the total variation in Nigeria's domestic investment. The coefficient of the speed of adjustment is negative and significant. As a result, deviations from long-run target of domestic investment are corrected. The F-statistic of 220.8 passes the significance test. Hence, the overall equation is significant. Diagnostically, the simultaneous model is well specified and estimated. This is ascertained on the ground that the hypotheses of absence of model mis-specification, unit variance, serially independence and normally distributed residuals are validated. There is absence of simultaneity bias in the

estimated set of regression results. In all, the estimated effect of capital outflow is negative and significant. The effect of capital flight is not sensitive to the measure adopted. By empirical intuition, the result indicates that capital flight significantly impacted negatively on the growth rate of the Nigerian economy.

6.4. Policy Implications

Capital flight has adverse effects on the growth rate of *GDP.* The growth rate effect of capital outflow is significant. Therefore the null hypothesis is rejected in favour of the alternative. Capital control is insignificant in stimulating *GDP* growth rate in Nigeria. By implication, capital control is yet to be effective. Industrial output is a veritable resource of *GDP* growth rate in Nigeria. Public expenditure has significant positive impact on *GDP* growth rate in Nigeria. The impact of domestic investment on *GDP* growth rate in Nigeria is insignificant. Exchange rate instability measured in terms of over-valuation and under-valuation often creates uncertainty and thus makes the domestic environment unattractive to invest in. This is in addition to the fact that such instability induces expected devaluation to the extent that domestic residents lose confidence in announced policies to deal with domestic economic problems but preferring rather to take their assets out of the country. Declining terms of trade lead to a contraction of domestic investment. This in itself has the capacity to lower national output with concomitant decline in government revenue such that the government finds it difficult to in offsetting its expenditure without increasing taxes.

Capital flight takes place through various channels among which are through the foreign exchange market, false invoicing of exports and import through the black or parallel foreign exchange markets, through precious metals and collectibles [Obadan (2004)]. Capital flight through the foreign exchange market is possible under a relatively free payments system. Thus, in the absence of capital or exchange controls, residents simply transfer funds abroad at the prevailing exchange rate in the form of foreign or domestic currency, travelers cheques or other cheques the availability of foreign exchange facilitate the case with which residents engage in capital flight. False invoicing of exports and imports is another way by which exchange controls are circumvented and it takes the form of over invoicing of imports and under invoicing of exports.

7. Conclusion

We have in this paper embarked on an empirical investigation of the relative effect of capital outflows on the growth rate of *GDP* in Nigeria. To accomplish this task, three models of *GDP* growth rate were specified with each model incorporating a different measure of capital flight from Nigeria. The variables in the models were examined for possible co-integration. The study utilized lag order one as the optimal lag length as selected by the information criteria. The co-integration tests show that any short-run perturbation in the variables settles at an equilibrium level. This indeed enhanced and hence facilitated the statistical fitness of the estimated relationship. Research findings shows that capital flight impacts adversely on the growth rate of *GDP* and such growth rate effect of capital outflow is significant, capital control is insignificant in stimulating *GDP* growth rate in Nigeria, exchange controls are weak, industrial output is a veritable resource of *GDP* growth rate in Nigeria, public expenditure has significant positive impact on *GDP* growth rate in Nigeria and that the growth effects of domestic investment is insignificant in Nigeria. There is therefore the need for effective control of capital outflows. Also, there is an acute need to implement economic policies that can re-invigorate domestic investment and discourage capital flight in order to enhance economic growth in Nigeria.

References

Adegbayo P. A. (1997) “Aid and Grants as a Vehicle for Economic Development: The Nigerian

Experience” Paper Presented at the CBN Seminar on the Debt Problem and the Nigerian Economy, Abuja, 28-29 October

Ajayi, I. S. (1997) “An Analysis of External Debt and Capital Flight in the Severely Indebted Low Income Countries in Sub-Saharan Africa”, *International Monetary Fund,* Working Paper 97/68.

Ajayi S. I. (1999), “Capital Flight from Africa: Theoretical, Conceptual and Measurement Issues”. Proceeding of the Symposiums on Capital Flight from Africa, Trends, Magnitude and Implication for Economic Developments, Abuja

Ajayi,S.I (2003),” External Debt, Capital Flight and Growth in Nigeria”, In Okonjo Iweala, et al (ed) The Debt Trap in Nigeria, Towards a Sustainable Debt Strategy,

Asante, Y. (2000) "Determinants of Private Investment Behaviour", *African Economic Research Consortium,* Research Paper 100, March

Bhinda,N.S, Griffith-Jones, and M. Martin (1998), Private Capital Flows to sub-Saharan Africa. A Supply-Side Study "Minco Graph

Blackwell, M and B. Nocceva (1988) "The Impact of Debt to Equity Conversion Finance and Development 25 (2) Pp 15-17

Calio G.A.L, Ludeman, and C.M. (1994), The Capital Inflow Problem Concept and Issues, ICEG Occasional Paper (56)

Calvo G. A., L. Lerdenan and C. M. Renhart (1994), The Capital Inflows Problems, Concept and Issues, ICEG Occasional Papers

Carbo V and L. Hermandez (1996), "Macroeconomic Adjustment to Capital Inflows: Lessons from Recent Latin American and East Asian Experience. World Bank Research Observer

Central Bank of Nigeria (2012), "Capital Flight and the Nigerian Economic System, CBN, Abuja

Chacssens S and D. Naude (1993) "Recent Estimate of Capital Flight" *World Bank Policy Research Working Paper* (1186) Washington, D.C, The World Bank

Colaco F. X., (1985) "International Capital Movements and Economic Development" *Finance and Development* Vol. 22, No. 3, September

Collier, P., A. Hoeffler and C. Pattillo (2001) "Flight Capital as a Portfolio Choice", *World Bank Economic Review*, 15(1)

Collier, P., A. Hoeffler and C. Pattillo (2003) "Africa's Exodus: Capital Flight and the Brain Drain as Portfolio Decisions", Unpublished Manuscript, December.

Collier, P., A. Hoeffler and C. Pattillo (2004) "Aid and Capital Flight", Oxford University: *Centre for the Study of African Economies*.

Cuddington, J. T. (1986) "Capital Flight, Issues and Explanations", *Princeton Studies in International Finance*, 58. Princeton, NJ: Princeton University.

Deppler, M. and M. Williamson (1987) "Capital Flight: Concepts, Measurement and Issues", Staff Papers for the World Economic Outlook. Washington, DC: *International Monetary Fund*.

Dooley, M. P. (1986) "Country-Specific Risk Premiums, Capital Flight and Net Investment Income Payments in Selected Developing Countries", Washington DC: *International Monetary Fund*.

Erbe, S. (1985) "The Flight of Capital from Developing Countries", *Intereconomics* (November/December).

Gerth, J. (1999). "Hearings Offer View Into Private Banking," *New York Times*, 8 Novembre, p. A6.

Gordon, D. B. and R. Levine (1989) "The "Problem" of Capital Flight: A Cautionary Note", *The World Economy*, 12(2). 24

Gupta, S., C. Pattillo and S. Wagh (2007), "Impact of Remittances on Poverty and Financial Development in Sub-Saharan Africa", *International Monetary Fund*, Working Paper 07/38

Hermes, N. and R. Lensink (1992) "The Magnitude and Determinants of Capital Flight: The Case for six Sub-Saharan African Countries," *De Economist*, 140(4).

Hermes, N., and R. Lensink (2001) ''Capital Flight and the Uncertainty of Government Policies'', *Economics Letters*, 71 (3).

Hermes, N., R. Lensink and V. Murinde (2002) "Flight Capital and its Reversal for Developing Financing", *UNU/WIDER*, Discussion Paper No. 2002/99.

International Monetary Fund (2012) "Balance of Payments Statistics 2007", *International Monetary Fund*.

Kindleberger, C. P. (1987) "A Historical Perspective", in D. R. Lessard and J. Williamson (eds) *Capital Flight and Third World Debt*. Washington DC: Institute for International Economics.

Khan S. and U. N. I. Haque (1987), "Capital Flight from Developing Countries" *Finance and Development* vol. 24, No.1 March

Leite, C. and J. Weidmann (1999), "Does Mother Nature Corrupt? Natural Resources, Corruption and Economic Growth," *IMF Working Paper*, WP/99/85.

Lensink, R., N. Hermes, and V. Murinde (2000) "Capital Flight and Political Risk", *Journal of International Money and Finance*, 19.

Morgan Guaranty Trust Company (1986), "LDC Capital Flight", *World Financial Markets*, 2.

Morgan Guaranty Trust Company (1988) "LDC Debt Reduction: A Critical Appraisal", *World Financial Markets*, 7.

Murinde, V., N. Hermes, and R. Lensink (1996) "Comparative Aspects of the Magnitude and Determinants of Capital Flight in Six Sub-Saharan African Countries", *Saving and Development*, 20(1).

Ndikumana, L. (2003) "Financial Development, Financial Structure, and Domestic Investment: International Evidence", *Political Economy Research Institute*, University of Massachusetts Amherst, Working Paper Series, Number 16.

Ndikumana, L. and H. Fofack (2008) "Capital Flight Repatriation: Investigation of its Potential Gains for Sub-Saharan African Countries", Paper presented at the *2008 African Economic Conference*, November 2008, Tunis, Tunisia.

Ndikumana, L. and J. K. Boyce (2003) "Public Debts and Private Assets: Explaining Capital Flight from Sub-Saharan African Countries", *World Development*. 25

Ndikumana, L. and J. K. Boyce (2007) "New Estimates of Capital Flight from Sub-Saharan African Countries: Linkages with External Borrowing and Policy Options", Paper prepared for the *Senior Policy Seminar* on "Capital Flight from Sub-Saharan Africa: Implications for Macroeconomic Management and Growth", October 30-November 2, 2007, Pretoria, South Africa.

Obadan M. I. (1999), International Capital Flows and The Recent Financial Crisis: What Have We Learned? *Presidential Address Delivered to the Nigerian Economic Society Annual Meeting,* Abuja: July.

Obadan M. I. (2004), "Foreign Capital Flows and External Debt Perspectives on Nigeria and the LDCS Group, Ibadan University Press

Olisadebe E. U. and D. O. Ajakaiye (1998), A Study of Nigerian Informal Exchange Implication for Foreign Exchange management: A Publication of CBN/NISER Informal Sector Study. Ibadan: CBN and NISER

Pattillo, C. (2007) "Impact of Capital Flight on Investment", Paper presented for the *Senior Policy Seminar* on "Capital Flight from Sub-Saharan Africa: Implications for Macroeconomic Management and Growth", October 30-November 2, 2007, Pretoria, South Africa.

Pierre P. (1998), "Liberalizing Capital Flows: Lessons from Asian. *The OECD Observer* (34) October/November

Rodrick D. and A. Velasco (1999) "Short-Term Capital Flows" In Plaskone B., and J. F. Stightz, (ed), *Annual World Bank Convergence on Development Economics* 1888, Washington DC, The World Bank

Siegd M. (1998), Control of International Capital: A Survey of Policy Options" Discussion Paper for Working Group 1 at the Friend of the Earth's International Forum on Globalization

Stevens, P. (2003), "Resource Impact: Curse of Blessing?," A Literature Survey, *Journal of Energy Literature IX*, pp. 3-41.

Uchenolu O. A. (1994), "The Determination of External Debt Services in Africa" *CBN Econometric and Financial Review*, Vol. 32, No. 1, March

Biography

David UMORU holds *B. Sc, M.Sc and Ph. D* degrees in Economics from the University of Benin, Nigeria. His research interest includes *monetary, health and growth economics*. Presently, *DR. UMORU* is a consultant in econometric modeling and he currently lectures Economics in the *Department of Economics, Banking & Finance, Benson Idahosa University, Nigeria.*

APPENDIX

Table 1: UNIT ROOT TEST RESULTS

PANEL A: STATIONARY RESULTS UNDER THE PHILLIPS-PERRON [PP] STATIONARY TEST			
Variables	**PP Test Statistic**	**Critical Value @ 95%**	**Inference**
*Ln*GGDP	-9.825568	-5.6389	Stationary
Ln CFLT	-5.808574	-5.6389	Stationary
Ln PUDT	-6.654879	-5.6389	Stationary
Ln DOMV	-9.996355	-5.6389	Stationary
Ln EXCR	-8.075533	-5.6389	Stationary
Ln INDQ	-9.935966	-5.6389	Stationary
Variables	**PP Test Statistic**	**Critical Value @ 99%**	**Inference**
*Ln*GGDP	-8.822654	-5.9963	Stationary
Ln CFLT	-9.665329	-5.9963	Stationary
Ln PUDT	-16.23566	-5.9963	Stationary
Ln DOMV	-10.98333	-5.9963	Stationary
Ln EXCR	-13.26653	-5.9963	Stationary
Ln INDQ	-6.986966	-5.9963	Stationary
PANEL B: STATIONARY RESULTS UNDER THE AUGMENTED DICKEY-FULLER [ADF] TEST			
Variables	**ADF Test Statistic**	**Critical Value @ 95%**	**Inference**
*Ln*GGDP	-6.346925	-3.9972	Stationary
Ln CFLT	-4.808174	-3.9972	Stationary
Ln PUDT	-6.654879	-3.9972	Stationary
Ln DOMV	-8.468563	-2.9972	Stationary
Ln EXCR	-8.229925	-3.9972	Stationary
Ln INDQ	-7.565566	-3.9972	Stationary
Variables	**ADF Test Statistic**	**Critical Value @ 99%**	**Inference**
*Ln*GGDP	-6.989933	-4.5536	Stationary
Ln CFLT	-24.20356	-4.5536	Stationary
Ln PUDT	-6.952879	-4.5536	Stationary
Ln DOMV	-12.66655	-4.5536	Stationary
Ln EXCR	-8.073897	-4.5536	Stationary
Ln INDQ	-13.56566	-4.5536	Stationary
NOTE: CV indicates critical value. * indicates significance			

Table 2: CO-INTEGRATION TEST RESULTS BASED ON RANK DETERMINATION

PANEL A: NUMBER OF CO-INTEGRATING VECTORS UNDER THE TRACE STATISTIC			
H_0	H_1	Trace statistic	CV @ 95%
$r = 0$	$r = 1$	354.33*	332.69
$r \leq 1$	$r = 2$	333.82*	238.63
$r \leq 2$	$r = 3$	320.42*	230.23
$r \leq 3$	$r = 4$	238.92*	226.69
$r \leq 4$	$r = 5$	536.42*	222.22
H_0	H_1	Trace statistic	CV @ 99%
$r = 0$	$r = 1$	554.33*	532.69
$r \leq 1$	$r = 2$	536.85*	438.63
$r \leq 2$	$r = 3$	620.43*	330.23
$r \leq 3$	$r = 4$	538.95*	526.69
$r \leq 4$	$r = 5$	536.55*	322.22
PANEL B: NUMBER OF CO-INTEGRATING VECTORS UNDER THE MAX-EIGENVALUES			
H_0	H_1	Max-Eigen Value	CV @ 95%
$r = 0$	$r = 1$	368.55*	260.99
$r \leq 1$	$r = 2$	344.66*	258.39
$r \leq 2$	$r = 3$	336.23*	250.38
$r \leq 3$	$r = 4$	530.65*	242.65
$r \leq 4$	$r = 5$	528.35*	234.55
H_0	H_1	Max-Eigen Value	CV @ 99%
$r = 0$	$r = 1$	668.55*	560.99
$r \leq 1$	$r = 2$	644.66*	558.39
$r \leq 2$	$r = 3$	636.23*	350.38
$r \leq 3$	$r = 4$	930.65*	642.65
$r \leq 4$	$r = 5$	828.35*	634.55
NOTE: CV indicates critical value. * indicates significance			

Table 3: ESTIMATING THE EFFECTS OF CAPITAL FLIGHT ON THE NIGERIAN ECONOMY

PANEL A: BOP MEASURE	
Dependent Variable is GGDP	
Constant	3.386(5.002)***
Ln CFLT	-1.059(-3.069)***
Ln PUDT	0.928(3.056)**
Ln DOMV	1.299(3.939)
Ln EXCR	-1.735(-1.973)
Ln INDQ	0.539(10.000)
ECT_{t-1}	-0.566(-3.003)***
R^2 [Adjusted R^2]	66.73[59.92]
F-statistic [Probability]	259.9[0.000]***
Jacque-Bera statistic	1.355[9.768]
RAMSEY RESET statistic	0.523[0.643]
White statistic	1.439[0.002]
Breusch-Godfrey LM statistic	1.992[0.009]
PANEL B: RESIDUAL MEASURE	
Dependent Variable is TTOT	
Constant	-6.375(-2.059)**
Ln CFLT	-1.329(-2.023)**
Ln GGDP	1.305(5.003)***
Ln DOMV	2.523(1.233)
Ln EXTS	-1.559(-6.662)***
Ln OWLT	3.435(3.000)***
ECT_{t-1}	-0.593(-3.022)**
R^2 [Adjusted R^2]	83.5[80.6]
F-statistic [Probability]	109.34[0.000]***
Jacque-Bera statistic	2.059[9.036]
RAMSEY RESET statistic	0.292[8.023]
White statistic	3.993[9.230]
Breusch-Godfrey LM statistic	1.005[0.0025]
PANEL C: BANK DEPOSITS MEASURE	
Dependent Variable is DOMV	
Constant	5.002(2.236)**
Ln CFLT	-1.083(5.235)***
Ln RINT	-1.359(-2.069)**
Ln TTOT	1.5361..388)
Ln FDNV	0.228(5.038)***
Ln GGDP	1.339(2.002)**
ECT_{t-1}	-0.995(-5.000)***
R^2 [Adjusted R^2]	90.7[90.3]
F-statistic [Probability]	220.8[0.000]***
Jacque-Bera statistic	1.008(9.755)
RAMSEY RESET statistic	0.568[4.605]
White statistic	8.999[5.856]
Breusch-Godfrey LM statistic	1.329[6.022]
Note: ** (***) indicates significance @ 5% (1%) levels respectively	