CAPITAL FLIGHT AND NIGERIAN ECONOMIC GROWTH: CAUSES AND CONSEQUENCES

DR. J.E. Ezike

and

Ajayi, L.B.

Abstract

The problem of Capital Flight from developing countries has attracted the attention of many researchers. The focus of such studies has encompassed the magnitude, causes and consequences of capital flight and its implications for external borrowing. This study evaluated the impact of capital flight on Gross Domestic Product (GDP) and Gross Capital Formation (GCF) as major indices of growth in the Nigerian economy for the period 1974-2007. The study used co-integration and Error Correction Mechanism as its estimation techniques. The results obtained showed that Capital Flight has negative impact on economic growth in Nigeria. Consequently some policy prescriptions were recommended, including the need for appropriate macro-economic policies to encourage domestic investment as well as transparency in governance

Keywords: Capital Flight, Gross Domestic Product, Index of Capital Flight, Gross Capital Formation, External Reserve**1.0**

Introduction

There exists no generally acceptable definition of the term "capital flight", most of the times, this term is related to capital which is shipped out of developing countries. Lessard and Williamson (1987) define capital flight as illegal conveyance of capital abroad which stays unrecorded in the national accounts of developing countries. However, if capital shifts out of the developed country it is usually referred to as capital outflow. Investors from developed countries are seen as responding to investment opportunities, while investors from developing countries are said to be escaping the high risk they perceived at home, Ajayi (1997). The huge amount of capital flight experienced by the less developed countries (LDC) and their effects on the national economy have attracted the attention of many economists in recent years. Capital flight has been regarded as a major factor contributing to the foreign debt problem and inhibiting development efforts in the third world, (Cuddington 1986). The economic arguments against capital flight from developing countries are not only convincing but are also too strong to be ignored, as they can lead to a net loss in the total resources which are available to an economy for the purpose of investment and growth. The term "Capital Flight", arouses strong emotions in some quarters. Some analysts view it as a symptom of a sick society while others view it as the cause of heavily indebted country's inability to recover from their debt problems. Capital flight is also regarded by others as a "pejorative description of natural, economically rational responses to the portfolio choices that have confronted wealthy residents of some debtor countries in recent years", Lessard and Williamson (2000). In whatever form it is defined or viewed, the fact remains that capital flight is perceived as an "illegal" capital outflow from a country with serious negative impacts on the source country. The controversy surrounding the term is partly due to the lack of a precise and universally accepted definition for it in economic theory and partly because of the way the term is used between developed and developing countries.

Studies of Capital Flight from developing countries stress the point that lack of adequate development finance, explains the urge for huge external borrowing to argument domestic resources Cooper and Hardt (2000), Ndikumana and Boyce (2003).

In a more objective sense, economic theory explains capital flight from developing countries as a product of natural and economically rational behaviour of wealthy residents of these debtor

countries who try to diversify their portfolio in order to protect themselves against perceived risky assets in the domestic economy.

It is against this background that this study is set to critically investigate the causes and consequences of Capital Flight in Developing Economies with particular emphasis on Nigeria

2.0 Literature Review and Theoretical Framework

Many researchers have attempted to examine the effect of capital flight on economic growth, eg. Gusarova (2009). His findings indicate that capital flight has a negative influence on the GDP growth by reducing domestic investment. In consequence lower level of domestic investment reduces the capital labour ratio, which in turn reduces labour productivity and consequently the output produced.

It was further 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. A corollary of exchange rate over-valuation is parallel exchange market premium. The presence of high parallel market premium is normally interpreted as a symptom of "a sick economy". In essence, this finding indicates that an expectation of future depreciation of currency encourages capital flight.

Victor (2004) used a panel data of 77 developing countries between 1971 and 2000 and formulated a hypothesis that inflation has a positive impact on post war capital flight flows. His results consistently support the hypothesis that post-war inflation exacerbates annual capital flight flow 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. Cooper amd Hardt (2000) analysed the determinants and effects of capital flight on the Russian economy by using an institutional approach as a basis of analysis. The study concluded that the handling of capital flight in Russia does not require a strict policy on capital, which in fact will worsen the condition. They argue that policy tightening will not increase investment opportunities, reduce the quality of project financing, the accumulation of bad debt and may even aggravate the crisis. Thus the policy of restrictions on capital flight in such a case, is not part of pro-growth policies. Instead it takes only an increase in institutional functions to improve the investment process, encourage investment activity and lead to decline of the impact of capital flight.

Capital flight from Africa has been at the forefront of the development policy debate in the literature. The relevant studies in this respect include Ndikumana and Boyce (1992), and The World Bank (1985). In addition, a study by Ali and Walter (2011) evaluated the causes of capital flight from sub-saharan Africa. Their study drew insights from portfolio theory and provided an empirical evidence, linking capital flight to the domestic investment conditions. By means of panel data for 37 African countries over the period 1980-2005, they found that abstracting from the structural institutional features of the region, private capital outflows from Africa can be explained by policy distortions, as well as the relative riskiness and poor quality of investments.

Capital Flight is often conceived as being determined by differences in the risk adjusted rates of returns on investment in the destination country and the source country. This perspective however misses components relevant to capital flight from Africa namely: financial outflows resulting from illicit appropriation of resources through theft, fraud, plundering of public resources, corruption and trade mispricing

The study by Chang and Cumby (1991) of 36 African countries between 1976 and 1987, adopted the Residual Method adjusted for exchange rate fluctuation and trade misinvoicing. They found that the amount of capital flight from Africa, in terms of GDP exceeded those of Latin American countries. However their analysis showed that the absolute level of capital flight for African countries with the exception of Nigeria, were smaller than those of Latin American countries.

Ajayi (1992) applying the Balance of payment approach, estimated capital flight from Nigeria, focusing on the role of trade, and taking into consideration, mis-invoicing in the country's oil sector. He concluded that most of the capital flight from Nigeria was recorded in the BOP and debt

statistics and that both economic factors and political factors were responsible for the level of capital flight from Nigeria. Onwioduokit (2007) adopted the Residual approach of the World Bank, to investigate the major determinants of capital flight from Nigeria. He found that the main determinants of capital flight from Nigeria were availability of foreign exchange reserves, comparative growth rate of the economy and parallel market premium.

Econometric study of Capital Flight from Africa, seems to suggest that Capital Flight mainly results from macroeconomic mismanagement, especially of domestic Inflation. However the study by Olopenia (1995) of Uganda, showed unsatisfactory results with very low coefficient of determination (below 30). The low level of explanatory power in Olopenia (1995) raises concern about the quality data on which such capital flight studies are based.

The poor results of empirical studies on capital flight from African may not be unconnected with the use of estimated statistics of capital flight as dependent variable. Attempts to empirically determine the factors that affect an estimated statistics on capital flight is suspect and is bound to produce spurious results, as none of the methods of estimation discussed can capture the very nature and character of the developing countries including Nigeria. The relative under-developed nature of statistical gathering as well as the very nature of the applied concept of capital flight makes the adoption of any model developed for the industrial economies for the purpose of measuring capital flight in the developing country like Nigeria, inconclusive.

2.1 Theoretical Review

Some of the theories/hypothesis of Capital Flight are briefly reviewed below:

2.1.1 Portfolio-choice Theory:

This theory suggests that maximizing relative risk-adjusted expected return drives the choice between domestic assets and foreign assets (flight capital). The domestic determinants of relative expected return include risks, capital productivity, and their underlying determinants, notably the macroeconomic environment. The tax level determines net return to capital. Ndikumana and Boyce (2003), Collier et al (2001), and Lensink et al (1998) report the debt stock to GDP ratio, which can be used to gauge future tax policy, as a significant positive determinant of capital flight. Ali and Walter (2011) adopted a standard portfolio choice framework to explain the causes of capital flight from Africa. Based on this approach, Le and Zak (2006), Collier et al (2001) and Sheets (1995) and Ali and Bernard (2011) affirmed that capital flight simply takes place in response to a deteriorating domestic investment climate where the risk-adjusted rate of return to investment is unfavourable.

2.1.2 The Volatility Theory

Various authors have accused external debt of being volatile, Bulir and Hamann, (2003). Donors may be 'fickle', or due to the increasing use of governance conditionalities, relative minor political events may trigger coordinated interruptions in aid. To the extent that aid is volatile, it can increase capital flight in two different ways.

First, as is well understood, macroeconomic volatility will tend to increase uncertainty and thereby reduce the risk-corrected returns on domestic investment. This will tend to increase the proportion of the wealth portfolio held abroad. This is not a phenomenon confined to developing countries, indeed it has recently been proposed as an important explanation for the relatively low rate of domestic investment and high rate of capital outflows in the UK, Barrell and Weale, (2003).

Secondly, aid volatility may induce capital flight for speculative purposes. If external debt is perceived to be unsustainably high, as might occur for example in the aftermath of civil war, or during the political honeymoon of a donor-wise government, the real exchange rate will be temporarily appreciated. Private agents can take speculative advantage of this temporary price change both by purchasing durable imports and by shifting capital abroad. The standard analysis of capital flight allows for some exchange rate incentive such as including premium indicating a large and probably unsustainable subsidy for purchases of foreign exchange at the official rate and so provides a powerful incentive for capital flight.

2.1.3 The Corruption Theory

It has also been argued that sometimes the motivation for capital flight may be safekeeping of embezzled funds especially under some leptocratic governments. Ndikumana and Boyce

(1992), (1993), Ali and Bernard (2011). Unrest and crisis could stimulate capital flight directly by increasing political risk, and indirectly, through other variables that induce capital flight such as inflation and public debt. The government could reduce capital flight by reducing political risks and providing new investment opportunities. However, fears of unrest could heighten perceived risks. External debt could also provide resources for capital flight.

2.1.4 The Dutch Disease Theory:

Another theory that explains the basis for capital flight is Dutch disease, Corden, (1984). It is well understood that aid will tend to appreciate the real exchange rate and thereby reduce the profitability of the tradable sector. The non-tradable sector may offer relatively few opportunities for the investment of private capital. The capital intensive parts of the non-tradable sector, such as power, telecommunications and transport, may be in the hands of the public sector (or foreign privatizations). The private part of the non-tradable sector may be informal and so unable to absorb bank financing, and in any case is likely to be highly labor-intensive. A remarkable apparent example of such a phenomenon is in Nigeria following the oil boom of the 1970s, oil revenue being somewhat analogous to a massive inflow of aid. As a result of the massive influx of oil revenue, Nigerian non-oil exports collapsed and even more remarkably private investment collapsed, Bevan, Collier and Gunning, (1999). Such a decline in the opportunities for domestic investment would tend to shift portfolio allocations abroad and so induce capital flight.

2.1.5 The Public Investment Theory

The traditional view of aid was that it financed the 'two-gaps' savings and foreign exchange. As the scope for transforming output and consumption between tradables and non-tradables became better appreciated, the foreign exchange gap fell into abeyance, leaving the savings gap center stage: the role of aid or debt was to finance investment. Once different roles are allowed for the public and private sector, the role of debt becomes further pronounced it finances public investment, which in large part is coincident with infrastructure. By the 1970s this was probably the main conception of the role of aid. Although the implications for capital flight were not considered, the link is relatively straightforward: aid should reduce capital flight because public and private capital is complementary. That is, the enhanced stock of public capital should raise the return on private capital and so reduce the incentive to shift portfolios abroad.

2.1.6 The Portfolio Substitution Theory

The study on the effects of large, persistent aid or debt inflows in "post-stabilization" countries where currency substitution is high suggests another theory whereby aid could reduce capital flight, Buffie et al (2004). A key feature of the Buffie et al (2004) model is that a portion of aid ends up reducing domestic budgetary financing rather than supporting an increase in government spending or a reduction in taxes. A persistent aid inflow reduces expected seigniorage and expected inflation. The fall in expected inflation is equivalent to a fall in the depreciation rate, i.e. the opportunity costs of holding domestic currency rather than foreign currency. With even relative modest portfolio substitutability, this triggers a portfolio adjustment generating an outright reduction in desired foreign balances, i.e. there is a private capital inflow. The implication is that capital flight would fall or even turn from an outflow to an inflow, or repatriation of previous flight.

2.1.7 The Hypothesis of Contingent Effects

If both the public investment theory and at least one of the other theories are correct, then the net effect of aid on capital flight cannot be determined a priori. Collier et al (2002, 2004) investigated the effect of debt on growth and on investment and found that the effects of debt are contingent both upon its volume and upon the policy environment. The volume effect follows from diminishing returns: beyond a certain level, aid ceases to raise growth and may begin to reduce it: Collier et al term this the 'saturation point'. In turn, the saturation point depends upon the policy environment. Collier et al measured this, using the Country Policy and Institutional Assessment of the World Bank, which is an annual rating of twenty different components of economic policy. Better policy increases aid absorption. They interpreted their results as suggesting that aid has both favourable and detrimental effects.

2.1.8 The Marginal Income Theory

In the conventional analysis of capital flight, income is proxied by GDP. This of course controls for any output of aid, but misses the fact that aid permits aggregate expenditure to exceed aggregate production. Were there no other effects of aid, how would this affect portfolio choice?

There are two reasons to expect that the marginal propensity to acquire assets abroad exceeds the average. The first is that domestic investment is subject to diminishing returns, whereas there are essentially constant returns to foreign investment. The second is that with higher level of wealth there is a stronger incentive to diversify the portfolio.

The above theories tend to explain why capital flight take the place in most developing economies.

2.2 Measurement of Capital Flight

A number of capital flight estimates have been made over the last several years. A study by Dooley (1986) covers Argentina, Bolivia, Chile, Columbia, Ecuador, Garbon, Jamaica, Mexico, Nigeria, Peru, the Phillipines, Venezuela and the former Yugoslavia. These studies differ from one another in terms of methodology, country coverage, data sources and time span. The most significant among these studies, that have made impact include Dooley (1988), Dooley et al (1986), Morgan Guaranty Trust Company (1986), Cumby and Levich (1987), Lessard and Williamson (2000), Khan and Ul Hague (1987), Cuddingtom (1986), also estimated the economic determinants of resident's capital outflow of four countries (Argentina, Mexico, Uruguay and Venezuela). His empirical finding differed from country to country. In Mexico for example, capital flight was highly related with over-valuation of the exchange rate, while in Venezuela, there were over- valuation and foreign interest rates, in Argentina and Uruguay, lagged effective exchange rates and error of the model were related to capital flight. Conesa (1987) had similar results except that it had 16 annual observations while Cuddington (1986) had 91. Conesa had growth as an additional explanatory factor and did not attempt to estimate over-valuation of the real or effective exchange rates but used level of government borrowing in his study of seven developing countries. Dooley (1986) discovered that capital flight is significantly related to domestic inflation, financial repression, and a measure of country risk premium. Khan and Hague (1987) estimated capital flight from eighty highly indebted developing countries including, Nigeria between 1976 and 1989. They found that capital flight significantly affects economic growth.

2.3 Methods of Measurement

According to Hermes et al (2002) the measurement of capital flight is not straight-forward as there is no consensus on the definition of capital flight. Hence several measurements of capital flight are available in the literature and this has resulted in differences in the estimates of capital flight for different countries. The different method are classified into:

i. Residual or Broad Method
ii. Dooley Method
iii. Hot Money Method
iv. Trade mis invoicing Method and
v. Asset Method.

Also Onwioduokit (2001) classified the measurement of capital flight into three main approaches. These are.

i. Balance of Payment Account Approach
ii. Residual Approach and
iii. Bank Deposit Approach

The approaches are briefly discussed below.

2.3.1 The Balance of Payments Approach

This approach was used in the pioneering work on capital flight to measure the BOP account, Cuddington, (1986). In this approach, capital flight is measured as the sum of recorded short term capital outflow (K) and unrecorded net flow or net errors and omissions.

$Kf(BOP) = K +$ ....(i)

Kf is capital flight measured as the sum of recorded short term capital outflows

M is unrecorded net flows or net errors and omissions.

A major limitation of the BOP approach in estimating resident's capital outflows. It measures capital flight indirectly by comparing the sources of capital inflows (increase in external debt and the net foreign investment), with the uses of these inflows (current account deficit and additions to foreign reserves). It was developed by Word Bank (1985) and Eribe (1985) and was further modified by Morgan Guaranty Trust (1986). The residual method acknowledges the difficulties of separating abnormal from normal capital outflows and measures all unrecorded private capital outflows as capital flight.

World Bank (1985) and Eribe (1985) version is given as:

$KF_{wb} = \Delta EDEBT + FI + CAB\ FR$ ....(ii)

Where

KF_{wb} is capital flight (World Bank) version

$\Delta EDEBT$ is change in external debt

FI is foreign investment
CAB is current account balance
FR is increase in official reserve

Positive value of KF_{it} represents capital flight while the negative values represent capital inflows.

Morgan Trust (1986) introduced an additional item that is increase in foreign assets of domestic banking system (DB). This modification is introduced to focus on non bank capital flight.

Morgan Trust variant of the residual method of capital flight is

KFMORG = ΔEDEBT + FI + CAB FR DB .....(iii)

Where
KFMORG is Morgan Trust measure of capital flight
ΔEDEBT is change in external debt
FI is foreign investment
CAB is current Account Balance
FR is increase in official reserve
DB is increase in foreign assets of Domestic Banking System.
Positive values of KFMORG are capital flight and negative values are reflows.

However the standard residual method should be modified with respect to measurement of external debt and current account deficit. This is because we prefer to look at flows to measuring changes in the stock of external debt since they report annual capital flows more accurately. Also, it is proposed the adjustment of current account for interest earned and retained abroad. Morgan Guaranty (1998), Boyce and Ndikumana (2001) added interest earnings on the stock of assets held abroad taking a representative international market interest rate to compute these earnings. This of course, increases the estimates of capital flight based on residual method.

2.3.2 Dooley Method

This method aims at distinguishing normal from abnormal or illegal capital flows. Dooley (1986) viewed capital flight as the total amount of externally held assets of the private sector that do not generate income recorded in the BOP statistics of a country. It can also be stated as capital outflows based on the desire to place wealth beyond the control of domestic authorities. It was first applied in computing total capital outflows.

The difference between World Bank data on the change in the stock of external debt and the amount of external borrowing as reported in the BOP statistics is considered. If the former is greater than the later, the difference is assume to be part of capital flight. The stock of external assets that corresponds to the reported interest rate earning in the balance of payments by using a representative market interest rate (US deposit rate) is computed. Capital flight is measured as the different between total capital outflows and the change in the stock of external assets corresponding to the reported interest income.

Dooley method of calculating capital flight is by first calculating outflows.

TKO = FB + FI = CAB - ΔFR EO - ΔWBIMF .....(iv)

Where TKO is total capital outflow
FB is foreign borrowing
EO is net errors and omission (in debit entry)
FI, CAB and FR are as reported in the Residual Model.
WBIMF is the difference between changes in the stock of external debt reported by the World Bank and Foreign Debt report in the BOP statistics published by IMF.

Then the stock of external assets corresponding to reported interest earnings

ES = INTERA/rus.....(v)

Where
ES is external assets
Rus is the US deposit rate (assumed representative or international market interest rate)
INTEAR is interest earnings
Capital flight is then calculated as
Kfd = TKO - ΔES
Where Kfd is capital flight according to Dooley Method

2.3.3 The Hot Money Method

Cuddington (1986), Gibson and Tsakalotos (1993) are more of the authors that used the hot money method. It measures capital flight by adding up net errors and omissions and non bank private short term capital outflow. It is in agreement with the view that capital flight goes unrecorded due to illegal nature of the movements of capital. These unrecorded capital movements appreciate in net errors and omissions. The Gibson and Tsakalotos (1993) medium and long

term outflows are excluded and they are considered normal and the concentration are on short term flows.

Capital flight using Hot Money method is calculated as

Kfh = SKO + EO.....(vi)

Where Kfh is capital flight by hot money method. SKO is total amount of short term capital outflows.

2.3.4 Trade Mis-invoicing Method

Depler and Williamson (1987) used the amount of trade Mis-invoicing to measure capital flight. This is determined by the comparison of trade data from the importing and exporting countries. It is believed that exporters are engaged in capital flight when they undervalue their exports as compared to the reported values of the same goods by importers. Similarly, importers are involved in capital flight when they over value their imports as compared to the reported values of the same goods by exporters. Proponents of this method emphasize that abnormal capital outflows of residents may be included in import over invoicing and export under invoicing or either of the two, since both are ways of diverting domestically built up wealth outside the country.

This approach involves measuring the increase in recorded foreign bank deposits of a country's residents. This is a controversial measure because, if there are statistical sources which distinguish between official and private holdings, it cannot be argued convincingly that all private funds held abroad are recorded by relevant authorities. The IMF is currently compiling the data of countries in which information is available; Lessard and Williamson (1987) but there is no such data for Nigeria.

2.4 Limitations Of The Methods

Hermes et al (2001), viewed Dooley's method as well as hot money method as conceptually wrong because the distinction of normal and abnormal or illegal capital outflow is not useful. They explained that a country confronted with inadequate financial resources to finance long term development faces an adverse impact on its growth prospects in future when net capital outflows occurs. On the hot money method, they argue against capital flight consisting of short term capital movement only. This is because assets of residents held outside the home country based on longer term perspective should be added as part of capital. The bank method is a very narrow method for measuring capital flight, furthermore, assets held at foreign banks are not always specified through ownership.

Gibson and Tsakalatos (1993) argued that trade mis invoicing may also occur in the presence of trade taxes and calculated trade mis invoicing may be unrelated to the phenomenon of capital flight. In addition, Chang and Cumby (1991) stated that "the systematic underreporting of trade figures in both directions to avoid trade barriers seems to overwhelm any discernible capital flight through mis invoicing".

3.0 Methodology

This study used Cointegration and Error Correction Mechanism (ECM) as its estimation techniques. Based on the theoretical framework and literature reviewed above, the specified model for the consequences of capital flight on Nigeria economy is given as:

GDP = (ICF, GCF, ER)

Where:

GDP= Gross domestic product; **ICF** index of capital flight; **GCF** gross capital Formation; **ER**= External reserves; = functional notation.

The estimation technique of the above model in explicit form and by log- linearizing thus becomes:

$\text{Log (GDP)} = X_0 + X_1 \log (\text{ICF}) + X_2 \text{Log (GCF)} + X_3 \text{Log (ER)} + U$.

where:

LOG= natural logarithm; **Xo** is the intercept of the relationship in the model while $\mathbf{X_1}$, $\mathbf{X_2}$, $\mathbf{X_3}$ are the coefficients of the independent variables. The 'apriori' expectation of the model are that:

$\delta GDP/\delta ICF < 0$; $\delta GDP/\delta GCF > 0$; $\delta GDP/\delta ER > 0$.

The study used secondary data that were obtained from the Central Bank of Nigeria (CBN), Federal Bureau of Statistics (FBS) and other sources that are relevant to the study. Since the study data is a time series, the first step is to establish the stationarity or otherwise of the variables. To ascertain this, a unit root test was carried out by using the ADF methodology.

IV. Analysis of Results and Findings

4.1 Stationarity Test of Variables, used in the study.

In order to determine whether the variables are stationary who order adopted the Augumented Dickey-Fuller (ADF) test to test unit roots of integration. Table 4.1 below in the summary of the unit root results and the number of order differencing of each variable to attain stationarity

Table 4.1 Summary Of ADF Unit Root Test

Variables	ADF test statistics	Mackinnon critical vale @ 5%	No of the time differences	Remark
GDP	3.96596	-2.948404	I(0)	stationary
ICF	-6.638374	- 2.951125	I(1)	stationary
GCF	- 5.781.0.04	-2.951125	I(1)	stationary
ER	3.260222	- 2.948404	I (0)	Stationary

Source: Extracted from computer output.

The results of unit root test above indicated that the variables used in the study are integrated of order 0 and 1 respectively.

CO- INTEGRATION TEST AND ERROR CORRECTION MODEL

Having established stationary of the variables then we find if the variables are cointegrated in the long run. To realize this, the study employed the Johansen cointegration technique and Error Correction Model (ECM).

Table 4.2: Johansen Co- Integration Test

Hypothesized no of (Ecs)	Elgen value	Trance statistics or like hood ratio	5% critical value.	1% critical value.
None **	0.648396	64.18367	47.21	54.46
At most 1*	0.42.7287	27.59991	29.68	35.65
At most 2	0.199836	8.091966	15.41	20.04
At most 3.	0.008226	0.289098	3.76	6.65

Source: Extracted from the computer output.

The co- integration equation is presented linearly as below:

δGDPt=- 49. 45 δICF -9.63984 δGCF -4.111052 δER

* (**) denotes rejection of the hypothesis of no co integration at 5%(1%) significance level. Trace (LR) test indicates one co- integration equation at both 5% (1%) significance level.

Table 4.3: Over - Parameterized Error Correction Results (ECM1)

Variables	Co- efficient	Standard error	t- statistics	Probability
D (GDP(-1) 2)	-0.119014	0.09943	-1.082501	0.2890
D(ICF,2)	-0.119014	2.27	-3.356432	0.0024
D(ICF, 2)	-7.646534	8173	0.670498	0.0024
D (ICF (-1) 2)	1.471850	2.195169	3.279676	0.5085
D (ICF (1-2) 2)	2.175970	0.663471	0.853330	0.0030
D (GCF, 2)	0.423608	0.496417	16.46202	0.4103
D (GCF) (-1), 2)	2.548199	0.154793	-0312294	0.0000
D (ER,2)	-0.100643	0.322268	-4856572	0.513
D (ERC-1), 2) ECM (-1)	-614563	0.126542		0.0000

R^2= 0.93; Adjusted R^2= 0.91; Durbin Watson statistic= 2.086.

Table 4.4: The Parsimonious Error Correction Result (ECM2)

Variables	Co - efficient	Standard error	t- statistic	Probability
D (GCF,2)	-7.313022	1.574439	-46.11843	0.0015
D (GCF,2)	1.649559	0.475139	3.471736	0.0015
D (ER,2)	2.522510	0.150093	16.80637	0.0000
ECM (-1)	0.681589	0.095303	-7.151796	0.000

R^2= 0.8996=0.90; Adjusted R^2= 0.8899; Durbin Watson statistic= 1.877

From the parsimonious result above, it can be seen that the co- efficient of external reserve and gross capital formation as well as their lagged values are positive in conformation with the a-priori expectation. This means that there is a positive relationship between the gross domestic product, external reserve and gross capital formation. Thus, a unit increase in external reserve and gross capital formation will increase GDP by 2.5225 and 1.6496 respectively. The co- efficient of index of capital flight is negative in conformity with the *'apriori'* expectations. This means that there is a negative relationship between the index of capital flight (ICF) and GDP, thus a unit rise in index of capital flight will lead to a fall in a gross domestic product by 49.45176. Furthermore, the Error Correction Model (ECM) otherwise known as the speed of adjustment is significant with the appropriate sign. This implies that the present value of gross domestic product (GDP) adjusts rapidly to changes in external reserves, gross capital formation and index of capital flight. The large value of the error correction variable of 68% indicates a feed back of that value from the previous period.

The co- efficient of determination (R^2) from the model stands at 0.8996 meaning that over 90% of the variation in the gross domestic product is explained by the variations in past values of GDP and the present and past values of external reserve, gross capital formation and index of capital flight, while about 10% of the variation in the present value of gross domestic product are accounted by stochastic variables. The result implies that index of capital flight; gross capital formation and external reserve are statistically reliable and significant in explaining variations in the gross domestic product. The overall significance of the model is quite robust with an F-statistic of 763.0678. The Durbin-Watson test indicated that the model is free from problem of serial autocorrelation. The empirical investigation shows that external reserve, gross capital formation and index of capital flight and their lagged values are statistically significant and reliable in explaining variations in the gross domestic product. This result is consistent with the findings of Ajayi (1992).

V. Summary, Conclusions and Recommendations

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. Secondly, a significant proportion of capital flight can be estimated from recorded data in the BOP and debt statistics. The implication is that, the reliability of the measure is dependent on the accuracy of the items in the BOP statistics and debt data. Significant amount of capital flight in relation to external debt took place over the years covered by this study. Trade faking has been discovered as an important vehicle for effecting capital flight. Thirdly, domestic macro-economic policy distortion is the culprit in the capital flight episode. Of significance in the area of policy errors are 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 evidenced by our findings. On this note, policy-makers and the relevant authorities should pay more attention than ever to the issue of capital flight in order to stem its counter productive effects on economies growth. We recommend that fiscal discipline should be given priority so that deficit financing as a proportion of the gross domestic product is kept in check because this is crucial to the maintenance of macro economic

stability and appropriation of interest rate. These 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 office and have access to foreign funds directly or through the contracts, which they award. This attitudinal change involves a serious commitment to honest governance. 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 invested at lower rates comparable to foreign financial instruments.

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