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A CAUSAL APPRAISAL OF THE INTERACTION BETWEEN CAPITAL MARKET PERFORMANCE AND CAPITAL FLIGHT IN NIGERIA

Ohiaeri, Nnenna Victoria
Department of Finance, Faculty of Management Science, University of Lagos, Nigeria
nnenna _ohiaeri1960@yahoo.com

Owualah, Sunday Ikechukwu
Department of Finance, Faculty of Management Science, University of Lagos, Nigeria
sowulah@unilag .edu.ng

Udobi, Philomena Ifenyinwa
Department of Finance, Faculty of Management Science, University of Lagos, Nigeria
pudobi@unilag.edu.ng

Njogo, Bibiana O.
Department of Economics, Accounting and Finance, Bells University of Technology, Nigeria
bibiananjogo@yahoo.com

Abstract

This study sought to evaluate the level of interactions between capital market performance and capital flight in Nigeria . The study aims at ascertaining the nature and direction of causality between capital market performance indicators and capital flight during the pre and post Nigerian financial sector deregulation and internationalization as well as investment and trade liberalization respectively between 1970 and 2015. Inferential and descriptive research designs and judgment sampling techniques are applied in sourcing for macroeconomic time series data from the Central Bank Statistical Bulletin, IMF, NSE market outlooks of various issues as well as world bank economic reports respectively. Granger Causality Tests, Johanson Co integration and Augmented Dickey Fuller data analysis techniques are respectively adopted and the results established a long run equilibrium relationship existing among the target series with a unidirectional causality influences running from stock market capitalization

to capital flight in one hand and also from market liquidity to capital flight respectively. Consequently the study recommends for an inclusive capital flight value derivation approach that incorporates portfolio investment as a separate component; a concurrent restructuring of legal and corporate governance frame work as well as tax incentive policies that will empower the agencies to sanction perpetrators of unauthorized dividend and capital gain repatriation out of Nigeria and also enhance the ease of doing business at the long run.

Keywords: Causality, market capitalization, capital flight, investment, cross-border, Nigeria

INTRODUCTION

Nigerian government over the years has been experiencing massive exodus of financial and intellectual capital beyond the shores of the country that have inflicted serious depletion of the nation's foreign reserve(Emegwali 2017). The magnitude, causes and consequences of capital outflows from emerging economies have long generated so much contentions that some sub-Saharan African (SSA) countries including Nigeria have resorted to external borrowing to augment domestic resources in their quest for economic growth as a result of infrastructural and appropriate economic development funding gaps (Onyele &Nwokocha, 2016) .

Adedayo and Ayodele, (2016) as well as Massa , (2014) posit that the menace of capital flight poses serious concerns for a developing country like Nigeria because capital flight contributes to the paucity of financial resources which limits the capacity and ability of domestic resource mobilization and access to foreign investment inflow required to finance growth and development.

Furtherance to these problems are the issue of earnings held abroad which erode domestic tax base that creates more budget deficits that would require further external debt financing (Uguru, 2016).

Ohiaeri, (2017) notes that the need for nations , individuals as well as firms to achieve efficient resources allocation, optimize wealth and productivity explains the rationale for some capital outflows in guise of investment diversification beyond investors borders which tend to spur capital movement across border. However, recent trends in cross border portfolio diversification through Nigerian capital market raise great concerns among stakeholders due to its tendencies to aggravate capital market participation imbalance between foreign and local portfolio investors and uncontrolled repatriation of illegal capital across borders through the capital market.

Ezike, (2003) and Owualah, (2009) note that the capital market as segment of the financial system, performs vital roles of mobilizing savings, facilitating investments, averaging and transforming risks and liquidity through the mechanism of financial intermediation processes. According to him, various governments, institutional and retail investors are afforded the chance of bridging financing gaps through this intermediary thereby enhancing the overall global economic performance. Adegbite (2007) also noted that these roles are significantly constrained by the interplay of factors including low level of domestic savings, restrictive financing and regulatory frameworks against remittances of capital gains which tend to create loopholes for illegal capital transfers across borders .

Capital flight has the propensity to depress government revenue , increase external borrowing and adverse exchange rate fluctuation and as well as aggravate huge decline in private and public investment (Ndianye , 2009, Saheed and Ayodeji 2012) Ajayi (2007), explained that , for developing countries to ride in the fast lane of the growth process, and elicit support from international financial institutions, there is need for urgent policy action to reverse the capital outflows from their economies.

Statement of Research Problem

Current situations in Nigeria pertaining to illicit cross border transmission of needed funds for sustainable growth and development more apparently raise questions on whether capital flight particularly can exert short or long run influence on the performance of Nigerian capital market Central Bank of Nigeria Bulletin, (2008) discloses crucial information on magnitude of the capital flight transferred by multinational companies while trying to evade tax from the countries where they operate. The illicit capital transfer according to the apex bank, is ten times the annual global aid flow from abroad and twice the amount of debt repayments of some of the developing countries each year.

Similarly, Central Bank of Nigeria in its 2010 report, also revealed that between 2008 and 2009, Nigeria lost a colossal sum of $20 billion due to capital flight. Whereas, the total net flow of capital into Nigeria is comparably smaller than this amount of capital taken outside the economy. Recent report released by the National Bureau for Statistics for 2017 fiscal year put inflow of foreign investment at $12.2bn against $5.1bn recorded in same period in 2016 representing 138% increase over 2016. Out of this amount , $7.32bn stood for foreign portfolio investment representing 64% of total investment inflow during the period . Contrasting this scenario, Global Financial Integrity group based in the U.S.A also reported that about $15.7bn illicit funds pass through Nigerian banking system annually . Hence , Kappor , (2009) opined that the losses by the way of migrating capital in turn lowers

productivity, as it undermines sustainable development by raising the dependency ratio on foreign aids needed to bridge financing gap created by fleeing domestic capital . Never the less , economic observers however believe that a well performing capital market could go a long way in attracting the desired foreign investment inflows to mitigate negative impact of fleeing domestic savings by boosting domestic investors confidence in the capital market instead of providing a veritable conduit for capital flight. Stakeholders have also expressed concerns about the waning investor's market confidence resulting adverse economic consequences which could translate to unfavorable push economic factors for investors exit out of Nigerian market to other investment heavens that provides shield to their portfolio devaluation.

It is therefore imperative to stress here that, as critical as this scenario has been , very few authors have tried to draw the deserving attention and awareness to this subject matter area , hence the interest of the author and the necessity for this investigation.

Objectives of the study

(i.) The study aims at examining the trend in the flow of capital flight and capital market performance in Nigeria as proxy by the stock market capitalization and volume traded .

(ii.) The study aims at disclosing the extent of capital market investments performance driving by capital flight in Nigeria.

(iii) Subsequently the study evaluates the causal and direction of interaction existing between capital flight and capital market performance in Nigeria .

Research Questions

In achieving the afore mentioned objectives, the study hereby formulates the following research questions-

(i) What is the nature and direction of causality existing between capital flight and capital market capitalization in Nigeria.

(ii) What is the level of capital market performance connection with the volume capital flight generated in Nigeria

(iii) what is the nature and the direction of causality between capital flight and capital market performance

Hypotheses

The following hypotheses are formulated in line with the objectives and research questions;

(i) H0 : Capital flight does not granger cause stock market capitalization in Nigeria

(ii) H0: Stock market capitalization does not granger cause capital flight in Nigeria.
(iii) H0: Capital flight does not granger cause capital market liquidity in Nigeria .
(iv) H0: Capital market liquidity does not granger cause capital flight in Nigeria.

Significance of the study:

A study in this area is apt and important in this period of recession when money laundering and political lootings seem to be taking a huge toll on Nigerian economy. The findings of this study while contributing to existing knowledge in this field of study, could expose major loopholes in the system regarding capital flight menace thereby providing the needed information and working guide to strengthen financial market authorities and regulators activities in their quest to curb excessive cross border capital repatriation. While contributing to existing knowledge in this sector, University Scholars , Researchers, Analysts, Federal and State government agencies, local and foreign investors as well as industry's stakeholders could highly count on the findings of this work in their daily policy decisions in Nigeria..

LITERATURE REVIEW

Theoretical Framework

Foreign Capital Flow Theory

According to Dornbusch, (1980) international competitiveness and balance of payment positions and real output of various countries are respectively affected by depreciation of exchange rate and this could translate to cash flow patterns of institutional and retail investors as they participate in the stock market .

The theory states that "if capital is perfectly mobile among countries, incremental savings realized from positive market fluctuations will leave the home country (of capital exporter) to replace other foreign sources of capital in other countries which would have been invested in the home country of capital importer". This theory therefore lends credence for foreign capital migration which is believed to emanate from the capital-rich countries with competitive advantages to capital-deficit economies due to the level of factor of production endowment of the various nations.

Dual Gap Theory

The argument for flow of capital across national borders has been built based on "The Theory of Dual Gap" as proposed by Adegbite et al (2008). According to this theory, as a result of the existence two distinct sources of finance to developing nations, they are compel them to opt for external source of funds in absence of internal sources that provides a better options to

bridge domestic financing gap for sustainable development . The theory further stresses that since developing economies needs for external finance is complicated by the transmission mechanisms' debt over hang with negative economic impact through its depletion of available funds for investment and capital flight syndrome in servicing external funding, the countries in an effort to beat financial repression.

Portfolio Rebalancing Theory

Tobin (1958) and Markowitz (1959)used the portfolio rebalancing and diversification theory to explain investors' attitude to investment risks and return regarding investment profiling. According to them, investors attitude to risks either motivates or discourages them to migrate from beyond home countries investment environment to other regions.

Risk averse investors to more guided in their investment decisions to achieve greater returns while providing a hedge for their portfolio investment through regional or geographical diversification. Its relevance here is buttressed by the fact that capital flight as illegal or legal repatriation of funds can occur via the capital market when investors decides to evade harmful investment climate in order to maximize their expected returns while minimizing investments risks across borders

The Capital Flight Theory

Cuddington, (1986) used this theory to explain the movements of capital across countries borders in order to explore or escape alternative investment heaven. This tends to offer them opportunities to benefit from systematic pull and push factors existing in the various economies. The theory presents supportive justification for capital flights driving force which normally tend to be in form of speculative response to fundamental mis-match between domestic and foreign macroeconomic variables as revealed in Jimoh 1991 and Khan & Hague 1987.

Conceptual framework

The conceptually, this study draws input from the perceived trend in the movement of the selected capital market performance parameters for this study. Hence a graphical trend analysis used here provides a good and simple understanding of the relevance of the subject matter of the investigation to the capital transmission case.

Table 1 Capital Flight And Market Capitalisation In Nigeria (1970- 2015)

YEARS	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010	2010-2015
CF(NM)	100%	439%	325%	402%	402%	47.7%	396%	1938%	1737%
MCY(NB)	100%	28.5%	6356%	6%	203%	138.4%	356%	8828%	14,933%

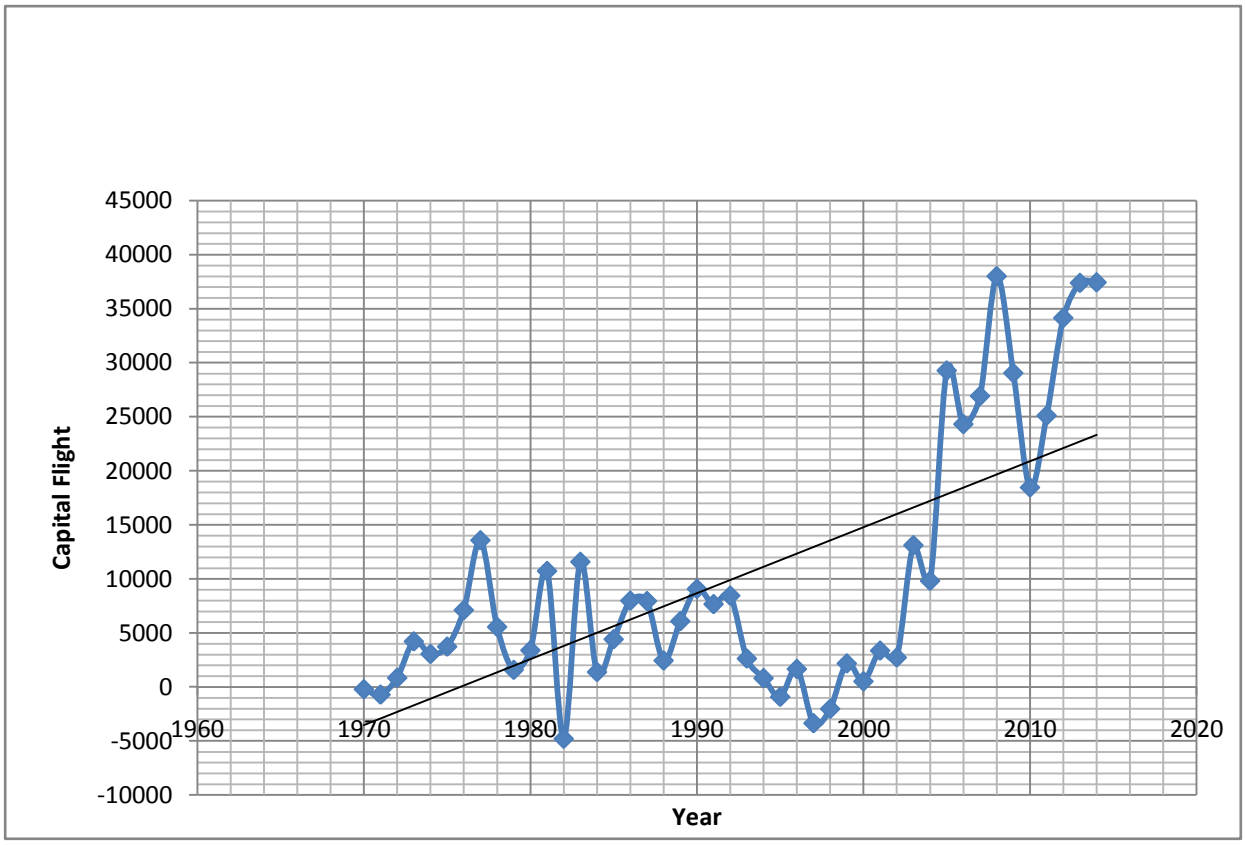

Figure 1 Trend in capital flight in Nigeria (1970-2015)

Source: Author's Computation

Movement in the flow of capital flight in Nigeria was unstable but progressive over the period between 1970 and 2015 as depicted on the graph Capital flight movement was at its peak between 2005 and 2010 with average percentage increase of 1, 938%, dropping to 1, 7 37 % between 2010 and 2015.

The highest percentage increase of 14, 900% occurred between the year 2010 and 2015 while the least increment was 6% between 1985 and 1990 . Over the period between 1970 and 2015 capital flight increased by 1,837.

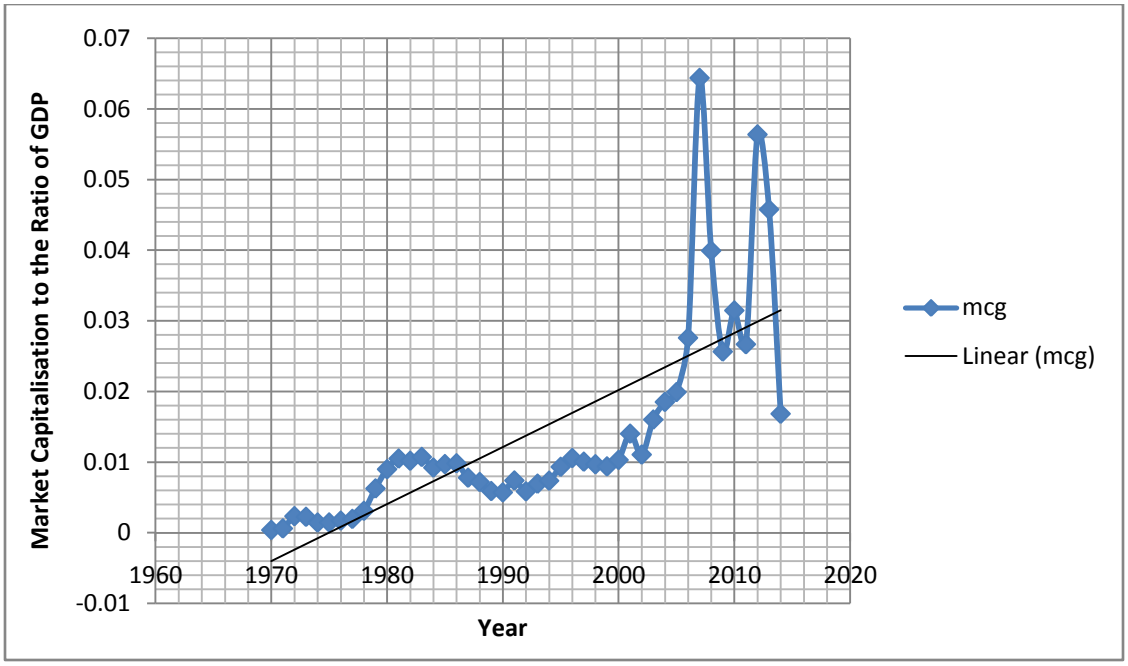

Figure 2 Stock market capitalization in Nigeria 1970 - 2015

Source: Authors Computation

Movement in the flow of market capitalization in Nigeria was progressive over the period between 1970 and 2015 as depicted on the graph Capital flight movement was at its peak at 14,933% between 2010 and 2015. The highest recorded percentage increase of 14, 900% was between the year 2010 and 2015 while the least increment was 6% between 1985 and1990. Over the period between 1970 and 2015 the ratio of market capitalization gross domestic product changed by 896%.

Empirical Framework

Studies on capital flight and capital market performance in Nigeria is quite limited with most literature works concentrating particularly on the real sectors connection link with capital flight while ignoring the capital market performance aspect . However despite the observed gap in empirical work in this particular area of study , quite a number of robust literature in related fields have addressed capital market performances connections with some other macroeconomic as well as magnitude of capital flight menace in African sub regions.

In a novel study by Onyele, Okpara and Ikeagwu (2017) examining the influence of capital market performance on capital flight in between 1985 and 2015, using granger causality test and Cholesky ordering variance decomposition approach, it is discovered that all share index , market capitalization and volume traded significantly influenced capital flight

in Nigeria with presence of long and short run relationship as revealed by the Johanson co-integration and granger causality results respectively.

Maku and Atanda , (2009) evaluated the extent at which foreign capital flow exert shocks on capital market indicators in Nigerian using error correction model and co-integration respectively to examine the long-run and short-run effect of macroeconomic variables on the Nigerian capital market between 1984 and 2007. Their findings revealed that macroeconomic variables exert significant long-run and short run effect on stock market performance in Nigeria. However, the study disclosed that the NSE All Share Index is more responsive to changes in exchange rate, money supply and real output than other capital market performance parameters examined .

Krugman (1998),Chukwu, (2013), Onyema (2013) and Ozurumba (2009) however examined the influence of capital market performance in generating foreign capital flows in emerging countries and found that foreign portfolio investments which are generally transacted through the capital market channels have the tendency to generate capital flight issues in the system due to its transient nature that leaves the capital market more vulnerable to series of depressed capital market episodes in Nigeria.

According to Feldstein, (1995), foreign capital movements among countries are basically pursuing temporary gains as they shift in and out as quickly as economic conditions change as evidenced by the series of global and regional economic crisis that have occurred globally over the years between 1973 and 2007 which have aggravated currency devaluation and subsequent capital flight problems. He however identified major policy determinants of foreign capital flows and cross- border investment diversification among some emerging markets which could also drive hot money in the system; to include deregulation of the financial market International Market Segmentation, Integrated international market and information Technology among others.

Capital flight, capital market performance and economic growth

Datafrom International Monetary Fund and World Bank reports (1996 -2008) revealed huge evidence that capital flight has been associated with reductions in gross domestic products of some economies as summarized below.

Table 2 Summary of IMF / ADB ‘s capital flight report for some countries 1996-2008

Countries	Capital flight % of GDP	Period
South Africa	9.2% of GDP (US $ 13 billion)	2000
China	10.2% of GDP (US $ 109 billion)	1999

Table 2...

Chile	6.1% of GDP (US 4.7)	1998
Russia	$400 billion 1-4.	1990&1995
Indonesia	6.7% of GDP (US $14 billion)	1990
Sub- Saharan African countries	100% of their GDP ($230 billion)	Since 1970
Nigeria	66.7% of GDP ($10.7 billion per annum)	1970-2009 2000-2008
Philippines	US$432 million to US$864 million	1970 &1999

Source: IMF (1996) and World Bank/ ADB (2012)

The above table indicate that capital flight contributed to Philippines losing an average of GDP of US$432 million to US$864 million in output between 1970 and 1999, South Africa lost US$13 billion in 2000 (9.2% of GDP), China lost US$109 billion in 1999 (10.2% of GDP), Chile lost US$4.7 billion in 1998 (6.1% of GDP), and Indonesia lost US$14 billion in 1997 (6.7% of GDP). 66.67% of the variation in GDP in Nigeria was associated with the components of the residual measure used in calculating capital flight from 1970 to 2009 indicating that $10.7 billion per annum out flow in Nigeria over the period of 2000 to 2008 was linked to capital flight . Ndiaye, (2009) Umoru (2013) and Adesoye et al. (2012) respectively, corroborating the capital flight menace , evaluated the adverse impact of capital flight on domestic investment in Nigeria and found that a 1% increase in capital flight induced a 1.83% decline in domestic investment for the period between 1980 to 2010.

Ayadi, (2008) examined the determinants of capital flight in Nigeria and its attendant impacts found that capital flight is driven by the interest rates deferential both in the short and in the long run and that, exchange rate depreciation significantly increases capital flight in Nigeria. Ajayi, (1997) evaluated capital flight level of 18 highly indebted low income countries in Sub-Saharan African States between 1980 -1991 using percentage and ratio comparative analysis methods and found that cumulative capital flight to external debt of Nigeria was the highest at 94% compared with other examined African countries .

Jimoh (1991) investigated the magnitude of capital flight in Nigeria using World Bank and Morgan Trust Capital flight using geometric analysis of estimation methods between 1960 and 1988. The study revealed that total capital flight in Nigeria stood at 53.8 billion dollars averaging 1.9 billion dollar per annum . The study found that exchange rate valuation, foreign-domestic inflation rate differentials level of primitive capital accumulation are among the key determinants of capital flight in Nigeria.

Ndikumana (2010) investigated the effect of capital flight on African economic growth and development using percentage trend analysis approach and found that capital flight from

Africa during the period 2000 to 2004 reduced average domestic investment to GDP by 11.1% thus contributing to reductions in GDP in the region..

Salandy and Henry (2017) evaluated the impact of capital flight on the domestic investment and economic growth of Trinidad and Tobago by adopting Vector Error Correction Model (VECM). The findings provided clear evidence of harmful effects of capital flight . The study concluded that the financial hemorrhage in the form of capital flight was associated with a reduction in domestic investment and gross domestic product in the country.

Ali and Walters, (2011) examined the causes of capital flight in Sub-Saharan Africa to present empirical evidence linking capital flight to the domestic investment climate using multi regression analysis approach. The study discovered that private capital outflows from Africa are explained by policy distortions along with the relative riskiness and poor portability of investments.

But Zhao et al, (2015), examined Hot Money drivers in China using Auto Regression Distributed Lag (ARDL) models and found that mortgaged price and stock market index returns expectation were linked to series of capital flights between 2000 and 2012.

Chang and Cumby, (1991) in a cross-country study on capital flight from 36 sub-Saharan African countries from 1976 to 1987 using quantitative flow of capital flight among the countries investigated and found Nigeria to be the only country in the group with an absolute level of capital flight greater than those in other Latin America countries.

RESEARCH METHODOLOGY

Research Design

The study employs inferential, descriptive, exploratory and expost-facto research designs comprising basically of the parametric and inferential estimations to validate the nature, magnitude and possible direction of causality between the target variables.

Population, Scope and Sample Size

The study relied on annual macroeconomic time series data on foreign portfolio investment capital flight and stock market performance indicators between the periods 1970 to 2015. The choice of this study scope is informed by the perceived absence of wider study coverage by previous literature in this area of research coupled with the necessity to capture trends of market activities before the 2015 general election in Nigeria.

Sampled data covered transactions on equities of the quoted companies from various industrial sectors and sub-sectors all listed with the Nigerian stock exchange, as well as recorded illegal foreign capital outflow between 1970 and 2015. This is needed in order

to capture macroeconomic times series data during the pre and post Nigerian enterprises promotion policy, financial sector deregulation , internationalization of financial markets , trade liberalization as well as the oil export boom periods respectively, underscores this study scope selection range.

DATA SOURCES

The data engaged for the study for Foreign Portfolio investment, capital flight, capital market performance variables are basically from secondary sources from various issues of Nigerian stock market reports, Central Bank of Nigeria Statistical Bulletins, National Bureau for Statistics, Security and Exchange Commission, IMF and World Bank direction of trade, Business Newspapers and some local and international journals covering the periods between 1970 and 2015.

Data for capital flight between 1970 and 2015 was adopted from World Bank &Erbee, 1985; Jimoh, (1991), Boyce and Ndikumana 2001and Dooly ,1994). Capital data were sourced from various issues of Nigerian stock market Fact Books, Market Outlook Reports , SEC reports and Nigeria statistical bulletin report. The need to capture macroeconomic times series data during the pre and post Nigerian indigenization policy, financial sector deregulation, internationalization, trade liberalization as well as oil boom era respectively, explains choice of this study coverage.

Data Analysis Techniques

Vector Error Correction Model, Granger Causality test , Johansen Co-integration test Durbin Watson tests are respectively applied for this study . Based on the outcome of the various preliminary tests conducted, Engle and Granger, (1987) and Power and Granger, (1981) decision criteria are applied to test the hypotheses as they provide strong empirical evidence for macroeconomic variables interactions among various exogenous impacts .

Model Specifications

Three Multi regression models are specified here in order to investigate the relationship among the policy variables and some selected macroeconomic variables as well as foreign portfolio investment in Nigeria . Blocks of models are built subject to the number of the endogenous variables to be estimated.

This is investigated using the VECM to ascertain reactions among the variables due to external shocks , establish nature and direction of causality and also predict the impact of

response among the examined series. The Vector Error Correction Model (VECM) is as specified;

$$\Delta 1mcp_t = \beta_0 + \sum_{i=1}^{k} \beta_1 \Delta 1mcy_{t-i} + \sum_{i=1}^{k} \beta_2 \Delta 1sml_{t-i} + \sum_{i=1}^{k} \beta_3 \Delta 1cpf_{t-i} + \beta_4 ECM_{1t-1} \quad 4$$

$$\Delta 1sml = \alpha_0 + \sum_{i=1}^{k} \alpha_1 \Delta 1sml_{t-i} + \sum_{i=1}^{k} \alpha_2 \Delta 1mcy_{t-i} + \sum_{i=1}^{k} \alpha_3 \Delta 1cpf_{t-i} + \alpha_4 ECM_{2t-1} \quad 5$$

$$\Delta 1sml_t = \delta_0 + \sum_{i=1}^{k} \alpha\delta_1 \Delta 1cpf_{t-i} + \sum_{i=1}^{k} \delta_2 \Delta 1sml_{t-i} + \sum_{i=1}^{k} \beta_3 \Delta 1mcy_{t-i} + \delta_4 ECM_{3t-1} \quad 6$$

Where :

l mcy is the log of market capitalization to the ratio of GDP. This represents value of all outstanding shares of the listed equities with Nigerian stock exchange multiplied by their current prices and divided by the GDP for the respective periods

lsml : is the log of total value of the listed equities traded in each particular period . It is derived by multiplying the quantity traded by their respective current year prices

lcf : is the log of capital flight value as computed by World Bank & Erbee, (1985) ; Jimoh, (1991), Boyce and Ndikumana (2001) and Dooly ,(1994)and adopted by this studECM is the Error Correction Model, I = (1……n), α, β and δ are the coefficient of the parameters, the change symbol ∆is the first difference of the endogenous variables.

The application of VECM for this study is subject to the outcome of the co -integration tests. The VECM enables us to estimate the interactive reactions among capital market performance, foreign portfolio investment and capital flight using the impulse response functions (IRFs) Forecast Error Variance Decomposition (FEVD) and Granger Causality approach for

DECISION RULE : The decision rule here is to reject the null hypotheses of no direction of causality if $\chi 2$ calculated is less than critical $\chi 2$-vale and P- value less than α –value the level of significant of 1%, 5% or 10% respectively, otherwise we conclude that there is defined direction of causality as indicated by the arrows. All the variables are assumed to be endogenously interactive among themselves . Note that the direction of the arrow heads indicates the direction of flow of causations is going or response but the p value criteria is also applied here. Hypotheses testing if our series are integrated of order zero i.e. I(1).

Model Estimation Techniques

The estimation technique begins with determining the time series properties of the data and followed by co-integration tests to ensure their validity for further econometric application.

UNIT ROOT TEST: In this context, Augmented Dickey-Fuller and Phillips- Perron tests are adopted in order to determine the presence of unit root and integrated level of each series. The ADF test will be performed given the equation below

$$\Delta X_t = \alpha + \varphi T + (1-\beta)X_{t-1} + \sum_{j=1}^{n} \Lambda_i \Delta X_{t-1} + \varepsilon_1$$

X_t is the variables that will be tested for unit root; Δ is the first difference operator; α is the constant term; *t* is a time trend; and *n* is the lag number.
The null hypothesis is H0: (1-β) = 0, β=1, implying the non-stationary of *Xt*. Rejecting the null hypothesis points that *Xt* has no unit root.

LAG LENGTH SELECTION TESTS: In line with VAR model the level of lag used defines the quality of result we get hence the use of Akaike Information Criteria AIC, Schwarz Information Criterion (SIC) and Hannan-Quinn Information Criterion (HIQ) tests are considered. The appropriate lag length is the one supported by more of the three criteria.

CO-INTEGRATION TEST: The existence of co-integration existing among the variables is assessed using Johansen co-integration test based on VAR model of the equations. The Johansen Maximum Likelihood procedure as specified using Johansen (1988) (Johansen & Juselius, 1990), which considers two test statistics namely, the trace statistics and the maximum eigenvalue statistics. The null hypothesis of r co-integrating vectors is tested here against the alternative hypothesis of $r+1$ co-integrating vectors.

The application of Vector Autoregressive model is employed if series are stationary at levels i.e. I(0). However, if series are integrated of order one i.e. I(1), Johansen's procedure will be used to determine whether any co-integration vector among variables exists or not. After applying co -integration test, if the variables are stationary at first difference and also co-integrated, the Vector Error Correction Model will be appropriate to investigate the existing nature of causality relationship.

ANALYSIS AND DISCUSSION OF FINDINGS

The outcomes of the various data analysis tests applied for the study are presented here for further analysis , interpretations and decision making .

Co-integration Test result

Table 3 (a) and 3 (b) reports the result obtained when the linear combination of variables as reflected in the VAR model that is subjected to co-integration test.

Table 3(a) Co- integration Test (Trace Value)

Hypothesized	Eigen value	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.540061	35.0272	29.79707	0.0114
At most 1	0.348846	12.504	15.49471	0.1343
At most 2	0.048109	1.368967	3.841466	0.242

Table 3(b) Co- integration Test (Max –Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.540061	22.5232	21.13162	0.0317
At most 1	0.318846	11.13503	14.2646	0.1476
At most 2	0.046109	1.368967	3.841466	0.24 2

Trace and Max –Eigenvalue indicates 1 co-integrating eqn(s) at the 0.05 level

The results of the co-integration confirm that there is at least one co-integration relationship among the variables included in the model. Specifically, the result of the co-integration test suggests that stock market capitalization has equilibrium condition with stock market liquidity and capital flight at 5% level of significance, which keeps them in proportion to each other in the long run. The presence of co-integration among the variables ensure the efficiency of the model in its capacity to infer long run equilibrium conditions existing among the series and consequently ruling out spurious correlations and establishing a direction of influence among the variables.

Unit root Test for Time Series Data

Table 4 present the results of unit root tests using Augmented Dickey Fuller test and Philips and Perron test applied on annual data series.

Table 4 The Result of Unit root Test Using Augmented Dickey Fuller Test

Series	Level	First Diff	Remark
Log(mcy)	-0.20	-5.02	I(1)

Table 4...

Log (Cf)	-0.26	-9.83	I(1)
Log(sml)	-0.84	-4.77	I(1)
Log(gdp)	0.16	-5.088	1(1)

Note: at 5 per cent critical value = -2.96.

Evidence from the results shown on Table 4 confirms that all the variables (market capitalisation (mcy), capital flight (cf), gross domestic product (gdp) and stock market liquidity (sml)) are not stationary at levels but became stationary after first difference.

The Granger Causality Test

Table 5 (a, and b) shows short and long run Wald statistics tests which follows X^2respectively.

Table 5 (a) Short Run Multivariate Granger Causality Test Result

$\alpha_1 = \alpha_2 = \alpha_3 = 0$	χ^2	$p-value$	Remark
mcy	0.868	0.352	No Causality
Sml	*28.2*	*0.020**	Causality
cf	*2.450*	*0.117*	No Causality

Table 5 (b) Long Run Multivariate Granger Causality Test Result:

$\alpha_1 = \alpha_2 = 0$	χ^2	$p-value$	Remark
$cf \rightarrow sml$	16.86	0.016*	Causality
$sml \rightarrow cf$	2.090	0.148	No causality
$mcy \rightarrow cf$	2.283	0.130	No Causality
$cf \rightarrow mcy$	15.80133	*0.0125**	Causality

*Notes: *and ** indicates statistical significance at 1%, 5% and 10% level of significance, while* χ^2 *is the Chi-Square of the Wald statistics and the hypothesis is that each of the coefficients of lagged explanatory variables is zero.*

This section investigates the direction and causality relationship existing among capital market performance and capital flight. The result indicates the direction of flow of impacts among the target variables using the arrows but does not imply correlation or relationship. Although regression analysis deals with the dependence of one variable on the other variable, it does not

necessarily imply causality. In other words, the existence of relationship between variables does not prove causality or direction of influence.

The decision rule here is to reject the null hypotheses of no direction of causality if $\chi 2$ calculated is less than critical $\chi 2$-vale and P- value less than α –value the level of significant of 1%, 5% or 10% respectively, otherwise we conclude that there is defined direction of causalityas indicated by the arrows. Note that the direction of the arrows indicates the direction of flow of causations or response with the p -value criteria as a criteria for decision.

Discussion of Findings

The result of the co-integration test confirms existence of long run equilibrium relationship with possibility of converging at the long run . The granger causality test outcome as disclosed on table 4 (a, and b) shows the Wald Statistics Chi-Square distribution result with P-value both in the short-run and long-run respectively. The result revealed evidence of a unidirectional causal relationship existing among some of the variables examined both in the short run and in the long run as illustrated with the granger causality arrows respectively.

Based on the decision criteria , the p- value of 0.020 which is less than 5% level of significant, the null hypotheses of no granger causality between capital market performance and capital flight is hereby rejected. We therefore conclude that short run and long run causal relationship exist between capital market performance and capital flight in Nigeria . The result further implies short and long run causality influence running from capital flight to market capitalization in one hand and also from capital flight to stock market liquidity on the other hand both at 1% significant level respectively.

By implication, this result shows that any change in whichever direction in the flow of capital flight can significantly spur up long run trend in capital market performance in Nigeria .In view of the nature of causality revealed by this study, it then means that either short and or long run policy changes concerning capital movement across border could either trigger off market rally or bearish trend in Nigerian stock market almost immediately and even in the later years .

This findings however countered the collective study results of Onyele, Opara and Ikwuagwu (2017) by disclosing a unidirectional flow of influence from capital flight to capital market liquidity and capitalization instead of the influences running from all share index , market capitalization and stock market liquidity to capital flight in Nigeria.

CONCLUSION AND RECOMMENDATIONS

This study appraised the causal linkage between capital market performance and capital flight in Nigeria using 1970-2015 data sourced from the central bank statistical bulletin , IMF and World bank economic reports of various issues .

Vector Error Correction Model and Johanson co integration analysis approaches were adopted to evaluate the existence or otherwise of long run equilibrium relationship and directions of causalities between Nigerian capital market performance indicators and capital flight within the study scope.

The study found that based on the Johansons VECM tests results long run equilibrium relationship could be established among the target series indicating a significant relationship as well as unidirectional causal influences existing between capital flight and capital market performance which runs from stock market capitalization to capital flight in one hand and also from market liquidity and volume traded to capital flight respectively .

The results however fails to align with previous study findings of Onyele et al , (2017) and Maku et al (2009). The findings revealed strong evidence of connectivity between capital flight and stock market capitalization and market liquidity indicating serious economic policy implications.

The study therefore concludes that the existence of long and short run unidirectional causality flow between capital market performance indicators and capital flight in Nigeria shows that past and present government policies directed at money laundering activities in the public sector and ignoring investors' repatriation of capital gains and dividend across borders through the Nigerian capital market seem to be ineffective in tackling capital flight problems in Nigeria.

RECOMMENDATIONS

(1.) Sequel to the findings of this study, it is thereby recommended that robust policy measures be instituted by the relevant government agencies and authorities to ensure full inclusive capital flight derivation approach incorporating values for foreign portfolio investment flows instead of focusing on foreign direct investment as a single component when tracking down capital flight in Nigeria.

(2) Relevant government agencies and ministries should restructure current tax incentive policies that would discourage indiscriminate repatriation of capital gains and dividends abroad by foreign business partners and investors. The reviewed tax incentives scheme should be targeted at encouraging investors who wish to retain their investment gains and dividends for future reinvestment within the economy of origin for at least two years before

repatriating such funds to their home countries to do so with adequate compensation from the government.

(3.) It is also recommended that, concurrent policies on corporate governance as well as legal structure that will enhance the ease of doing business, empower the agencies in monitoring money laundering tendencies of multinational companies and investors be strictly instituted and implemented without further delay to checkmate cross border repatriation of funds in Nigeria

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