Does Stock Market Performance Influence Capital Flight from Nigeria?

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Abstract
The study sought to find whether stock market performance influence capital flight from Nigeria. To achieve this objective, time series data obtained from Central Bank of Nigeria Statistical Bulletin from 1985 to 2015 were analyzed. For the data analysis, Augmented Dickey-Fuller unit root test, Johansen co-integration test, vector error correction mechanism, Granger causality test and Cholesky ordering variance decomposition were used. Having tested for unit root, it was found that all the variables were integrated at their first difference. The Johansen co-integration test revealed that the measures of stock market performance; i.e. all share index, market capitalization, total new issues and value of shares traded had long run relationship with capital flight. It was also found that all share index, market capitalization and total new issues significantly influenced capital flight from Nigeria in the short run. The Cholesky ordering variance decomposition showed that the long run shock to all share index was most prominent in influencing capital flight. Based on these findings, it was recommended inter alia that stability in the macroeconomic environment be maintained towards enhancing investors' confidence such that would attract both domestic and foreign investors to hold their equity investments in the Nigerian Stock Market.

Keywords: Capital flight, market capitalization, all share indexes, value of shares traded and total new issues.

1.   INTRODUCTION
Over the years, it is well known that the major constraint to economic prosperity in Nigeria is the paucity of financial resources. The country is currently facing substantial and growing financing gaps; causing an impediment to both private and public investments, macroeconomic instability and economic recession. It is based on this premise that the Nigerian government became highly indebted to foreign financial organizations in a bid to bridging the resource gap in the economy. These situation have characterized the Nigerian macro-economy, especially the period preceding the structural adjustment programme (Ajilore, 2010). It is worthy of note that variables describing such economic upheaval are often found in literature on determinants of capital flight (see, Onyele & Nwokocha, 2016a; Onyele & Nwokocha, 2016b; Uguru, 2016; Adedayo & Ayodele, 2016; Olawale & Ifedayo, 2015; Asongu, 2014; Massa, 2014; Collier, Hoeffler & Pattillo, 2004). According to these authors, capital flight manifest in a number of ways: huge budget deficits, rising external debt burden, increasing current account deficit, frequent occurrence of exchange rate overvaluation and high rate of inflation.

Generally, the phenomenon known as "capital flight" specifically refers to the massive exodus of financial resources from investments in one country to another in order to avoid country-specific risks (such as; inflation, political turmoil and exchange rate volatility), or in search of higher returns (Ndikumana, 2014). Theoretically, capital flight comprises a broad variety of activities ranging from legal to those that are illegal and harmful to the economy. Based on its illegality, Berger (1987) in Adebayo & Ayodele (2016) defined capital flight as the illicit outflow of capital from one country to another through money laundering, child trafficking, drug trafficking, poor governance and bad institutional quality where corrupt public authorities take advantage of their position to siphon public funds. On the other hand, the legal aspect of the phenomenon entails the outflow of financial resources and investments due to investor's perception that capital could lose its value due to volatile exchange rate, hyperinflation, political upheaval and fear of expropriation. This implies that in a period of unpalatable economic atmosphere in a country, investors will seek for countries with safe economy to channel their resources. As a result, Epstein (2005) defined capital flight to mean the transfer of assets abroad in order to reduce loss of principal, loss of return, or loss of control over one's financial assets due to government sanctioned activities.

The menace of capital flight has been documented by financial and economic experts in diverse literature explaining its measurement and determinants. According to the literature, the issue of capital flight poses serious concern for a developing country like Nigeria. This is 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 (Massa, 2014). As such, the government have been propelled to access external borrowings to make up for the shortfall in domestic funds in other to achieve economic prosperity, hence, the burden of debt servicing which may eventually plunge the country to perpetual bondage of poverty (Adedayo & Ayodele, 2016; Onyele & Nwokocha, 2016a). This is because earnings held abroad will erode domestic tax base which may result to more budget deficits that would require further external debt to finance (Uguru, 2016). These conditions apparently raise questions on how the burden of capital flight can be lifted from the Nigerian economy.

From the forgoing, it can be seen that the major factor that encourage capital flight is the risky investment climate of Nigeria. Consequently, improvement of the investment climate implies strengthening the performance of the financial system, especially the stock market (Osuala, Okereke & Nwansi, 2013). This is because the main goal of the stock market to channel funds from the surplus sector unit to the deficit sector unit of the economy. From this point of view, it is expected that as the stock market develops and deepens, efficient allocation of the financial resources for investments will be facilitated and investors' confidence is raised (Ariwa, Ani, Onyele, Ekeleme & Odili, 2017). As such, it is assumed in this study that a well-functioning stock market would attract foreign investment inflows instead of capital flight. Consequently, the erosion of domestic investments will be mitigated and capital resources would be safe in Nigeria instead of channeling such abroad for safety.

To the best of the authors knowledge there is no study that have been done with regards to the nexus between stock market performance and capital flight from Nigeria. The question at this juncture is, does stock market influence capital flight from Nigeria? If it is found that stock market performance is not holding up capital flight from Nigeria, then it calls to question the popular assertion that stock market development fosters the availability of funds for investments and economic stability. Hence, it may be concluded that investors withdrew their

assets from the Nigerian stock market to foreign markets with more stability and liquidity. Consequently, the study explored the direction of causality between stock market and capital flight, and empirically investigated whether stock market performance influenced capital flight from Nigeria using time series data spanning from 1985-2015.

The rest of the paper was partitioned as follows; the empirical and theoretical literature on capital flight and stock market performance indexes was reviewed in section two, while explanations to the measure of capital flight and stock market performance was made in section three. The empirical results and interpretations was made in section four, while section five concludes the study.

2.   Literature Review
2.1   Determinants of capital flight
In summary, the variables that determine capital flight are summarized in Table 2.1 below:

Table 2.1: Determinants of capital flight

	Internal Factors	External Factors
Political and Institutional Factors	Political upheaval; social instability; bad governance; corruption	Opacity and loose banking regulatory framework; accommodative financial policies
Macroeconomic Factors	Low or negative real interest rates, overvalued exchange rates; inflationary pressure; capital account liberalization; rising external indebtedness	High external real interest rates, strong and stable exchange rates of hard currencies
Microeconomic Factors	Banking undercapitalization; liquidity crisis; institutional weaknesses of the financial system; rise in corporate income taxes; unregulated financial system; stock market crisis	Strong asset management competitive advantage; dynamic offshore financial systems; offshore tax havens; booming stock markets in foreign countries

Source: Bouchet, 2012

2.2   Theoretical framework
2.2.1   Theories of stock market
2.2.1.1 Financial intermediation theory
Financial intermediation connotes the financial framework that facilitate the medium of exchange required for specialization, mobilization and transfer of savings (i.e. free flow of funds) from those who generated the funds to those who use the funds for investment in the economic system where the funds are expected to yield the maximum return. This arrangement spurs productive activities and positively influences aggregate capital formation in the economy**.** As such**,** the financial intermediation theory is based on the notion that stock market should provide an effective and efficient mechanism for the mobilization and transfer of savings from surplus units (savers) to investment areas that promise better and higher returns in an economy. Hence, it is expected that financial institutions should mediate

between owners and users of funds; for instance, through the marketable securities created and traded on the Stock Exchange of a country (Gorton & Winton, 2002).

2.2.1.2 Portfolio management theory

The Capital market has numerous financial securities or assets into which investors can commit funds to enhance investments value, earn stable returns, and maintain associated risks at their barest minimal level. To realize these three basic attributes, most investors will prefer to invest in a combination of financial securities and/or physical assets. This combination of securities, investments and assets which an investor hold to satisfy defined risk-return objectives, is what is termed a Portfolio (Osaze, 2007). Rationally, every investor would be interested in investments with high returns or with low risks. Any combination of securities that has high returns but with low risks is considered to be efficient, according to the Capital Asset Pricing Theory (CAPT), and therefore should be preferred.

2.2.2 Theories of capital flight
2.2.2.1 The investment diversion theory

The investment diversion theory holds the view that due to macroeconomic and political uncertainty in developing countries and simultaneous existence of better investment opportunities in advanced countries like high foreign interest rates, wide array of financial instruments, political and economic stability and favourable tax climate, investors usually divert scarce capital resources to advanced countries.

2.2.2.2 Debt – driven capital flight theory

This theory, also known as debt-overhang thesis states that capital flight reduces the incentive to save and invest. The assumption is that; with large foreign debt, there is the expectation of exchange rate devaluation, fiscal crisis, and the propensity of expropriation of assets to pay for the debt. Capital flight leads to poor growth, which calls for the necessity to borrow from abroad. Further borrowing or indebtedness promotes capital flight, which in turn, leads to poor economic growth, and the cycle continues (Uguru, 2016; and Olawale and Ifedayo, 2015).

2.3 Empirical review

Following the economic and political uncertainties prevalent in Nigeria, many investors have been discouraged from investing in the country due to doubt as to whether investing in such an economy can yield anything tangible. Consequently, the fear of these unpalatable situation influenced the decision of most investors to channel their investments to other countries were economic situation is favourable. Based on this premise, various authors have concluded that capital flight erodes domestic savings, thus, causes an economy to crumble (Uremadu, Onyele & Ariwa, 2016; Uguru, 2016; Adebayo & Ayodele, 2016; Olawale & Ifedayo, 2015; Asongu, 2014; Ndikumana, 2014; Waleru, 2013; Ajilore, 2010; Gusarova, 2009).

Literature abound that capital flight affects government's ability to perform her financial obligations. For instance, Uguru (2016) found that capital flight depressed government tax revenue in Nigeria. Onyele & Nwokocha (2016b) found that the incidence of capital flight could pose an impediment to budget implementation in Nigeria. It is based on the notion that capital flight erodes the tax revenue of the government and hinders government budget implementation that Ndikumana & Boyce (2002) and Beja (2006) affirms that developing countries became indebted due to the problem posed by capital flight.

Similarly, the high rate of poverty in emerging and less developed countries have been attributed to capital flight. This can been seen in the works of Onyele & Nwokocha (2016a) who found that capital flight is a significant factor that influenced economic discomfort in Nigeria. Similarly, Usman & Arene (2014) found that capital flight diminished domestic agricultural productivity in Nigeria. Due to poverty and unemployment as a result of capital flight, people began to migrate from the less developed to developed countries for survival, a situation known as brain drain (Fofack & Ndikumana, 2014; Massa, 2014).

With respect to the determinants of capital flight, Saheed & Ayodeji (2012) found exchange rate to be a core determinant of capital flight. Abdulahi & Walter (2011) found that once account was taken of the region's structural and institutional features, private capital outflows from Africa were explained by policy distortions, along with the relative riskiness and poor profitability of investments. Quan & Paul (2006) found that political instability was the most important factor associated with capital flight. Fielding (2003) found that more violence led to more capital flight, but more capital flight was also a predictor of higher future levels of violence in Isreal.

In summary, going by the words of Berger & Bouwman (2011); Ofori-Abebrese, Kamasa & Pickson (2016); Osuala, Okereke & Nwansi (2013); Ariwa, Ani, Onyele, Ekeleme & Odili (2017) that capital is a prerequisite for a stable financial system and economic growth, it then became pertinent to analyze the influence of stock market as a major source of capital on capital flight from Nigeria with the view that a well-developed stock market should facilitate domestic investments and attract foreign investment inflow, hence holding up capital flight. It is very important to note that there has been no literature on the influence of stock market on capital flight from Nigeria known to the authors of the current study. Consequently, this study was aimed at filling this gap in the literature based on the assumption that a well-functioning and developed stock market could restrict capital flight from Nigeria.

3. METHODOLOGY AND SOURCES OF DATA

To establish the link between stock market and capital flight, the methodology used by Sa'adu (2014); and Osuala, Okereke & Nwansi (2013) was adopted and modified to soothe the objective of this study. The methodology was based on the *ex post facto* research design. Osuala *et al.* (2013) used the Autoregressive Distributed Lag (ARDL) approach in their study, this paper adopted the Vector Error Correction (VECM) which is more appropriate in cases where all the variables are integrated of order one i.e. I(1).

The data used for the study was sourced from CBN Statistical Bulletin Volume 26, December 2015. The dataset spanning from 1985 to 2015 was collected with the view of determining whether the Nigerian stock market performance have been able to mitigate the incidence capital flight from Nigeria over the sampled period (1985 to 2015).

3.1 Method of data analysis

First, in order to avoid spurious regression, it was necessary to carry out pretesting for stationarity of variables using Augmented Dickey-Fuller test. The next step was to test for numbers of co-integration equations that exist among the variables, that is, whether a long run co-integrating relationship exist among the variables in I(1). Co-integration tests are undertaken based on the Johansen (1988) maximum likelihood framework. The final step is to carry out the vector error correction (VECM) proper. The significance of VECM in the

model is to indicate how disequilibrium in the dependent variable can be adjusted in the long run.

3.2   Model Specification and Operational Definition of Variables

The model adopted for this study is shown in equation one. Explicitly, the model was specified thus:

$$\Delta CFL_t = \beta_0 + \beta_1 \Delta ASI_t + \beta_2 \Delta MCP_t + \beta_3 \Delta TNS_t + \beta_4 \Delta VST_t + ECT_{t-i} \qquad . \qquad (3.1)$$

Where,

ΔCFL = Change in capital flight

ΔASI = Change all share index

ΔMCP = Change in market capitalization

ΔTNS = Change in total new issues

ΔVST = Change in value of shares traded

ECT = Error correction term

β_0 = Constant

$\beta_1, \beta_2, \beta_3$ and β_4 = Population parameters

Capital flight (CFL) which is the dependent variable for the study is defined as the massive outflow of financial resources from Nigeria to developed countries. These uncontrollable outflows have been singled out as a major impediment to economic growth and development in Nigeria. Hence, it is assumed that a well-functioning stock market could hold up these outflows. Capital flight was computed using the residual method proposed by (Morgan Guaranty Trust Company, 1986). According to the World Bank, based on the residual method, positive figures represent capital flight, while negative figures represent capital inflow.

$$CFL = \Delta EXD + NFDI - (\Delta RSV + CAD) \qquad . \qquad . \qquad . \qquad . \qquad . \qquad (3.2)$$

Where,

ΔEXD represent change in total external debt outstanding

NFDI denote net direct foreign investment

CAB represent current account balance

ΔRES is the net additions to the stock of official foreign reserves

As a measure of stock market development, the following formed the explanatory variables of the regression model:

All share index (ASI) is a series of numbers which shows the changing average value of the share prices of all companies on a stock exchange, and which is used as a measure of how well a market is performing.

Market capitalization (MCP) is the total valuation of a company based on its current share price and the total number of outstanding stocks. It is calculated by multiplying the current market price of the company's share with the total outstanding shares of the company.

Total new issues (TNS) are newly created securities of a corporate entity or government, offered for subscription to the public. In other words, it is a means of raising fresh funds for development financing (SEC, 2010).

Value of shares traded (VST) is the total number of shares traded multiplied by their respective matching prices.

4.   ANALYSIS AND DISCUSSION OF RESULTS

4.1   Descriptive statistic

The descriptive statistic describes the nature and basic components of the dataset used for the study. The results of the descriptive statistic were presented in Table 4.1 below:

Table 4.1: Summary of descriptive statistic of the dataset

	CFL	ASI	MCP	TNS	VST
Mean	22.79419	14761.13	4279.286	615085.7	374.5819
Maximum	7741.110	57990.20	19077.42	4673855.	2350.870
Minimum	-8160.400	127.3000	6.600000	159.8000	0.230000
Std. Dev.	2831.211	15018.90	6192.376	1228108.	588.6525
Observations	31	31	31	31	31

Source: Authors compilation 2017 using EViews 9.0

Table 4.1 captured the mean values of the variables used for the study. From the Table, the mean value of capital flight (CFL) shows that on average capital flight from Nigeria over the period of study is ₦22.79419 billion. This positive mean value is an evidence that capital flight took place over the period of 1986-2015. On the other hand, the mean values for market capitalization (MCP), value of shares traded (VST), all share index (ASI) and total new issues (TNS) is ₦4279.286 billion, ₦374.5819 billion, 14761.13, and ₦615085.7 billion respectively.

Based on the minimum and maximum values, CFL indicates that the incidence of capital flight from Nigeria was lowest by -₦8160.400 billion and highest by ₦7741.110 billion. The negative minimum value implies that there was no capital flight in some years, while the positive maximum value suggests heavy outflow of capital over the period. Also, it indicate that market capitalization was minimal with a value of ₦6.60 billion and maximum at ₦19077.42 billion. Similarly, ASI hit a lowest and highest point of 127.30 and 57990.20 respectively. VST reveals that the lowest value of shares traded was ₦0.23 billion and a maximum of ₦2350.87 billion was traded over the period. Again, the trend of total new issues (TNS) shows a minimum value of ₦159.80 billion and a maximum value of ₦4673855 billion.

The standard deviation of CFL shows that the dispersion of capital flight from its mean is large. Likewise, the standard deviations of MCP, ASI and VST reveal that the dispersion of these variables from their means is not large. On the other hand, the standard deviation of TNS indicates that values of shares traded are highly deviated from its mean.

Figures 1 - 5 below shows the trend and graphical analysis of capital flight and stock market performance indicators (all share index, market capitalization, total new issues and value of shares traded for the period 1985-2015.
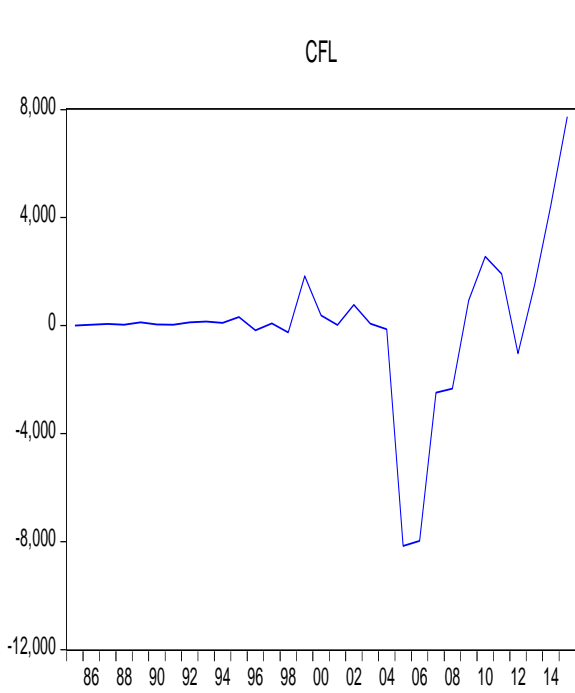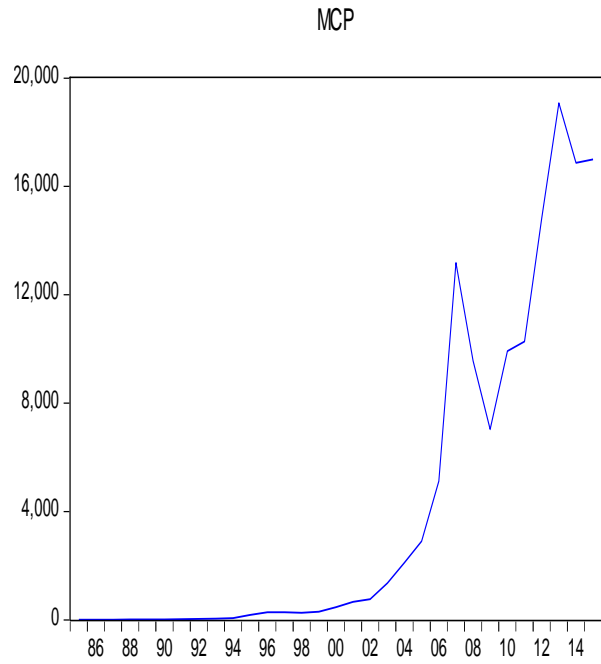
Figure 1: Trend of capital flight
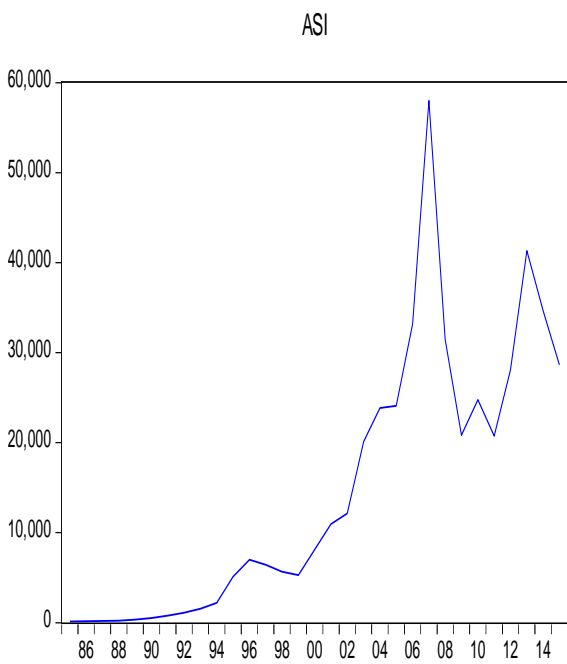

Figure 2: Trend of market capitalization
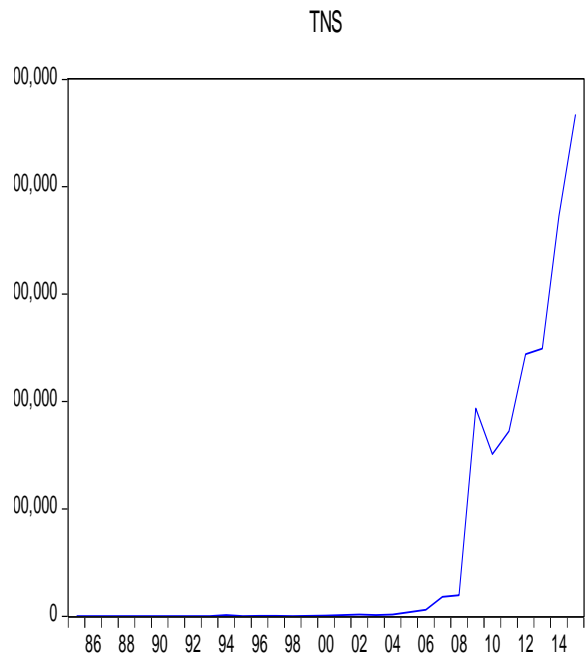

Figure 3: Trend of All Share Index
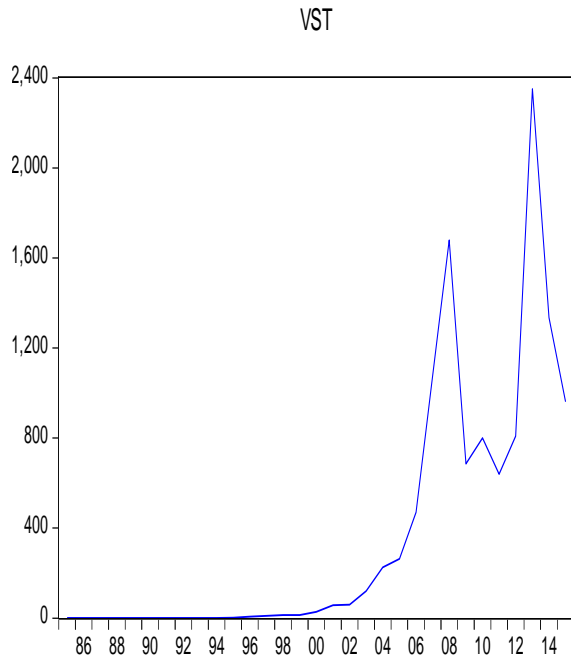

Figure 4: Trend of New Issues

Figure 5: Trend of Value of Shares Traded

4.2 Augmented Dickey-Fuller unit root test

The unit root test results are presented in Table 4.2 below.

Table 4.2: Augmented Dickey-Fuller unit root test

VARIABLE	LEVEL	FIRST DIFFERENCE	LAG LENGTH	ORDER OF INTEGRATION
CFL	-1.460377	-4.686997	7	I(1)
MCP	-1.726558	-5.480492	7	I(1)
ASI	-3.076097	-5.270095	7	I(1)
VST	-1.606057	-4.670311	7	I(1)
TNS	-3.177664	-6.463877	7	I(1)

Source: Authors compilation 2017 using EViews 9.0

The result of the unit root test presented in Table 4.2 indicate that all the variables are integrated of order one i.e. I(1). Since the variables are integrated at their first difference, any attempt to specify the dynamic function of the variables in the level of the series will be inappropriate and may lead to spurious regression (Osuala, 2010). Based on this premise, it became necessary to use the Johansen approach to co-integration and the Vector Error Correction (VECM).

4.3 Johansen co-integration test

Co-integration is said to exist if the Trace Statistic and Max-Eigen Statistic are significant at 1% and 5% levels. Alternatively, under the Johansen co-integration test, co-integration exists when the Trace Statistic and Max-Eigen values are greater than the 0.05 Critical Values. The results obtained from the Johansen approach to co-integration were captured in Table 4.3.

Table 4.3: Johansen co-integration test
Panel A: Trace statistic

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.994999	297.8833	69.81889	0.0001
At most 1 *	0.980843	149.5339	47.85613	0.0000
At most 2 *	0.578518	38.79124	29.79707	0.0035
At most 3	0.322129	14.59985	15.49471	0.0679
At most 4	0.124206	3.713480	3.841466	0.0540

Panel B: Max-Eigen statistic

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.994999	148.3494	33.87687	0.0000
At most 1 *	0.980843	110.7426	27.58434	0.0000
At most 2 *	0.578518	24.19139	21.13162	0.0179
At most 3	0.322129	10.88637	14.26460	0.1600
At most 4	0.124206	3.713480	3.841466	0.0540

Source: Authors compilation 2017 using EViews 9.0

Table 4.3 captures the Trace and the Maximum Eigenvalue statistics for the model. The null hypothesis of the absence of a co-integrating relationship among the variables is rejected at the 5 percent level for both statistics. The Trace statistics (Panel A) indicates that there are three (3) co-integrating equations while the Maximum Eigenvalue statistics (Panel B) also indicates three co-integrating equation. The existence of co-integration is indicative of a long run relationship between capital flight and the stock market performance variables and is consistent with the finance-led theories.

4.4   Optimal lag selection

Once co-integration is tested and confirmed, then the optimal lag order of the variables is selected by using either Likelihood Ratio (LR) test or Final Prediction Error (FPE) or Akaike Information Criterion (AIC) or Hanna and Quinn Information Criterion (HQIC). The decision for this study was made based on SC and AIC tests. Consequently, the results of the optimal lag selection are presented in Table 4.4 below:

Table 4.4: Lag selection criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1470.751	NA	1.09e+38	101.7759	102.0117	101.8498
1	-1351.568	189.0487	1.70e+35	95.28056	96.69500	95.72355
2	-1206.668	179.8761*	5.16e+31*	87.01158*	89.60473*	87.82372*

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion

SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

From the Table 4.4, the lag order selection was based on the Schwarz information criterion (SC) and Akaike information criterion (AIC). Hence, the optimal lag length of two (2) was used for the analysis as advised by the AIC and SC.

4.5 Vector error correction (VECM)
The result obtained from the VECM analysis is presented in Table 4.5 below:

Table 4.5: Vector Error Correction Model (VECM) (Dependent variable, CFL)

	Coefficient	Std. Error	t-Statistic	Prob.
ECT(-1)	-0.148954	0.040694	-3.660326	0.0021
D(CFL(-1))	-0.096879	0.169661	-0.571014	0.5759
D(CFL(-2))	-0.306616	0.205177	-1.494398	0.1545
D(ASI(-1))	0.282220	0.211743	1.332838	0.2013
D(ASI(-2))	-0.891256	0.222449	-4.006569	0.0010
D(MCP(-1))	-0.239644	0.717746	-0.333885	0.7428
D(MCP(-2))	6.131847	1.582229	3.875450	0.0013
D(TNS(-1))	0.007273	0.004828	1.506500	0.1514
D(TNS(-2))	0.012966	0.003129	4.143362	0.0008
D(VST(-1))	-1.797851	1.838037	-0.978136	0.3426
D(VST(-2))	0.784719	4.675179	0.167848	0.8688
C	-4865.007	1363.318	-3.568505	0.0026
R-squared	0.718139			
Adjusted R-squared	0.524359			
F-statistic	3.705955			
Prob(F-statistic)	0.008920			

Source: Authors compilation 2017 using EViews 9.0

Table 4.5 above shows that the error correction term (ECT) is negatively signed with a probability value (p-value) of 0.0021 which suggests significance at 1% and 5% levels. The significance of error correction term (ECT) indicates the velocity of adjustment to the long-run equilibrium after a short-run shock. The coefficient -0.148954 of the error correction term shows that about 14.89% of the discrepancies in capital flight are corrected in each period. It is worthy of mention that this speed of adjustment is very low, meaning that the adjustment process to restore equilibrium after disturbance is effectively slow.

The results revealed that previous year's capital flight (CFL) did not spur significant changes in the current year's capital flight. This is evident in the coefficients and p-values of CFL(-1) and CFL(-2) which has the expected negative sign and greater than 0.05 (5%) respectively. On the other hand, the explanatory variables in the model shows that at the optimal lag length of two (2) all share index (ASI) and value of shares traded (VST) has negative coefficients, while market capitalization (MCP) and total new issues (TNS) emerged with positive coefficients.

Based on the coefficients of the explanatory variables, it was found that two periods lag of all share index (ASI) caused capital flight to decrease. The estimated coefficient of ASI(-2)

indicates that a unit change in all share index two years ago accounted for approximately 0.89 units decrease in the value of the current year's capital flight (CFL). This implies that changes in the average value of shares in the Nigeria Stock Market two years ago held up current year's capital flight from Nigeria. With a p-value of 0.0010 which is less than 5% (0.05), it was concluded that all share index (as an indicator of stock market performance) has a significant influence on capital flight from Nigeria.

The estimated coefficient of market capitalization (MCP) reveals that capital flight accelerated due to changes in market capitalization. The coefficient of MCP(-2) indicates that ₦1 billion change in two periods lag of market capitalization accounted for about ₦6.13 billion increase in capital flight from Nigeria (CFL). This implies that the potential return and risk in the Nigerian Stock Market is low and high respectively, which has probably spurred investors to move their investments to more stable stock markets abroad. The p-value (0.0013) of MCP clearly reveal that market capitalization is a significant factor responsible for capital flight in Nigeria.

With respect to the estimated coefficient of total new issues (TNS), it was found that newly created securities offered for subscription in the Nigerian Stock Market accelerated the problem of capital flight from Nigeria. The coefficient of D(TNS(-2)) clearly reveal that ₦1 billion increase in total new issues caused capital flight to accelerate by approximately ₦0.0129 billion. This implies that the creation of new securities offered to the public for subscription is not sufficient to meet the investment needs of investors in the market. With a p-value (0.0008 > 0.05) it was concluded that changes in total new issues is a significant motivator of capital flight from Nigeria.

Finally, the coefficient of two (2) periods lag of value of shares traded i.e. D(VST(-2)) indicates that capital flight increased due to value of shares traded in the Nigerian Stock Market. The coefficient suggests that due to ₦1 billion change in value of shares traded, capital flight from Nigeria was spurred by approximately ₦0.784 billion. The p-value (0.8688 > 0.05) informs the conclusion that value of shares traded in the Nigerian Stock market has no significant influence on capital flight from Nigeria.

4.6   Variance decomposition
The variance decomposition indicates changes in the dependent variable that is due to shocks in the independent variables as shown in Table 4.6 below:

Table 4.6: Cholesky ordering variance decomposition of CFL (Capital Flight)

Variance
Decomposition
of CFL:

Period	S.E.	CFL	ASI	MCP	TNS	VST
1	1620.774	100.0000	0.000000	0.000000	0.000000	0.000000
2	1955.506	87.38339	1.483695	0.250407	3.930518	6.951989
3	2490.659	57.79139	18.45475	16.67923	2.533786	4.540851
4	3656.380	33.15302	35.11915	26.99209	1.703885	3.031854
5	5211.779	27.29500	37.46361	27.80673	2.437564	4.997096
6	6152.062	20.90907	46.41999	27.28239	1.798641	3.589914
7	7142.214	16.07780	53.69034	26.21709	1.339823	2.674954
8	8240.717	12.23867	56.46274	25.47491	1.928531	3.895157
9	8847.828	11.56435	57.79557	25.54309	1.673398	3.423586
10	9723.467	9.657939	60.67557	25.44141	1.386221	2.838859

Source: Authors compilation 2017 using EViews 9.0

Table 4.6 shows that in the short run (period 3), shock to capital flight by itself (own shock) accounts for about 87.38%, while impulses or shocks to all share index (ASI), market capitalization (MCP), total new issues (TNS) and value of shares traded caused 18.45%, 16.67%, 2.53% and 2.54% variance respectively in capital flight (CFL). This implies that, in the short run, a large proportion of shock or impulse (87.38%) to CFL is caused by CFL itself, while shocks to stock market performance indicators had little influence on capital flight. On the other hand, in the long run (period 10) the variance decomposition reveals that shocks to capital flight explained about 9.65% of the total shocks to itself, while the shocks in ASI, MCP, TNS and VST explained about 60.67%, 25.44%, 1.38% and 2.83% respectively. This implies that in the long run, shocks to all share index (ASI) is a prominent determinant of changes in capital flight more than other stock market performance indicators considered in the study.

4.7   Granger Causality Test

The Granger causality test measures the direction of relationship among the dependent and independent variables. The results of the Granger causality tests are captured in Table 4.7:

Table 4.7: Pairwise Granger causality test results

Null Hypothesis:	Obs	F-Statistic	Prob.
ASI does not Granger Cause CFL	29	0.90917	0.4163
CFL does not Granger Cause ASI		4.80486	0.0176
MCP does not Granger Cause CFL	29	3.65037	0.0413
CFL does not Granger Cause MCP		3.14237	0.0614
TNS does not Granger Cause CFL	29	3.47647	0.0472
CFL does not Granger Cause TNS		0.58523	0.5647
VST does not Granger Cause CFL	29	2.82638	0.0790
CFL does not Granger Cause VST		2.01699	0.1550

Source: Authors compilation 2017 using EViews 9.0

From Table 4.7 above, the Granger causality result shows that a unidirectional relationship running from capital flight (CFL) to all share index (ASI). This implies that capital flight from Nigeria influences all share index and not the other way round. As such, the changing average value of share prices of all companies on a Nigerian Stock Exchange could be attributed to the incidence of capital flight. Also, it was found that a one directional relationship exist between market capitalization (MCP) and capital flight (CFL). The direction of causality runs from market capitalization to capital flight. The implication of this is that the slow growth of the Nigerian stock market could be the cause of capital flight from Nigeria. However, capital flight from Nigeria Granger caused market capitalization at 10% level of significance which denote a weak causal relationship. Similarly, a one directional relationship exist between total new issues (TNS) and capital flight (CFL) running from TNS to CFL. This shows that TNS Granger caused CFL at 5% level of significance over the period of study. This implies that availability or lack of newly created securities of corporate entities or Government, offered for subscription to the public could influence the incidence of capital flight in Nigeria.

5. CONCLUSION, RECOMMENDATIONS AND CONTRIBUTION TO KNOWLEDGE

5.1 Conclusion

The study investigated whether stock market performance influences capital flight from Nigeria using time series data sourced from Central Bank of Nigeria Statistical Bulletin for the period-1986-2015. Based on the outcome of the analysis, it was found that a long run relationship exist between stock market performance indicators (market capitalization, all share index, total new issues and value of shares traded) and capital flight from Nigeria. Also, all share index, market capitalization and total new issues significantly influenced capital flight based on the Vector Error Correction Mechanism (VECM). On the other hand, a unidirectional relationship was found from all share index to capital flight. Also, a unidirectional causality was found from market capitalization and total new issues to capital flight from Nigeria. This suggests that stock market performance is a strong factor promoting capital flight, and capital flight is a strong factor influencing share prices (as proxied by all share index). Consequently, it was concluded that if the Nigerian stock market is well developed, it will go a long way in holding up capital flight from Nigeria.

5.2 Recommendations

Based on the findings, the following recommendations ensued:
1. To effectively hold up capital flight from Nigeria, there is need to ensure that the stock market is sound by promoting stability in the macroeconomic environment to enhance investors' confidence and attract both domestic and foreign investors to hold their equity investments in the Nigerian Stock Market.
2. With the long run shock to all share index exerting high level of influence on capital flight from Nigeria, it is needful to moderate share prices to soothe the investment preferences of investors in the stock market as this will help accelerate investment inflow and mitigate the rate of capital flight from Nigeria.
3. Also, there is need to improve the infrastructural facilities in the Nigerian Stock Market to match or even beat what is obtainable abroad. As such, foreign investors will be attracted to the Stock Market and the incidence of capital flight will be drastically reduced.

5.3 Contribution to knowledge

This study has provided empirical evidence on the influence of stock market development on capital flight from Nigeria. The study contributes to the wealth of knowledge on the subject matter that a well-developed stock market could curtail the rate at which capital flight occur in Nigeria.

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