

Impact of the 2007/2008 Global Financial Crisis on the Stock Market in Nigeria

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The convergence of global economy makes all countries and all markets sensible to the happenings in other countries (the contagious effect). The 2008 global financial crisis that had its origin from USA was alleged to have had varying degree of impacts on different capital markets in various countries. This paper investigated the impact of the 2007/2008 global financial crisis on the Nigerian capital market. Monthly time series data from January 2006 to December 2009. All Share Index (ASI) was used as proxy for the performance of the Nigerian Capital market, while Credit to the Private Sector (CPS), Price of Crude Oil (POIL), Money Supply (MS) and Dow Jones Industrial Average (DJIA) were the set of explanatory variables used to ascertain the effects of the crisis on the capital market in Nigeria. The paper employed the Vector Error Correction (VEC) model for the analysis. Based on the estimated Cointegration and the VEC analyses, the paper found that the global financial crisis adversely and significantly affected the Nigerian capital market both in the short run and long run. This was clearly evidenced by the fact that POIL slumped to a record low level, MS equally decreased and the CPS contracted thereby reducing the idle balances which could have been invested in stocks. All these are clear evidences of the crisis on the performance of the Nigerian capital market. Hence the global financial crisis of 2007/2008 was no respecter of any economy, even though some writers in Nigeria were quick in concluding that the Nigerian financial sector was insulated and robust, but it was not long after the economy was brought to its knees as the stock market in Nigeria crashed leading to a valuable loss of capital assets and investments.

Key words: Global financial crisis, Nigeria stock Market, U.S. Stock Market

Jel Classification: C22, Q02

1.0 Introduction

The place of Nigeria in the global economy has become an issue of policy relevance as a result of the rapid integration of the world's goods, services and financial markets. The trend in globalization has been sustained by the rapid liberalization of trade and capital flows between countries of the world, the process is expected to intensify as we move into the new millennium, since the trend has been established, and the reversal is not imminent now and in the near future, the window of opportunities that existed in the system is opened to those countries that can move along as effectively. Thus, the potentials for

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Nigeria must be critically examined to define the path towards the realization of the full benefit of the Nigerian Stock Exchange, which is contributing to growth of the Nigerian economy and the world at large (Andrea, 2008).

The recent global economic melt-down was traceable to the sub-prime mortgage crisis and rising home foreclosures, which commenced in August 2007 in the United States (US). Sub-prime mortgages were granted to borrowers whose credit history was inadequate to attract conventional lending. The mortgages were packaged by banks into Mortgage Backed Securities (MBS) and sold to financial institutions created by the US government, namely: Federal National Mortgage Association and Federal Home Loan Mortgage Corporations, who in turn repackage the loans and sold them to individual investors and financial institutions around the world (Ayuba, 2011).

However, certain factors, including rising fuel prices, the hurricane Katrina, global food crisis, amongst others led to rising domestic unemployment in the US which occasioned massive mortgage defaults and foreclosures. This development negatively affected the US capital markets and those of other economies worldwide with the consequential on-set of the global financial crisis.

According to Ujunwa *et al.* (2011), the immediate past governor of Central Bank of Nigeria was puerile in preventing the global financial crisis from having adverse effect on the Nigerian economy. As a result, the Nigerian capital market was seriously hit by the crisis. The prices of shares in the market nose-dived and investors lost huge sum of money. The crisis also crept into the banking sector as a result of excess exposure to the capital market and oil gas sector. He pointed out that Central Bank of Nigeria responded simultaneously by injecting N600 billion into the banking sector, while this effort has been applauded by analysts and justified on the basis of the vital role of banks in economic development, Ujunwa *et al.* (2011) argues that capital market regulators must undertake swift reforms, which would restore public confidence and protect investor.

Ayuba (2011) observed that some of the key stock market and other economic indicators point to the fact that all is not quite well with Nigeria. For instance, the total market capitalization that stood at N12.40 trillion in March 2008 fell to N4.69 trillion in March 2009, which represents a whooping decline of

62.18%. Additionally, the nation's foreign reserves decelerated from \$64 billion in August 2008 to \$47 billion as at March 2009, a 27% decrease (Andrea, 2008). This was partly due to the flight of hedge funds as Nigerian banks were estimated to have been heavily exposed to the Nigerian capital market through several share linked loans to individuals, institutional and other types of investors. The sudden withdrawal of hedge funds created panic among exposed banks which also panicked in a bid to cut their losses from the exposure to the capital market.

Arunma (2010) revealed that the global financial crisis triggered large portfolio outflows as international investors exited the Nigerian capital markets to address challenges in their home countries, stock prices started to decline, prompting margin calls and local investors who were unaccustomed to huge and persistent declines started to panicked, fueling more sell orders, further depressing prices and eroding investor confidence. To him the situation was exacerbated by the huge borrowing and margin finance exposure of individual investors, brokers and banks. While the market recovery to date has been limited because different categories have taken advantage of any recovery to reduce their exposure, the recent establishment of the Asset Management Corporation promoted by the Ministry of Finance and the Central Bank of Nigeria is expected to make and sustain the recovery since AMCON will take over about USD 12 billion in non-performing assets and manage them through an orderly disposal of the assets.

Banks panic in the capital market was compounded by the fact that most of them were also exposed to foreign banks through international credits and guarantees. The foreign banks hit by the global meltdown suddenly recalled these loans and dropped their guarantees. This created a liquidity challenge for Nigerian banks, further compelling them to sell down their stocks to boost their liquidity. By 2008 ended, foreign investors had pulled out N556.93 billion, culminating in a net outflow of about N406.8 billion. By the second week of January 2009, market capitalization had nose-dived from an all time high of N13.5 trillion in March 2008 to less than N4.6 trillion.

The foregoing discussion evidently pointed to the fact that, all was not well with the Nigerian capital market. The Capital market as one of the financial hub of the nation could have consequential effect on the entire Nigerian economy. Consequently, this work assesses the impact of the 2007/2008 global financial crisis on the stock market in Nigeria.

The paper is therefore divided into six sections. Section 1 is introduction, section 2 is stylized facts about the crises and the Nigerian macroeconomic performance, Section 3 is on review of empirical literature, section 4 is methodology and framework for analysis, Section 5 is results and discussions, section 6 is summary and conclusion.

2.0 Stylized facts about Global Financial Crises and the Nigeria's Macroeconomic Performance

The crisis which manifested itself globally in the form of liquidity and credit crunch, breakdown of confidence in the banking system, de-leveraging and banks inability to improve capital adequacy, weak consumer demand, and fall in global output, affected Nigeria through both the financial and real (trade, remittances and aid) channels.

The undiversified nature of the Nigerian economy and the high dependence on exports of crude oil as well as foreign capital inflows compounded the impact of the external shock arising from the crisis. In specific terms, Nigeria experienced low demand for its oil export due to recession in the economies of her major trading partners. The Nigeria's Bonny Light Crude Oil Spot Price FOB which was \$95.16 per barrel in January 2008 rose to \$146.15 in July 2008 before declining to \$76.24 per barrel by October 17, 2008. Thus, within four months, it had lost 50% of its peak price. This, coupled with the collapse in the international price of oil, led to severe decline in foreign exchange receipts and consequently government revenue contraction. The low accretion to foreign exchange reserves and demand pressure in the foreign exchange market led to volatility and substantial depreciation of the naira exchange rate. Government resorted to Excess Crude Account drawdown and domestic borrowing to finance its activities.

Within the period, there was substantial decline in foreign capital inflows (Foreign Direct Investment (FDI); portfolio investment, and remittances from Nigerians in Diaspora just as foreign trade finance reduced significantly for some banks while for others credit lines literally dried-up.

In spite of the debilitating impact of the crisis, Nigeria's growth trajectory was not significantly impaired. The real Gross domestic Product (GDP) growth rate which averaged 6.29 per cent between 2004 and 2007 declined marginally to 5.99 per cent in 2008 rising thereafter to 6.9 per cent in 2009. This was

attributed to the impressive performance of the non-oil sector, particularly, agriculture and the continuous implementation of sound macroeconomic policies. (Sanusi, 2008)

It is perhaps in the capital market that the greatest impact was felt. The prolonged downturn in the capital market induced by significant divestment by foreign investors and compounded by lingering liquidity tightness, waning public confidence, and panic selling by domestic investors led to significant losses by investors. The stock market which remained bullish between December 2005 and March 2008, suddenly became bearish in April 2008 and had remained nearly so since then with only marginal recovery. At the height of the bull run in early March 11, 2008, equity market capitalization hit N12.64 trillion while the Nigerian Stock Exchange All Share Index (ASI) which rose by 37.8 per cent in 2006 and 1.01 per cent in 2005 gained a record 74.73 per cent in 2007. Between 31st December 2007 and the peak of the bull run in early March 2008, the market gained 14.45 per cent. By year end 2008, the NSE All Share Index which gained 74.73 per cent the previous year, had declined by 45.8 per cent while equity market capitalization declined by 32.4 per cent from N10.3 trillion at year- end 2008 to N6.96 trillion at the close of 2008. Thus, between 2007 and 2008 the ASI declined by 42.5 per cent compared to 33.8 per cent decline between 2008 and 2009. The corresponding figures for market capitalization were 27.5 and 28.3 per cent, respectively. (Sanusi, 2008)

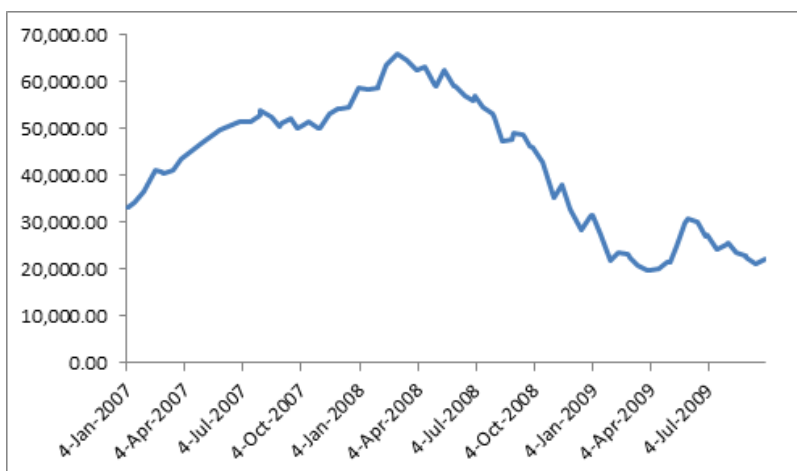


Figure: 1: All Share Index Series

Reflecting the months of global perception that the Nigerian stock market had favourable growth potentials, the All Share Index (ASI) of the NSE recorded an increasing stock index from 37,764.5 at the beginning of first quarter of 2007 up till 3rd March 2008 when it reached its pick of 65,910.97 from which the index began to fall drastically faster than its previous growth rate until when it recorded the lowest index of 19,851.89 at the end of the 1st quarter of 2009 (figure 1)

The total loss within the time frame was 46,059.08 which was about 69.88%. This happened during the period of global financial crisis, and the market began to recover from this loss due to some of the government bail-out packages. This trend of market cycle is theoretically explained by Minsky, Hayek and Keynes business cycle theories.

Another measure of market strength is the market capitalization as illustrated in figure 2. Nigerian capital market recorded a fast growing market capitalization with value of the market capitalization rising from N6,150,049.14m (N6.15 trillion) in the 1st quarter of 2007 to about N12,277,326.10m (N12.277 trillion) in the 1st quarter of 2008, i.e at an average growth rate of 19.34%. It fell to N4,486,469.92m (N4.48 trillion) in the 1st quarter of 2009 at -20.41% rate. The total loss within the short period was N7,790,856.18M (N7.79 trillion) about 63.46% of the value as at 1st quarter of 2008.

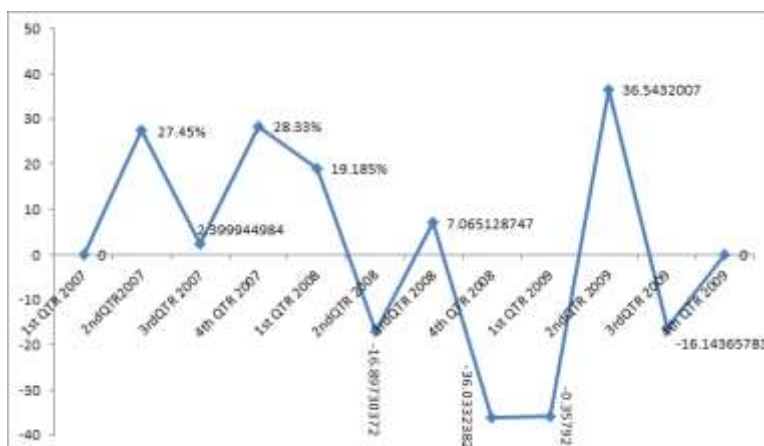


Figure: 2: Market Capitalization (Percent Change)

It is also important to look at the sectors within the economy that were mostly affected by the crisis, these are the sectors that are ranked among the top 20 sectors in terms of market capitalization strength. These are banking, foreign listing and petroleum sectors. Banking sector which had 59.09% of the total market capitalization of the Nigerian capital market (2008, 1st quarter) was heavily affected by the global financial crisis despite the sectors reforms in the year 2005 of recapitalization that forced many banks to be listed on the stock exchange, Nigerian capital market recorded rapid increase in all its indices (trade turnover, market capitalization, all share index, volume and values of transaction) prior to the crisis. This raised the need for the banks to expand their transactions to make more profit for growth and for dividend payment which urged for the exposure of these banks to risky investment in search for higher return. The bankruptcy of some foreign allied banks slowed trading activities of some of these Nigerian banks.

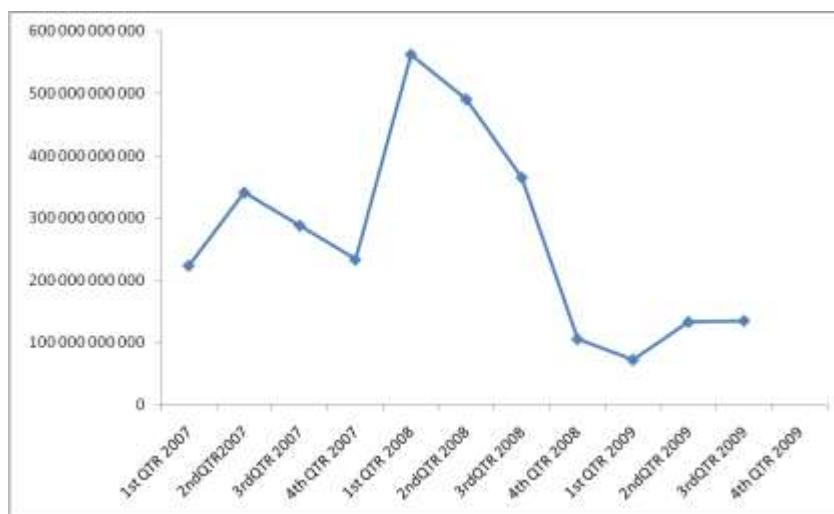


Figure: 3. Banking sector value of trade

The trade value of the banking sector rose from ₦ 223,680,377,257 in the 1st quarter of 2007 to ₦ 562,313,667,306 in the 1st quarter of 2008 which marked the highest value of transaction for the sector. The trade value fell to the value of ₦72,696,921,870 in the 1st quarter of 2009. The sector lost within this period the sum of N489,616,745,436 trade value of transaction and ₦7,182,497,948,130 value of market capitalization.

Petroleum sector being the main stay of the Nigerian economy although constituted very little portion of the market size (5.66%) played a significant

role in transmitting the global financial crisis to the capital market through price of crude oil. Rise in the price of oil (from \$58.47 to \$115.84 for the period 3rd March 2007 to 1st August 2008) induced investors to the sector, with sudden sharp fall in the prices (from \$115.84 to \$44.36 between 01/08/08 to 01/12/08), investors suffered severe loss of fund.

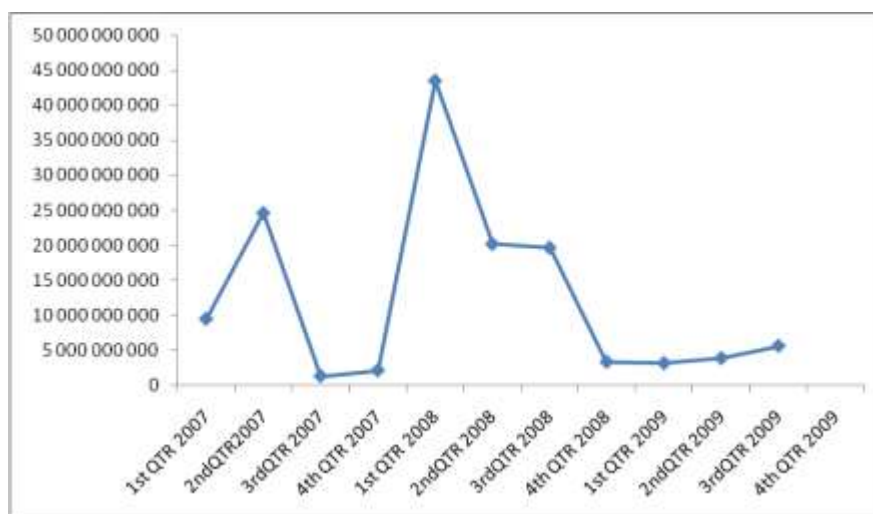


Figure: 4. Trading value of petroleum sector (N)

The sector witnessed a rapid increase in the trade value between the 4th quarter of 2007 and the 1st quarter of 2008 of ₦41,453,203,444. Followed by a loss of ₦40,429,350,892 between the 1st quarter of 2008 and 4th quarter of 2008 which is the same period of collapse of trading activities in the banking sector.

The foreign sector contributed about 2.61% of the market capitalization as at the 1st quarter of 2008, the sector also witnessed a decline in its trading activities by losing the sum of ₦19,733,347,468 in the year 2008.

The out flow of foreign investment from the economy contributed immensely to the collapse of the capital market. Foreign private investment which was rising at increasing rate (2003-2007) fell drastically by losing the sum of ₦152,656,740,000 by the year end 2008. This was as a result of outflow of fund to protect the parent company investment in the developed nations, because most of the multinational companies in Nigeria are subsidiaries of the parent companies abroad.

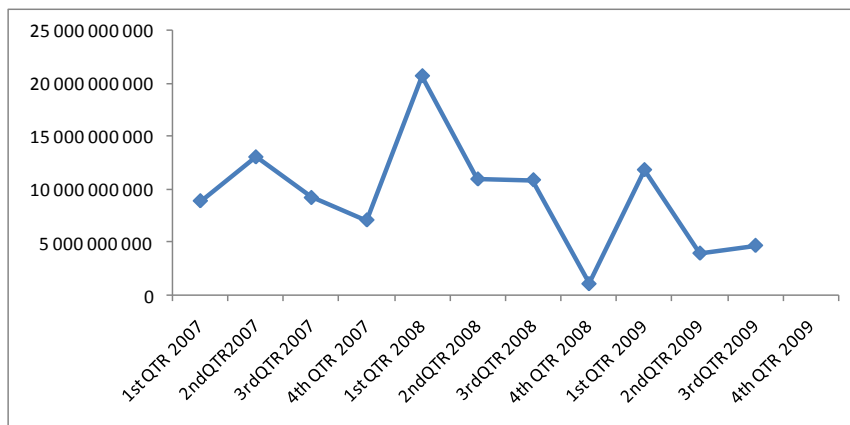


Figure: 5. Trading value for foreign listing sector(n)

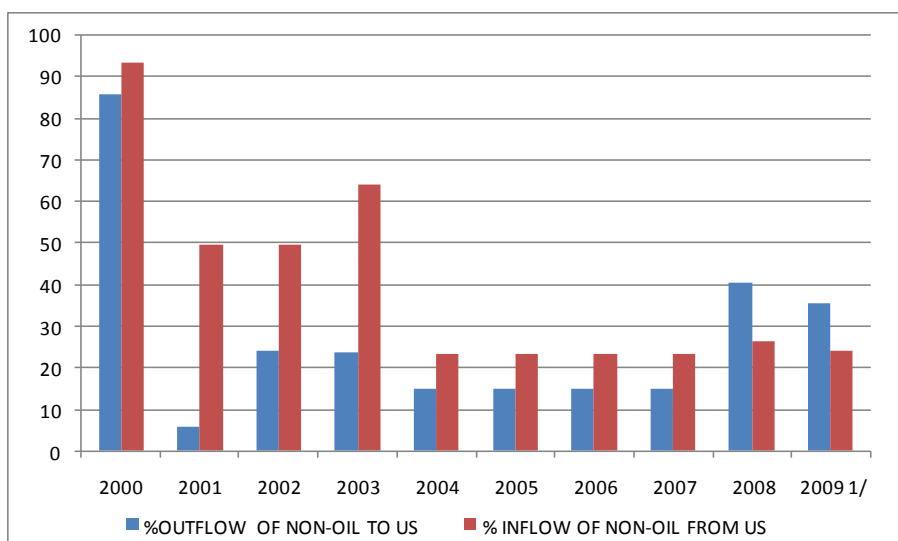


Figure: 6. Outflow and inflow of non oil to US

From figure 6, it can be seen that the percentage of foreign outflow of fund has been higher than the percentage of foreign inflow of fund during period 2000 to 2007, but it changed in the year 2008 and 2009 period of financial crisis in Nigeria. Investors lack confidence in the ability of the market to be safe from the blowing wind of financial crisis contributed to the huge sales of equities above the demand of such equities which translated into fall in prices of the stocks without actually any fall in their value, this is theoretically explained by Herding theory of financial market.

Similarly, Nigerian foreign private investment value had a sharp fall from the peak ever reached of ₦552,498.6million (2007) to ₦399,841.9(2008).

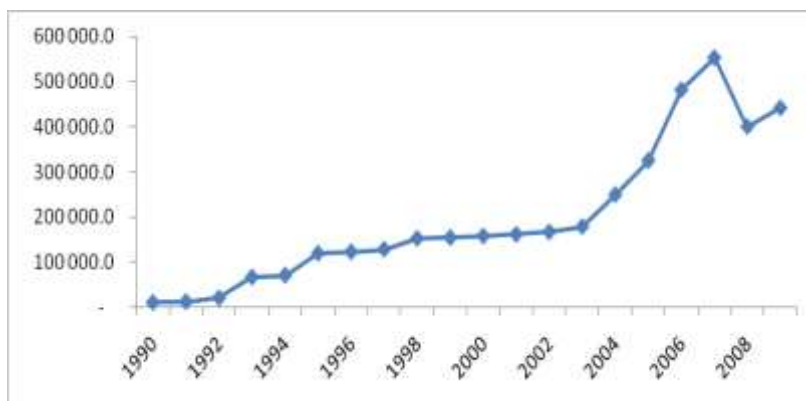


Figure: 7. Foreign Private Investment in Nigeria(₦million)

3.0 Review of Empirical Literature

The effect of different financial crises during the last two decades on stock markets has been explored by different researchers. Some of the studies considered contagion impact among different stock markets in the wake of Asian financial crisis 1997. Alper and Yilmaz (2004) investigated this relationship for Istanbul and other prominent stock markets with particular reference to financial crisis that began in Turkey in 1994, Asian financial crisis 1997 and Latin America crisis during 1998 - 2001. The study confirms that international contagion prevails among stock markets. Lim *et al.* (2008) explored the efficiency of the eight Asian stock markets in order to find the effect of Asian financial crisis of 1997 with divisions of period from pre to post financial crisis and found that during financial crisis 1997, efficiency of the Asian stock markets deteriorated of which Hong Kong stock market was the major victim of the crisis. Ravichandran and Maloain (2010) found that during recent financial crisis, stock markets of six Gulf countries faced negative pressure but these markets become strengthened during post crisis period.

Rafaqet *et al.*(2012) and Jenrolaetal (2012) consider the 2007/2008 Global financial crisis that started from United States, the world's largest crisis after 1930s recession. Considering this, few studies have assessed the impact of this crisis on stock markets especially in Nigeria. Using EGARCH model,Olowe

(2009) studied the response of stock return and its volatility on Nigerian stock market and found that stock returns and its volatility in Nigeria are free from the severity of this crisis because of the low exposure the Nigeria stock market to international community. In contrast to this, Adamu (2010) takes same objective for Nigerian stock market with conventional statistical analysis i.e. standard deviation and variance analysis and divided the data into pre and post crisis period and found that during the financial crisis period, volatility in Nigerian stock market increased.

Jenrola, *et al.* (2012) in another investigation on the response of Nigerian stock market to GFC, using time series data from 2000-2008 and employing a simple regression analysis revealed that the Nigerian Stock exchange downfall is not attributed to global financial crisis but the instability of macroeconomic variables in Nigeria like unfavourable exchange rate, inflationary pressure, problem of insecurity, inadequate infrastructural facilities. According to Abdul (2009), Nigeria relies on several foreign grants and funding from developed countries to complement public spending on education, health care delivery, transportation, amongst others. The crisis may cause a squeeze on grants to Nigeria as some of the countries Nigeria rely on for funding are the worst hit by the crisis. Similarly grants from donor agencies such as the IMF, World Bank and USAID could also be affected as they in turn rely heavily on the contributions of the G7 states, which would reduce as the credit crunch persists.

According to Mobolaji (2008), while the Nigerian banking industry enjoys a low exposure to world financial markets, many banks with off-shore credit lines began to experience a reduction or outright cancellation of credit lines as many of the foreign banks are suffering from the crisis already. This has resulted in the weakening of the bank credit portfolios. A good number of Nigerian banks are involved in Joint Venture financing with foreign banks for mega projects in the Oil, Aviation and Communication sectors. These projects could be threatened by the crisis.

4.0 Methodology and framework for analysis

4.1 Analytical framework

The analytical framework for the paper adapted from the work of Jenrola *et al* (2012) and Ujunwa *et al* (2011). The work of Jenrola *et al* (2012) used market capitalization as a proxy for Nigerian capital performance (dependent

variable) while the independent variables like Number of Stocks (NOS), Value of Trade (NOT), Dummy variable for GFC (DGFC) and All Share Index (ASI) respectively. This work models the Nigerian capital market performance by using the ASI (dependent variable), and set of explanatory variables such as Dow Jones Industrial Average(DJIA), Price of crude oil, Money Supply, Credit to private sector, Thus the Nigerian stock market can be expressed in the function below;

$$ASI = f(POLT, CPS, MS, DJIA) \quad (1)$$

The VAR representation of the above function in log form considering that all the variables are endogenous is transformed in the matrix below;

$$\begin{pmatrix} \log(ASI_t) \\ \log(POIL_t) \\ \log(CPS_t) \\ \log(MS_t) \\ \log(DJIA_t) \end{pmatrix} = \begin{pmatrix} 1 \\ 1 \\ 1 \\ 1 \\ 1 \end{pmatrix} + \begin{pmatrix} \beta_{11} & \beta_{12} & \beta_{13} & \beta_{14} & \beta_{15} \\ \beta_{21} & \beta_{22} & \beta_{23} & \beta_{24} & \beta_{25} \\ \beta_{31} & \beta_{32} & \beta_{33} & \beta_{34} & \beta_{35} \\ \beta_{41} & \beta_{42} & \beta_{43} & \beta_{44} & \beta_{45} \\ \beta_{51} & \beta_{52} & \beta_{53} & \beta_{54} & \beta_{55} \end{pmatrix} \begin{pmatrix} \log(ASI_{t-i}) \\ \log(POIL_{t-i}) \\ \log(CPS_{t-i}) \\ \log(MS_{t-i}) \\ \log(DJIA_{t-i}) \end{pmatrix} + \begin{pmatrix} e_{1t} \\ e_{2t} \\ e_{3t} \\ e_{4t} \\ e_{5t} \end{pmatrix} \quad (2)$$

$n \times 1$ $n \times 1$ $n \times k$ $k \times 1$ $N \times 1$

Where left hand column in equ(2) is $n \times 1$ vector of dependent variables, first column on the right hand side is $n \times 1$ vector of intercepts, second column on the right hand side is $n \times k$ matrix of coefficients, the third column on the right hand side is $k \times 1$ vector of lagged explanatory variables (i is the lag length which is determined by the various lag criteria such as Akaike info criterion Criterion, Schwarz criterion, Hannan-Quinn criter, etc).

ASI, is the all share index, POil represents the price of crude oil, CPS is credit to private sector, Ms is money supply, DJIA is the Dow Jones Industrial Average, e_t is error term, α_0 is the intercept and β_{11} to β_{55} are parameters of the independent variables.

Unit Root Test

For estimation purposes, the stationary properties (unit root) of the variables were investigated using the Augmented Dickey Fuller (ADF) test (Dickey and Fuller, 1981). This exercise was done to ascertain the order of integration of

the variables that will avoid spurious results. The ADF test is conducted using regression which includes intercept and time trend:

$$\Delta X_t = a + bt + \rho X_{t-1} + \sum_{i=1}^k \Delta X_{t-i} + \mu_t \tag{3}$$

Where ΔX_t is the first difference of the series X , k is the lag order, t is the time a , b and ρ are the coefficients. Therefore, the ADF unit root test posits a null hypothesis that $\rho = 0$ versus an alternative hypothesis that $\rho < 0$, where the ADF statistics is compared with the observed Mackinnon critical values at 1% and 5%.

Co-integration Test

Co-integration may be necessary if all the series have unit roots. The Johansen procedure establishes a VAR model which can be defined by the following Error-Correction Model:

$$\Delta Y_t = \sum_{i=1}^p \tau_i \Delta Y_{t-i} + \pi Y_{t-1} + \alpha Z_t + \varepsilon_t \tag{4}$$

Where $\pi = \sum_{i=1}^p A_i - 1$ and $\tau_i = - \sum_{j=1+i}^p A_j$, Δ is the first difference operator, is a $p \times 1$ vector of non-stationary variables (in levels), τ_i is the deterministic element of the VAR model, Z_t is a dummy variable that takes the value 1 if there is stability and 0 otherwise, which allows a structural break of the independent variables to impact on the dependent variable, and ε_t is the vector of random errors that are normally distributed with mean zero and constant variance.

4.2 Type and Sources of Data

The analysis focuses on monthly market developments from January 2007 to December 2009, being the period of pronouncement of the global crisis and the period of its reflection in Nigerian economy. The data for analysis covered the period January 2000 to December, 2009. The data for the variables were sourced from the statistical bulletins of Central Bank of Nigeria (CBN), except Dow Jones Industrial Average monthly data that was sourced from Wall street journal, and Mortgage X historical data report.

5.0 Results and Discussions

Table 1 presents the unit root results for the series. The table depicts that the series are integrated of same order I(1) based on ADF statistics. The cointegration test (table 2) shows three cointegrating vector for the trace rank

statistics (table 2) and three cointegrating vector for the max. eigenvalue statistics (table 3). By normalizing the Cointegrating Vector (CV) on ASI, the CV is then identified as the long run relationship between ASI and its determinants (table 4). Consequently, the adjustment coefficients validate the long run relationship between the ASI and the explanatory variables (i.e., DJIA, CPS, Ms, and OIL).

In table 4, the explanatory variables have been confirmed to be good predictor of the performance of the Nigerian capital Market. For instance, a unit increase in CPS would increase ASI by 0.0027 unit. Hence increase in CPS could increase the performance of the capital market as individuals could realize some idle balances to investment in stocks. Increase in DJIA by a unit would cause the ASI to increase by 23.27 units and this relationship is statistically significant. This means that there is a significant influence of the U.S capital market on the performance of the Nigerian stock market. This confirms the reason why the Nigerian capital market indices were hard hit by the 2007/2008 global financial crisis.

Furthermore, Ms and POIL have positive influence on the Nigerian capital market. However, the influence of the oil on the Nigerian capital market was significant. During the crisis periods, the price of crude oil slumped to a record level low, which consequently affected most of the economic aggregates such as exchange rate, CPS, MS etc, and general downturn in the economic outlook.

Table: 1. Unit Root Test Result

VARIABLES	LEVEL	FIRST DIFFERENCE	COMMENT
	ADF	ADF	
ASI	1.25406	-4.3745*	I(1)
DJIA	-5.225711*	-19.81939*	I(1)
CR	3.5873*	-3.76673*	I(1)
MS	-0.0853	-4.74034*	I(1)
POIL	-0.2456	-3.05786*	I(1)

*, **, *** Data are stationary @1%, 5% and 10% level of significance respectively because they are in absolute term greater than MacKinnon critical values for rejection of hypothesis of a unit root.

Table 2: Trace Rank Test

Hypothesis	$r = 0^*$	$R \leq 1$	$R \leq 2$	$R \leq 3$	$R \leq 4$
Trace stats	89.3	56.72	30.27	7.91	1.08
5%	59.46	39.89	24.31	12.53	3.84
1%	66.52	45.58	29.75	16.31	6.51

The Trace Rank test indicates three cointegrating equations at 1% and 5% respectively

Table 3: Maximum Eigen Rank Test

Hypothesis	$r = 0$	$R \leq 1$	$R \leq 2$	$R \leq 3$	$R \leq 4$
Eigen statistics	32.58	26.4493	22.3663	6.822623	1.08882
5%	30.04	23.8	17.89	11.44	3.84
1%	35.17	28.82	22.99	15.69	6.51

Max-eigenvalue test indicates three cointegrations at 5% and no cointegration at 1% levels

Table 4. Cointegrating Vector (CV)

	ASI(-1)	CPS(-1)	DJIA(-1)	M2(-1)	OIL(-1)	C
CV	1	-0.0027	-23.1624	-0.00039	-1829.22	97102.5
Se		-0.00561	-4.81232	-0.00679	-393.37	
t-Stat		[-0.48076]	[-4.81314]	[-0.05792]	[4.65012]	

Vector Error Correction

Having identified the cointegrating vector, the paper then proceeds to analyse the short-run dynamic processes that establishes the long run equilibrium situation. This is encapsulated by the Vector Error Correction Mechanism (VECM). Therefore, the estimated VEC model is presented in table 5. It was estimated with an optimal lag of two. The VEC term in table 5 is correctly signed and statistically significant. This implies that the VEC mechanism terms is appropriate to drive the shortrun processes into a long run stable equilibrium. Hence, about 6.196% of the dynamic processes could bring about a long run equilibrium. This implies that the global economic crisis has both shortrun and long run effects on the capital market in Nigeria.

Table 5: Vector Error Correction Model

Variable	Coefficient	Std	t-ratio
VEC	-0.06196	-0.0121	[5.13766]
D(ASI(-1))	-0.17909	-0.1125	[1.59171]
D(ASI(-2))	0.079828	-0.1142	[- 0.69897]
D(CPS(-1))	0.000686	-0.001	[- 0.70231]
D(CPS(-2))	0.000688	-0.001	[-0.70073]
D(DJIA(-1))	-1.30042	-0.7876	[1.65104]
D(DJIA(-2))	-1.39403	-0.793	[1.75786]
D(M2(-1))	-0.00071	-0.0009	[0.78612]
D(M2(-2))	-0.00161	-0.0009	[1.84435]
D(OIL(-1))	135.5965	-47.17	[- 2.87461]
D(OIL(-2))	119.3942	-51.93	[- 2.29914]
C	95.45412	-362.64	[- 0.26322]
R-squared	0.376016		
Adj. R-squared	0.27654		

Source, Computer print out, 2012

6.0 Summary of Findings and conclusion

This paper investigated the impact of the 2007/2008 global financial crisis on the stock market in Nigeria. ASI was used as the proxy for the domestic stock market while the DJIA was considered as the proxy for the U.S. stock market. Private credit, money supply and price of crude were the domestic variables that were theoretically assumed to transmit the crisis to the domestic stock market. The findings revealed that the 2007/2008 global financial crisis significantly impacted on the Nigerian Capital market both in the short-run and in the long –run. The DJIA, CPS, Poil, and MS were all affected during the crisis, they equally exerted negative impact on the performance of the Nigerian Capital market. For instance, the DJIA as proxy for the US stock market was adversely affected, and because of the exposure of the Nigerian capital Market to the outside world especially the U.S. economy, DJIA exerted a adverse significant influence on the capital market in Nigeria. Credit to the private Sector (CPS), Money Supply (Ms) and price of crude oil (oil) were affected during the financial meltdown as the price of crude slumped to a record low level. This by implication affected the Ms and CPS and all these

had adverse effect on the Nigerian capital market as a drastic reduction in idle balances.

The global financial crisis of 2007/2008 hardly spared any economy world wide, eventhough some chief executives in Nigeria were naïve at an earlier conclusion that the Nigerian economy was insulated and robust, but it was not long after the economy was brought to its knees as the stock market in Nigeria crashed leading to a valuable lost of assests, capital and investments.

References

- Abdul, A. (2009). The effect of global financialcrisis on Nigerian economy. Nasarawa state University. <http://paper.ssrn.com>
- Adam, C.S. (1992). Recent developments in econometric methods: An application to the demand for money in Kenya. *African Econ.Res.Consortium (AERC)*, 15:1–52
- Alper, C. E. and Yilmaz, K. (2004). Volatility and Contagion: Evidence from the An Emerging Market: The Nigerian Case. *International Review of Business Research Papers*. 5(4):426-447
- Andrea, P. B. (2008). Do Oil Prices Directly Affect the Stock Market? Federal Reserve Bank of Cleaveland.
- Arunma, O. (2010): Testimony on “the global financial crisis and financial Reform in Nigeria: a capital market perspective” A paper presented Before the United States House of Representatives Committee on FinancialServices Sub-Committee on InternationalMonetary Policy and trade, Tuesday, November 16. Available online <http://www.e3journals.org>
- Ayuba, S. (2011). The Impact of The Global Financial Market on The Nigerian Stock Market.An Unpublished M.Sc. Project, Department of Economics, Ahmadu Bello University, Zaria
- Central Bank of Nigeria monthly data, <http://cenbank.org/publication/statisticalbulletin.html>
- CFI level 1 capital market theory, Investopedia <http://www.investopedia.com/studyguide/cfa-exam/level-1/portfolio-management>

- Chomsisengphet, C.A., (2006). The evolution of the subprime mortgage market. Federal reserve bank of ST. Louis.
- Engle, R.F. and Granger, C.J. (1987). "Co-integration and Error Correction: Representation, Estimation, and Testing", *Econometrica*, 55:251-276.
- Fitzpatrick, E. (2003). The globalisation of democracy building; a polyarchic dilemma. Retrieved from www.freewebs.com/ekfitzy/theories%20of%20globalisation.doc
- Gabril, R. (ed). The theory of Globalization and its analysis, paper www.streetdirectory.com
- Ghura, D. and Goodwin, B. (2000). "Determinants of Private Investment: A Cross Regional Empirical Investigation". *Applied Economics*.32(14):1819-1829.
- Granger, C.W.J. (1986). Developments in the study of Cointegrated economic variables. *Oxford bulletin of economics and statistics*, 48(3):0305-9049
- Green, W.H. (2003). *Econometric Analysis* (5th edition). Darling Kinderslyny (India) pot Ltd, New Delhi, India.
- Gujarati, D.N. (2003). *Basic Econometrics* (4th edition). Tata-Mc Graw Hill Publishing company Ltd, New Delhi, India.
- Harris, R. (2000). "Using Co integration Analysis in Econometrics Modelling". Prentice Hall.
- Haug, A. MacKinnon, J. and Michelis, L. (2000). "European Monetary Union: A Cointegration Analysis". *The Journal of International Money and Finance*, 419-432.
- Jenrola, O A. and Daisi, O. R. (2012). The Implications of Global Financial Crisis on the Nigerian Capital Market Performance: An Empirical Investigation (2000-2008). *European Journal of Humanities and Social Sciences* 16(1).
- Johansen, S. (1995). "Likelihood-Based Inference in Cointegrated VectorAutoregressive Models", Oxford University Press, Oxford.

- Lo, A.W. and Mackinlay, A.C. (1999). A non random walk Down Wall Street, Princeton University press, Princeton.
- Mobolaji, A. (2008). "The global financial meltdown: impact on Nigeria's capital market and foreign reserve" www.nigeriavillagesquare.com/article/mobolaji-aloko/the-global-financial-meltdown-impact-on-nigerias-capital-market
- Olowe, R.A. (2009). Stock Return, Volatility And The Global Financial Crisis on the Nigerian Capital Market Performance: An Empirical Investigation (2000-2008). *European Journal of Humanities and Social Sciences*, 16(1).
- Pennington-Cross, A., (2002). Subprime Lending in the primary and secondary markets. *Journal of housing research*, 13(1):31-50
- Rafaqet, A. and Muhammad, A. (2012). Impact of global financial crisis on stock markets: Evidence from Pakistan and India. *Journal of Business Management and Economics* 3(7):275-282.
- Ramanathan, R. (1992). Introductory Econometrics with Application. Dryden Press, Fort Worth.
- Ravichandran, K. and Maloain, A.M. (2010). The global financial crisis and stock market linkages: Further evidence on GCC Market. *Journal of Money Investment and Banking* 16:46–56.
- Ronald, U. (2008). The subprime mortgage market collapses: A primer on the cause and possible solution, Heritage foundation. http://www.heritage.org/Research/Reports/2008/04/The-Subprime-Mortgage-Market-Collapse-A-Primer-on-the-Causes-and-Possible-Solutions?fb=true#foot_anchor
- Roy, B. (2000), Eview tutorial: cointegration and error correction, city university business school, London.
- Sanusi, S. (2010). Global financial meltdown and the reforms in the Nigerian Banking sector. Paper retrieved from <http://www.cenbank.org/out/speechless/2010/govATBU%20convocation%20lecture.pdf>

-
- Sreedharan, N.J. (2004). A vector error correction model (VECM) of stock market returns. Retrieved from <http://repec.org/esAUSM04/up.14881.1077753387.pdf>.
- Tan, T. (2008). Introduction to Minsky theory: stability is destabilizing. Retrieved from <http://www.safehaven.com/article/10186/introduction-to-minsky-theory-stability-is-destabilizing>.
- Ujunwa, A., Salami, O.P. and Umar, H.A. (2011). The global financial crisis: Realities and implications for the Nigerian capital market. *American Journal of Social and Management Sciences*, 2(3):341-347.