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Effect of Global Meltdown on the Nigerian Stock Exchange Market: An Empirical Analysis, 1988-2015.

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Abstract: This study examined the effect of the global financial meltdown on the Nigerian Stock Exchange, utilizing annual time series data covering the period from 1985 to 2015. The study adopted purely analytical methodology of modern econometric techniques such as the unit root test, co-integration test, ARDL approach, in the estimation of the relevant relationships in its investigation. The results of the co-integration test showed that there exists a long run equilibrium relationship among the variables. The result from the ARDL shows that all the four variables viz currency crisis, investment crisis (portfolio and foreign direct) and credit crisis have a significant effect on stock market performance in Nigeria within the period of review with interest rate having the most significant adverse effect. It was observed that Foreign Direct Investment exerted a positive influence on stock market performance, Though not statistically significant in the long run. Similarly, currency crisis (foreign exchange) is positively related to stock exchange market performance. This means that for every unit change in FOREX there is a corresponding change of 8.56% increase in stock market performance. In the same vein, it is revealed that credit crisis (interest rate) is negatively related to stock exchange market performance. This means that for every unit change in INTR there is a corresponding decrease 7.87% in stock market performance. The study therefore recommended that the CBN should set a favourable interest rate to attract foreign and local investors to the Nigerian Stock Exchange Market. Also, government should institute and implement policies that will ensure the swift transition of the economy into an industry based system to reduce overdependence on foreign economies; and the Central Bank of Nigeria (CBN), Securities and Exchange Commission (SEC), and other relevant regulatory authorities should use the financial stress index (FSI) to indicate early signals of financial crisis and guiding against such early enough.

Keywords: Financial Meltdown, stock Exchange, Equilibrium

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I. Introduction

The phenomenon of globalization process is a multi-dimensional and multifaceted process that encompasses political, economic, social and cultural dimension that has been explained in different terms and contexts. Ogundipe (2008) sees globalization as a process of integrating economic decision making processes such as the consumption, investment and saving process across the world. Globalization can thus be seen as a situation where the world is viewed as a simple markets in the acquisition, utilization and development of productive resources.

The global financial crisis is a world-wide financial and business situation that is characterized by sudden sustained and alarming credit squeeze, tumbling stock market prices, shrinking demand and substantial job losses According to Osaze (2009),global financial crisis is the continuous and dramatic drop in all economic indices over a relatively short period of time leading to corporate failure especially failures of the financial markets which provides the lubricants that oil the economy.

Global economic meltdown is characterized as disruption to financial markets in which the markets are unable to efficiently channel funds to those who have the most productive investment opportunity thus leading to low investment and liquidity (Rodrigues, 2010).

There is no doubt that stock market all over the world are interrelated basically due to international trade, hence, it is possible for the macroeconomic stability of one country to have implication in another(Agbonifoh and Evebayiro-Osagie,2011). The Nigerian stock market witnessed tremendous growth in total market capitalization (TMC) and value of shares traded between 2004 up to second quarters of 2008. Due to financial crisis in Europe and America, foreign investors started bailing out of the Nigerian stock market in order to assist their own country's financial markets. The departure of notable foreign investors from the Nigerian stock market created panic which gradually led to other investors pulling out their resource and eventually the stock prices fell down.

Both developed and developing economies faced negative repercussions of the financial crisis and experienced adverse impact on their economics via the channel of finance and trade. Net capital inflows shrunk drastically from the beginning of the crisis. This crisis badly affected foreign direct investment, portfolio investment and exports of developing nations (Igbal, 2010).The ripple effects of the global financial crisis seem to have had a dramatic negative effective on the Nigerian stock

1.1 Review of Empirical studies

Onuoha and Nwaiwu (2016) investigated the impact of global financial crisis on Nigerian stock market. The study employed the survey method of research design in order to generate the required data for the study. The data generated were analyzed using the regression model. The study revealed that the global financial crisis measured by currency crisis, credit crisis, liquidity crisis, and foreign investment crisis has a negative significant impact on the Nigerian stock market. Similarly, Njifortie (2015) accessed the impact of the 2007/2008 global financial crisis on the Nigerian stock market. Monthly time series data from January 2006 to December 2009 was used. while All Share Index (ASI) was taken as a proxy for the performance of the Nigerian capital market, credit to the private sector (CPS), price of crude oil (POIL), Money supply (MS) and DAW Jones industrial average (DJIA) were the set of explanatory variables used in the study to ascertain the effects of the crisis on the capital market in Nigeria. The study revealed that the global financial crisis adversely and significantly affected the Nigerian capital market in the short-run and long-run. For Emerenini and Ndukwe (2015), the study first reviewed the global financial crisis and the operations of the Nigerian stock exchange and then assessed the effects of the global financial crisis on the Nigerian stock exchange market. The study employed the Vector Error Correction (VEC) model which indicated a positive relationship between Foreign Exchange earnings (FOREX) and capital inflow with the Nigerian Stock Exchange market. Further, the study concluded that the effect of the global financial crisis on the Nigerian Stock Exchange is a reduction in the capital formation evident from the market capitalization data. Onaolapo et al (2013) evaluated the implications of the global economic meltdown on the Nigerian Capital Market. The study used time series data in form of annual aggregates of market capitalization, exchange rate, interest rate, inflation rate, market share index with dummy variables to represent the period of economic crisis. Ordinary Least Square Regression (OLS) of multiple linear regressions were used to analyze the data, F-Statistics was used to test the hypothesis formulated for the study. This study discovered that the global economic meltdown has a negative effect on the Nigerian capital market performance. Thus the study recommended for the implementation of intervention and fiscal policies that will suppress these effects. Jenrola and Daisi (2012) investigated the implication of global financial crisis on the Nigerian capital market performance using the time series data from 2000-2008. Specifically, the study examined the extent and magnitude of contribution of current global meltdown on the performance of the Nigerian stock exchange as well as the financial system and their multiplier effect on the real sector of the economy. The study employed a simple regression analysis which 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, inflationatory pressure, problem of insecurity, inadequate infrastructural facilities. Yakubu and Akerele (2012) in analyzing the impact of global financial crisis on the Nigerian Stock Exchange from 2008 to 2011 used multi-linear regression models to determine the existence of the relationship between the dependent and independent variables. Ordinary Least Square (OLS) technique was used to estimate the models. Results from the analysis indicated that market capitalization fluctuations were largely due to variations in capital formation and thus concluded that for the period under review, the global financial crisis did not have significant effect on the Nigerian Stock Exchange Market. The study recommended an ethical and moral approach of fairness and transparency of operations to boost investor’s confidence in the Nigerian Stock Exchange Market. Adamu (2010) looked at determining the extent of the Nigerian Stock Market Volatility in the period preceding the crisis and the period of the crisis which is deterministic in examining the impact of the global financial crisis on the performance of the Nigerian Stock Exchange Market. The study used the All Share Index (ASI) to calculate the volatility of the market which was estimated using standard deviation. The study found out that the Nigerian Stock market was highly volatile in the period of the financial crisis than the period preceding it. The study recommended that the depth of instruments in the stock market be varied in terms of fixed securities than equity instruments.

1.3 Objective of the study

The overall objective of this study is to determine the effect of global financial crisis (meltdown) on theperformance of the Nigerian stock exchange has been broken down into five specific objectives. These are to:

- determine the effect of foreign investment crisis on the Nigerian stock exchange before and after the global financial meltdown.
- ascertain the kind of impact portfolio investment crisis had on the Nigerian stock exchange before and after the global financial meltdown.

- determine the effect of currency crisis on the Nigerian stock exchange before and after the global financial meltdown.
- establish the extent to which the credit crisis affected the Nigerian stock exchange before and after the global financial meltdown.
- specify alternative means of preventing and managing the global financial meltdown so as to ensure consistent positive performance of the Nigerian stock exchange.

II. METHODOLOGY

The study adopted the quasi-experimental design for which E-view 9.0 was used to estimate the model, the Augmented Dickey-Fuller and Johansen co-integration test were employed as a test of stationarity and long-run relationship of the time series data while the ARDL approach was used to determine the relationship among the variables in the model. The ARDL approach offers some desirable statistical advantage over OLS and other co-integrating techniques. While other co-integrating techniques require all the variable to be integrated of the same order, ARDL test procedure provides valid results whether the variables are I(0) or I(1) or mutually co-integrated and provides very efficient and consistent results in small and large samples (Pesaran et al, 2001).

2.1 Model Specification

The model describing the relationship between the performance of the Nigerian stock exchange market and the global economic meltdown adopted for this study is thus:

$$NSEM = f(FOREX, INTR, FPI, FDI) \tag{1}$$

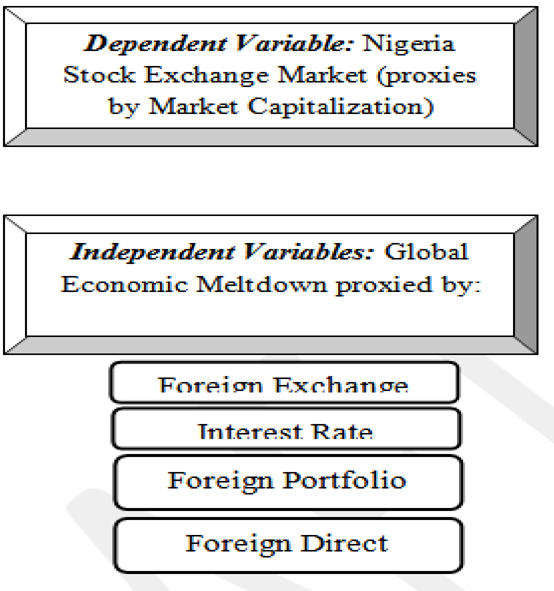
In order to eliminate abnormality in the data to be generated and to avoid heterosdascity of data, the data was transformed into logarithmic function as shown below:

$$LOGNSEM = f(a_0 log + a_1 logFOREX + a_2 logINTR + a_3 logFPI + a_4 logFDI) \tag{2}$$

Where:
NSEM= Nigerian stock exchange market
FOREX= Foreign exchange rate
INTR= Interest rate
FPI= Foreign portfolio investment
FDI= Foreign Direct Investment
a_1, to a_4 = Regression Coefficients
a_0 = Regression constant
Log= Logarithm transformation

The model is expressed in tabular form as follows:

Figure 1:



The ARDL model is specified as follows

$$\Delta lnNSEM = \beta_0 + \sum_{i=1}^{n} \beta_{1I} \Delta lnFOREX_{T-I} + \sum_{i=0}^{n} \beta_{2I} lnINTR_{t-i} + \sum_{i=0}^{n} \beta_{3i} \Delta lnFPI_{t-i} + \sum_{i=0}^{n} \beta_{4i} lnFDI_{t-i} + \sum_{i=0}^{n} \beta_5 lnFOREX_{t-i} + \sum_{i=0}^{n} \beta_6 lnINTR_{t-i} + \sum_{i=0}^{n} \beta_7 lnFPI_{t-i} + \sum_{i=0}^{n} \beta_8 lnFDI_{t-i} + U_t$$

Where Δ is the difference operator.

III. RESULTS AND DISCUSSION

Table 1: ARDL- Bounds Test for Cointegration

	1%		**2.5%**		**5%**		**10%**	
F statistics	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
7.539624	3.75	5.06	3.25	4.49	2.86	4.01	2.45	3.52
K=4 N=27								

Source: Eview 9.0

The cointegration test in table 1 revealed that cointegration among variables of interest exists and is significant at 5% level. This can be explained by the fact that the F- statistics having a value (7.539624) is greater than the values of the lower bound 2.86 and the upper bound 4.01. This confirms that cointegration exists between the variables. Because the existence of long run relationship between variables, the coefficient of their long run relationship is estimated as shown in Table 2.

Table 2: ARDL – Result for Long Run Model

Variables	Coefficient	Standard error	P-value
FOREX	45.882658	33.226398	0.1833
INTR	-55.186414	33.670082	0.1181
FPI	-0.000013	0.000004	0.0040
FDI	0.000003	0.000001	0.0129

Source: Eview 9.0

Table 2 presents the values of the estimated long run coefficients; the dependent variable being the Nigerian Stock Exchange market. The coefficient of rate of foreign exchange earning is 45.8 which means that in the long run, FOREX has positive impact on the Nigerian Stock Exchange market. The results also indicate that a 1% increase in interest rate would result in a 55% decrease in the performance of the Nigerian Stock Exchange Market.

Table 3: ARDL- Short run Model

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
DFOREX	8.568384	9.808111	0.873602	0.3932
D(INTR)	-7.873611	44.58526	-0.176597	0.8617
D(FPI)	-1.80E-06	5.74E-07	-3.138222	0.0054
D(FDI)	2.47E-07	3.04E-07	0.813017	0.4263
C	-212.6545	667.0580	-0.318795	0.7534
R-squared	0.683967	Mean dependent var		585.9724
Adjusted R-squared	0.534266	S.D. dependent var		2181.098
S.E. of regression	1488.483	Akaike info criterion		17.71570
Sum squared resid	42096045	Schwarz criterion		18.18718
Log likelihood	-246.8777	Hannan-Quinn criter.		17.86336
F-statistic	4.568913	Durbin-Watson stat		2.026085
Prob(F-statistic)	0.002586			

Table 3 gives the short run relationship among the variables in the model. The results indicate that a 1% increase in interest Rate (INTR) and foreign Private Investment (FPI) results in a 78.7% and 18% decrease in the performance of the Nigerian Stock Exchange Market respectively.

IV. CONCLUSION AND RECOMMENDATION

Based on the analysis carried out in the study, it was discovered that the variables of global economic meltdown, that is investment crisis (portfolio and foreign direct investment), Currency crisis (foreign exchange) and credit crisis (interest rate) jointly exhibit significant effect in the Nigerian stock exchange market performance. However, the variable with the most adverse effect on the Stock market is the interest rate. This is due to the fact that high interest rate discourages investors and reduces the profit of investments thus also affecting capital formation. The study therefore recommends that the government should ensure peace and stability in the socio-economy and political system of this country thus creating a safe haven for foreign investors, Furthermore the adoption of fiscal policy in the form of tax regimes, subsides, growths and the provision of public utility such as power as palliatives to attract foreign and private investors. Also, the study strongly recommends that the central bank of Nigeria (CBN), Securities and Exchange Commission (SEC) and other relevant regulatory body should use the financial stress index (FSI) as proposed by Ling and Liu (2006) to identify early signals of financial crisis in order to prevent it. The CBN should set interest rate that would attract investors into the country.

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