

Effect Of Global Trade Crisis On Exchange Rate Behavior In Nigeria

(a) DR EZEAMAMA CHUKWUNENYE MARTIN

ezeamamamartin@gmail.com

DEPARTMENT OF BANKING AND FINANCE

SPIRITAN UNIVERSITY, NNEOCHI ABIA STATE

(b). MRS PATRICIA UKWUANI

patriciaukwuani@yahoo.com

DEPARTMENT OF BANKING AND FINANCE

ENUGU STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY, ENUGU

(c) DR. OVUTE FRANCIS ECHEZONA

DEPARTMENT OF ACCOUNTANCY

EBONYI STATE UNIVERSITY, ABAKALIKI

Abstract

This research work studied the effect of global trade crisis on exchange rate behavior in Nigeria. The trade crisis ravaging the global economy is naturally a serious cause for concern to policy makers. Secondary data were used in this study, the data were collected from CBN statistical bulletin also data were also gathered from journals and textbook that are related to the research topic. The overall significance of the regression is tested using Fisher's statistics. In this study the calculated F^* value of 47.375 is significant at 5%. The results however show that linear relationship exist between the dependent and the independent variables of the model. The evidence established that the independent explanatory variables have individual and combine impact on the market capitalization in Nigeria. There is significant relationship between global trade crisis and capital market in Nigeria. Some of the recommendations made in this study are that. There is an urgent need for the total overhaul of regulations and regulatory framework, in order to enhance both the on-site and off-site examination and supervision of the banks. There is the need for increased and enhanced provisions for consumer protection. Nigerian economy is a mono-economy; any crash on the price of oil internationally will cripple our economy. So it is a matter of urgency for the Nigerian economy to divest into agriculture, manufacturing, information technology etc. Political stability is an important factor that encourages investment in an economy. So our nascent democracy should be nurtured.

Keywords: Trade crisis, economy, capital, finance, stock, investment, market

1.1 Introduction

International economic activities have been regarded as an engine of growth of any economy either advanced or less developed economy. The recent waves of interdependence of economies via an increase in cross-border transactions in goods and services, natural resources, capital and labour explain the new trend of globalization. In the past decade, the process of global economic relations have accelerated as the use of ever more sophisticated information and communication technology has grown exponentially, while a breakthrough in connectivity, partly via the internet, has reduced the costs of transporting goods and information across the globe (Okonjo and Osafo, 2007 as cited in Abubakar, 2008). This technological empowerment across the world has been accompanied by a strong rise in foreign capital flow. This has led to new ways of doing business; production processes have become increasingly internationalized as companies have established affiliates abroad to gain access to foreign markets and reduce input costs, while supply chains have been set up on a global scale as a way of gaining a competitive edge. All these necessitate intense global capital or financial movement. However, this international financial and capital flow from one country to another has witnessed some shocks or crisis such as the last 2008/2009 global financial crisis and the current oil crisis 2014 that may have affected some economies such as Nigeria. The global financial crisis, of which the aftermath is still being felt, has been tagged the most severe financial crisis experienced by the world since the great depression of the last century. The crisis had an unprecedented impact on credit and capital, taking offshoot from the financial markets in the US, with the contagion and impact spreading unevenly across the globe (Alade 2009). The global economic crisis pulled countries down from around the globe to a recession. Wide-ranging declines in many aspects of growth characterize the overall impact it had on the global scale.

Global financial crisis began in the United States and the United Kingdom when the global credit market came to a standstill in July 2007 (Avgouleas, 2008). The crisis really started to show its effects in countries like Nigeria in the middle of 2008 as it began to spread rapidly around the world, leading to a global downturn of economic activity. Around the world stock markets have fallen, large financial institutions collapsed or been bought out, and governments in even the wealthiest nations had to come up with rescue packages to bailout their financial systems (Gbolahan 2010). The crisis became a major concern for political leaders, economists, and managers of financial institutions around the globe as it spread beyond the borders of the United States. Analysts have noted its numerous causes, including

excessive corrupt practices, particularly the sub-prime mortgage lending that led to high mortgage default and delinquency rates in the United States, the hands-off approach to regulation, massive funding of the war on terrorism, and erroneous belief that free market principle is perfect, fair and efficient (The New York Times, Nov 20, 2008 as cited in Gbolahan, 2010). Others have observed that the financial instability is caused largely by inconsistent monetary and fiscal policy, politicians spending and borrowing excessively, inconsistent and unsustainable macro-economic policy, weak financial systems and institutions, and poor structure of international financial markets (Eichengreen, 2004) as cited in Gbolahan (2010). Although the crisis was triggered by events in the US housing market, it spread to all regions of the world with dire consequences for global trade, investment and growth. The Nigerian economy has long been undermined with long-term structural problems such that sustainable economic development is yet to be a dream comes true. Economic growth record of the country has been disappointing in comparison with other developing countries blessed with such abundant resources. What makes matters worse is the seemingly perennial impoverished state of its inhabitants, The Nigerian economy was affected by the 2008/2009 global financial crisis and presently been affected by the crude oil price crisis especially in three aspects: exports, remittances from overseas workers, and foreign direct investments. This shows that the Nigerian economy demonstrated particular vulnerability to the emergent global economic crisis (Ngwube and Ogbuagu, 2014).

After the 2007/2008 global financial crisis, the world experienced another financial shock with the fall in the crude oil prices which hit more on countries like Nigeria. The steady decline in the price of crude oil in the global market spread anxiety in Nigeria and other countries that derive the bulk of their revenue from oil causing another shock to the domestic economy as a result of external oil price shock. With oil prices dropping further Nigeria started earning far fewer dollars. The stock market which is known for reacting faster than most other markets in the economy retreated consequently this led to devaluation of the naira (Obi-Chukwu, 2014).

Heavily dependent on oil export and electronic and semiconductor imports, the Nigerian economy has seen a downward trend in its export earnings as most countries in demand of these exports experienced recession or using alternative sources of energy. The global economic shocks have seen foreign direct investments (FDI) lowered because of investors losing confidence in the financial market. Lower FDIs mean slower economic growth (Alade, 2009).

According to Ajalaiye and Fakiyesi (2009), the Nigerian economy prior to the crisis in 2007 performed below projection, with an estimated GDP growth of 6.2%. The figure which is below the set target of 10%, was still higher than the 6.0% recorded in 2006. This growth was driven primarily by the non-oil sector, which grew by 9.6% (CBN, 2008a), largely attributable to the agriculture sector, which grew by 7.4%, led by crop production, livestock and fishing. Other drivers of growth in non-oil GDP included wholesale and retail trade, building and construction and services, which recorded growth rates of 15.3%, 13.0% and 9.8%, respectively.

The Nigerian economy has not been insulated from the impact of the global economic shocks that affected and still affecting most of the world economies. It is pertinent, therefore, to explore the impact of the global crisis on Nigerian economy. The impact of the global financial crisis on Nigeria was not direct as the financial institutions in Nigeria were not fully integrated into the global financial market and as such did not have the financial instruments that created the crisis in their balance sheets. However, the effect was felt through the second-round effects when the Global Financial Crisis culminated into an economic crisis by early-to-mid 2008 (Central Bank of Nigeria, 2009). The Global Financial crisis impacted the Nigerian economy through several channels amongst which were: Lower crude oil demand, Lower crude oil price, Lower revenue, Lower foreign exchange earnings/export receipts, and Lower capital inflow, and drying-up of lines of credit to Nigerian banks and higher capital outflow-divestment from capital market particularly of portfolio investments. The decline in foreign exchange earnings led to a reduction in revenue and expenditure profiles of the three tiers of government as a result of the steady fall in the monthly allocations from the Federation Account. The wider implication of this was the limited implementation of government projects, with the financing of capital projects limited to the priority sectors leading to non-realization of key government programmes (Sanusi 2010).

The impact of the crisis on the Nigerian economy has different ramifications for the capital market, the banking sector, foreign exchange and the balance of payments, as well as the real sector, (Okereke-Onyiuke, 2009). The one concerned in this study is the Naira-Dollar exchange. Studies on factors affecting exchange rate is very important, this is because according to (Anyanwaokoro, 2008), exchange rate policies are contained in monetary policies, thus, anything affecting exchange rate, invariably affects the country's monetary policy.

Thus, due to the crisis, the Nigerian currency, the naira, was depreciated against the US dollar, and this had implications for foreign reserves, which dropped from \$67 billion in June 2008 to \$53 in December 2008.

However, alongside the shocks in global financial transactions, exchange rates across the world have fluctuated widely particularly after the collapse of the Bretton Woods system of fixed exchange rates. And this scenario has continued after major financial crisis in the world. In Nigeria the aftermath of major global economic shocks, be it financial crisis or oil price falls have seen the country adopting many exchange rate management options such as the use of reserves to defend the naira, gradual depreciation, shock therapy i.e. rapid depreciation and supplementary measures such as suspension of inter-bank foreign exchange market, and introduction of band of $\pm 3\%$ (Odoko, 2014).

Although the Naira exchange rate has witnessed some period of relative calm since the implementation of the structural adjustment programme (SAP) in July, 1986, its continued depreciation, however, may have implications for the level of real sector activities in the country. The Naira which traded at N0.935 = US\$1.00 in 1985 depreciated to N2.413 to \$1.00 and further to N7.901 against the US dollar in 1990. To stem the trend, the policy of guided deregulation pegged the naira at N21.886 against the dollar in 1994. Further deregulation of the foreign exchange market in 1999, however, pushed the exchange rate to N86.322 to US\$1.00. With huge inflow of oil revenue due to hike in the oil price, the end-period rate stood at N117.97 in December, 2007. This remained stable until towards the end of 2008 when the global financial crisis took its toll and the naira exchange rate depreciated from N116.20 in November, 2008 to N131.5 in December, 2008 or a decline in value by 12.95% and further to N142.00 or a decline by 7.98% in February 2009, (Aliyu 2009). Moreover, since 2014 till present period, the same crisis is repeating itself. This time around, declining crude oil prices fluctuating between \$30 and \$33 per barrels (February 2016) is being accompanied by stock market price declines in major oil producing countries and by renewed calls for devaluation of the naira. It should be noted that clamour for devaluation is not based on calculated balance-of-payments position of the country but rather on rapidly increasing demand for foreign currency a large part of which is speculative, and to finance frivolous import items which can easily be produced in the country (Osagie, 2016). Since then, there has been extensive debate about the link between global economic crisis and exchange rate volatility, this form the core basis for this study.

1.2 Statement of the Problem

Like most developing countries, Nigeria felt the effect of the global financial crisis largely through trade and capital flows because of the openness of the economy and the near total reliance on crude oil exports for government revenue and foreign exchange earnings. The news of the financial crisis affected the financial institutions especially banks. This is because, prior to the crunch, the Nigerian banking industry experienced remarkable changes after the consolidation exercise. Shortly after the recapitalization of the capital base in the industry, the crisis began, and the Nigerian banking industry witnessed a lot of stress, uncertainty and anxiety.

More so, the value of investor shares in the Stock Market was also depreciating. These problems greatly impaired the quality of the bank's assets as non-performing assets became unbearable and became huge burdens on many of the banks. The financial intermediation role of the banks became heavily impaired while the macroeconomic activities seriously slowed down.

All these led to the declining of capital inflow in the economy vis-à-vis de-accumulation of foreign reserves and attendant pressure on Nigerian exchange rate. It also led to limited foreign trade finance by banks due to low liquidity and dry-up of credit line. Being an economy heavily dependent on the external sector, exchange rate behavior became a major challenge to the country's economy managers. As a result, the Nigerian currency has suffered large depreciations.

Thus, the pressure on the exchange rate raises particular challenges for Nigeria that is seeking to enhance her integration with international capital markets.

Meanwhile, research linking global economic crisis and the behavior of exchange has been scanty in developing countries and Nigeria in particular. Moreover, studies that have examined the concepts found conflicting results, i.e positive and negative relationships. Thus, it is the problem of this study among others to investigate the behaviour of exchange rate in periods of global economic crisis.

1.3 Research Objectives

The general aim of the study is to investigate the determinants of exchange rate behaviour in the Nigerian economy, during and after the 2008 global economic crisis. Specific objectives are:

1. To examine the effect of global trade crisis on exchange rate behavior in Nigeria during and after the crisis period.

2. To investigate the effects of crude oil price fall on exchange rate behavior in Nigeria during and after periods of world economic crisis.
3. To ascertain the effect of crisis in capital inflow on exchange rate behavior in Nigeria during and after periods of world economic crisis.

1.4 Research Questions

1. To what extent has global trade crisis affected exchange rate behaviour in Nigeria?
2. What is the extent of effect that crude oil price fall has on exchange rate behavior in Nigeria?
3. What is the extent of effect that crisis in capital inflow has on exchange rate behavior in Nigeria?

1.5 Hypothesis of the Study

H₁: Global trade crisis do not have a positive and significant effect on the behaviour of exchange rate in Nigeria.

H₂: Crude oil price fall do not have a positive and significant effect on the behavior of exchange rate in Nigeria.

H₃: Capital inflow do not have a positive and significant effect on the behavior of exchange rate in Nigeria.

1.6 Scope of the Study

The study covers the period 1985-2015 which is a period of global economic turbulence and the adoption of floating exchange rate in Nigeria. Also, the computation of exchange rate fluctuations is a matter of methodological question whose outcome depends on the approach adopted which supposed to take a long time approach.

1.7 Significance of the Study

The study will be of great relevant for number of reasons: the changing character of monetary policy especially, the exchange rate and global financial crises that have both affected trade, financial flows and price stability in recent times.

Government and Policy Makers

The recent global financial crisis has caused policy makers around the world to be very cautious with macroeconomic instability. This study would add to knowledge of the sources of shocks by looking country specific characteristics and appropriate policy interventions for specific cases. This study will be an eye opener to analysts, monetary authorities and investors on how to manage exchange rate during periods of global economic shocks.

Researchers and Students

The study will help researchers and students to update their knowledge gap as it concerns the issue of exchange rate fluctuation and global economic crisis.

General Public

The study will help the general public to be acquainted with the reactions of exchange rate in global economic shocks which will guide them in making business decisions and investment decisions.

Review of Related Literature

2.1 Conceptual Framework

The conceptual framework revealed the relationship between the variables of the study. While global financial crisis is the explanatory variable operationalized as trade crisis, capital/financial crisis, and oil market crisis; exchange rate is the dependent variable which is conceptualized below.

2.2 Exchange Rate

Exchange rate has been defined as the price of one currency in terms of other (Charles 2006). It can be expressed in one or two way; as units of domestic currency per units of foreign currency; or unit of foreign currency per unit of domestic currency. Practically every nation has a monetary unit different from that of other nations. The exchange rate is a key macroeconomic variable in the context of general economic policy making, and of economic reform programs, in particular. It is a very important price which governments take very active interest in (Obadan 2006). They are often expressed in terms of two currencies, domestic and foreign. Exchange rate can also be expressed either in nominal or real exchange rates.

2.4 Nominal Exchange Rate

Nominal exchange rate can be viewed from two angles; Domestic-currency terms and foreign-currency terms. Nominal exchange rate from the domestic-currency term is defined as units of domestic currency per unit of foreign currency. From foreign-currency term, it is the units of foreign exchange per unit of domestic currency. The domestic -currency measure is the reciprocal of the foreign currency term (Oduola 2006). In general; the nominal exchange rate (NER) is a monetary concept which measures the relative price of two moneys or currencies, e.g. Naira in relative to the U.S dollar. (Obadan 2006).

2.4 Real Exchange Rate (RER)

Real exchange rate can be defined from both external and internal perspectives; External RER is the nominal exchange rate adjusted for price level differences between countries. It is

the ratio of the aggregate foreign price level or cost level to the home country's aggregate price level or cost measured in a common currency. Internal RER measures the relative prices of two broad categories of goods tradable and non-tradable goods: ratio of the domestic price of tradable to non-tradable goods is to capture the internal relative price incentive in a particular economy for producing or consuming tradable as opposed to nontradable goods. In general, the real exchange rate (RER) as the name implies, is a real concept that measure the relative price of two goods (goods and service produced and consumed locally).

2.5 Exchange Rate Fluctuations

Exchange rate fluctuations refer to the sings or fluctuations in the exchange rates over a period of time or the deviations from a benchmark or equilibrium exchange rate. Exchange rate will change whenever the values of either of the two component currencies change. Empirically, fluctuation is measured in terms of the coefficient of variation which is the standard deviation divided by the mean for a series. Fluctuation and price volatility may be measured on any time-scale, from year-by-year to day by day. Exchange rate fluctuation over any time interval tends to be higher when supply, demand or both are liable to large random shocks and when the elasticity of both supply and demand is low. Once an exchange rate is not fixed it is subject to variations, thus floating exchange rates tend to be more volatile. The degree of volatility and the extent of stability maintained are affected by economic fundamentals.

2.6 The concept of Economic crisis

The term economic crisis is applied broadly to a variety of situations in which some financial institutions or assets suddenly lose a large part of their value. In the 19th and early 20th centuries, many financial crises were associated with banking panics, and many recessions coincided with these panics. Other situations that are often called financial crises include stock market crashes and the bursting of other financial bubbles, currency crises, and sovereign defaults (Kindleberger and Aliber, 2005, Laeven and Valencia, 2008).

Some economic theories that explained financial crises includes the World systems theory which explained the dangers and perils, which leading industrial nations will be facing (and are now facing) at the end of the long economic cycle, which began after the oil crisis of 1973.

While Coordination games, a mathematical approach to modeling financial crises have emphasized that there is often positive feedback between market participants' decisions (Krugman, 2008). Positive feedback implies that there may be dramatic changes in asset

values in response to small changes in economic fundamentals, Minsky's theorised that financial fragility is a typical feature of any capitalist economy and financial fragility levels move together with the business cycle, but the Herding and Learning models explained that asset purchases by a few agents encourage others to buy too, not because the true value of the asset increases when many buy, but because investors come to believe the true asset value is high when they observe others buying (Avery and Zemsky, 1998, Cipriani and Guarino, 2008).

2.7 Causes of the Crisis

The reasons for this crisis are varied and complex, but largely it can be attributed to a number of factors in both the housing and credit markets, which developed over an extended period of time. Some of these include: the inability of homeowner to make their mortgage payments, poor judgement by the borrower and/or lender, speculation and overbuilding during the boom period, risky mortgage products, high personal and corporate debt levels, financial innovation that distributed and concealed default risks, central bank policies, and regulation (Stiglitz, 2008).

Avgoouleas (2008) enumerated the causes of the crisis as: breakdown in underwriting standards for subprime mortgages; flaws in credit rating agencies' assessments of subprime Residential Mortgage Backed Securities (RMBS) and other complex structured credit products especially Collateralized Debt Obligations (CDOs) and other Asset-Backed Securities (ABS); risk management weaknesses at some large at US and European financial institutions; and regulatory policies, including capital and disclosure requirements that failed to mitigate risk management weaknesses. Taking the views of the various commentators into consideration, the current financial crisis is caused by the followings; Firstly, liberalization of Global Financial Regulations is one reason for the crisis. The regulatory model adopted by banks in the US emerged as a result of liberalisation of banking business in the early 1990s and international consensus reached within the Basle Committee of Banking Supervision as regards the acceptable model of prudential supervision of banking institution (Scott, 2008 in Abubakar, 2008). This liberalisation facilitates the global abolition of restrictions on capital flow in the 1990s and caused the operation of international investment funds to be largely unregulated.

Another cause is the boom and bust in the housing market. A combination of low interest rates and large inflows of foreign funds help create easy credit conditions for many years leading up to the crisis. Due to low interest rates and large inflow of foreign fund, subprime

lending/borrowing for investment became very attractive in both US and the UK. Since the demand for housing was rapidly rising in the US, most investors and homeowners took mortgaged loans and invested in housings. The overall US home ownership rate increased from 64% in 1994 (about where it was since 1980) to peak in 2004 with an all-time high of 69.2%. Furthermore, Speculations is also one of the causes of the crisis. Traditionally, homes were not treated as investment like stocks, but this behaviour changed during the housing boom as it attracted speculative buyers. This makes speculation in real estate a contributing factor. During 2006, 22% of homes purchased (1.65 million units) were for investment purposes – it means that nearly 40% of home purchases were not primary residences (wikipedia, 2008). This speculative buying makes housing prices to fall drastically.

New Financial Architecture (NFA) – according to Crotty (2008) NFA is “a globally integrated system of giant bank conglomerates and the so-called ‘shadow banking system’ of investment banks, hedge funds and bank-created Special Investment Vehicles.” This makes excessive risk to build up in giant banks during the boom; and the NFA generated high leverage and high systemic risk, with channels of contagion that transmitted problems in the US subprime mortgage market around the world.

Poor credit rating - due to securitization practices, credit rating agencies have the tendency to assign investment-grade rating to Mortgage-Backed Securities (MBS), and this makes loans with high default rate to originate, packaged and transferred to others. Quoting Black’s Law Dictionary (7th ed.) in Wikipedia (2008), “securitization is a structured finance process in which assets, receivables or financial instruments are acquired, classified into pools, and offered as collateral for third-party investment.”

High-risk loans - There appears to be widespread agreement that periods of rapid credit growth tend to be accompanied by loosening lending standards (Dell’Arriccia, Igan and Laeven, 2008). For instance, in a speech delivered before the Independent Community Bankers of America on 7 March 2001, the then Federal Reserve chairman, Alan Greenspan, pointed to ‘an unfortunate tendency’ among bankers to lend aggressively at the peak of a cycle and argued that most bad loans were made through this aggressive type of lending (IMF, 2008). Without considering high risk borrowers, lenders give ‘Ninja loans’ - high-risk loans to those with No income, No job, and no Assets. They also give home loans to immigrants that are undocumented (Wikipedia, 2008).

Government policies - some critics believed that the crisis was fuelled by US government mortgage policies which encouraged trends towards issuing risky loans. For instance, Fannie

Mae Corporation eases credit requirements on loans and this encourages banks to extend home mortgages to people that do not have good enough credit rating.

2.8 Theoretical Framework

Some economic theories that explained financial crises includes the World systems theory which explained the dangers and perils, which leading industrial nations will be facing (and are now facing) at the end of the long economic cycle, which began after the oil crisis of 1973.

The Coordination games, a mathematical approach to modelling financial crises emphasized that there is often positive feedback between market participants' decisions (Krugman, 2008). Positive feedback implies that there may be dramatic changes in asset values in response to small changes in economic fundamentals.

Minsky's theorised that financial fragility is a typical feature of any capitalist economy and financial fragility levels move together with the business cycle.

Herding and Learning models explained that asset purchases by a few agents encourage others to buy too, not because the true value of the asset increases when many buy (which is called "strategic complementarity"), but because investors come to believe the true asset value is high when they observe others buying (Chari and Kehoe, 2004, Cipriani and Guarino, 2008).

Bellows are various theories and models that seek to explain how the resulted economic crises emanated in the World economies. Hence, the models analyze the various variables which evaluate the impact of the global economic meltdown on the financial markets in developing economies.

2.8 The monetary theory

The monetary model tries to explain changes in exchange rate in terms of changes in the demand for and supply of money between two countries. The factors that determine exchange rate, according to the model include money supply, real income, and interest rate. According to the theory increase in money supply causes the exchange rate to depreciate as a result of inflationary pressure it generates which is accredited to (Guarter and Hottman, 1985). An increase in the real income with fixed nominal money supply causes prices to change leading to an appreciation of the exchange rate. While an increase in domestic interest rate lowers money demand raises prices (with a given stock of money) the increase in prices leads to the depreciation of the exchange rate (Gbosi, 2003).

From what we have discussed so far, it can be deduced that, the traditional flow model and the monetary model specify the same factors affecting the exchange rate; the results are in the opposite directions. The traditional flow model predicts that increase in interest rate leads to exchange rate appreciation but it causes the exchange rate to depreciate in the monetary model. Similarly, increase in real income causes depreciation of the exchange rate in the traditional flow model but the exchange rate appreciates when real income is increased in the monetary model.

One of the criticisms of the monetary model is the assumption that domestic and foreign bonds are perfect substitutes. If two assets are not perfect substitutes, then account must be taken of the differences in their prices and yields. Another criticism is that it does not seem to make distinction with the different assets (domestic and foreign currencies).

Empirical Review

Many studies have come up with different empirical findings relating to global financial crisis and its impact on many macroeconomic variables. These findings are reviewed below.

Nwogwugwu, Ijeomah & Uzoechina (2016), examined the effects of oil price shocks on exchange rate volatility in Nigeria using monthly data covering the period 1986:01 to 2015:11. The aim of the study is to explore the direction of oil price volatility and exchange rate fluctuations, and to investigate the dynamic relationship between them. The study made use of GARCH models which are GARCH, PARCH and EGARCH, based on normal, student-t and GED distribution respectively. The researchers found out that real exchange rate fluctuation in Nigeria is significantly influenced by oil price fluctuations and a strong positive correlation between exchange rate return and future oil price volatility. The researchers recommended that any policy to address the issue of exchange rate fluctuations in Nigeria should give priority attention to oil price fluctuation of the variables as this will help to enhance the real exchange rate in Nigeria.

Eneji, Mai-Lafia & Nnandi (2016) studied the impact of Oil Price Volatility on Macroeconomic Variables and Sustainable Development in Nigeria using time series data from 1990-2015. The topic formed the main objective of the study which is to determine the impact of oil price volatility on macroeconomic variables and sustainable development in Nigeria. The researchers used the ordinary least square technique and the vector auto

regression model. The researchers found that fluctuations in oil prices do substantially affect the real GDP, exchange rates, Unemployment, Balance of payments and interest rates in Nigeria. Negative shocks in the international oil market, have significant impact on price fluctuations. Due to increased imports in the Nigerian economy, inflationary pressures are inevitable and are pronounced. Government revenues and expenditures have decreased significantly. The study recommends diversification of the economy and energy sources for sustainable development in Nigeria.

Amin & El-sakka (2016) empirically determined the relationship between oil price fluctuations and movements in the dollar-pegged Gulf Cooperation Council (GCC) countries' exchange rates. A panel of annual data of real exchange rates, oil prices and three other variables were utilized by the researchers. The time series cover the 32-year period of 1980 to 2012. The researchers applied the panel the unit root tests, followed by the estimation of a panel co-integration model to identify the long-run equilibrium relationship. Built on the co-integration test results, they estimated a Vector Error Correction Model (VECM) to determine causality relationships and investigate the short run dynamics. Their test results indicate that the series are integrated of order one and evidence is found that oil prices and GDP per capita have a long run co-integration relationship with real exchange rates. The estimated VECM confirms the long run relationship and identifies a short run causality running from oil prices to exchange rates. The model also shows that exchange rates correct for short run disequilibria slowly, at the speed of 4% annually. The results confirm the findings of past researchers and recommend reviewing the existing exchange rate regimes to mitigate the impact of oil price fluctuations on these economies.

Orji (2015) investigated the determinants of real exchange rate in Nigeria. Adopting the Ballassa-Samuelson Hypothesis, the researcher employed the Error Correction model (ECM) technique to perform the data analysis while using time series data ranging from 1981 through 2012. Findings revealed that the interest rate differential and oil revenues are major determinants of real exchange rate in Nigeria. Productivity differential was not a determinant in influencing real exchange rate, thus Ballassa-Samuelson technique could not be confirmed. The study calls for diversifying of the Nigerian economy away from the oil sectors so as to reduce the shocks arising from the oil sector.

Abdulkadir, Isaiah, Babatunde, Olutope & Abiola (2015) investigated the impact of Naira real exchange rate misalignment on Nigeria's economic growth using quarterly data spanning the period 2000-2014. The researchers derive estimates of Real Exchange Rate Misalignment (RERMIS) by computing deviations of the actual real exchange rate from a sustainable equilibrium path that is determined using the Behavioural Equilibrium Exchange Rate (BEER) approach of Edwards (1989). The researcher modeling approach accounts for the possible effects of endogeneity and structural breaks in the estimated relationships. In terms of the extent of RERMIS, results show that the naira was on the average overvalued by 0.17 per cent during the study period. The Gregory and Hansen procedure provides evidence of cointegration between output and its determinants with a structural break in 2003Q2. Furthermore, the researcher found empirical support for a negative impact of RERMIS on economic growth. In view of these findings, the study recommends the continued use of market-based exchange rate arrangements as a way of ensuring that the naira real exchange rate follows its path of sustainable equilibrium. This would complement other government policies aimed at promoting economic growth in the country.

Uguru, Ozor & Nkwagu (2014) examined the relationship that exists between capital flight and exchange rate volatility in Nigeria. The study adopted an ex-post facto research design. The researchers employed the parametric statistical techniques of Ordinary Least Squares (OLS) using secondary data from 1970-2007. To capture the relationship between capital flight and exchange rate in Nigeria, the empirical model that accommodates the capital flight and exchange rate nexus was specified. The coefficient of capital flight was positively signed and statistically very highly significant at 1%. This implies that every unit increase in capital flight will lead to increase in exchange rate in Nigeria. This means that exchange rate is influenced by the volume of capital flight in Nigeria. The researchers recommend among others that a stable exchange rate regime should be established through a drastic reduction in capital flight and increase capital inflows in the form of foreign private investments.

Akinlo & Adejumo (2014) investigate the impact of exchange rate volatility on non-oil exports in Nigeria, 1986(1) – 2008(4). Their study confirms the existence of statistically significant relationship between real exports and exchange rate volatility. Their results show that exchange rate, exchange rate volatility and foreign income have significant positive effects on non-oil exports in the long run. Imports, on the other hand, have a statistically

negative effect on exports in the long run. Their ECM results show that lagged foreign income has significant positive effect on non-oil exports. The coefficient of imports is positive supporting the import compression hypothesis in the short run. Their results also show that short run impact of the exchange rate volatility is statistically insignificant. The positive coefficient of the exchange rate variable (though not significant) suggests that an appreciable depreciation of the exchange rate could lead to increase in non-oil exports in Nigeria. Essentially, their results suggest that the exchange rate volatility is only effective in the long run but not in the short run in the case of Nigeria.

Asimya & Nelson (2014) examined exchange rate depreciation and government policies in Nigeria. Government policy of the early 1980 that led to 'gradual depreciation' of the naira exchange rate was to encourage exports and reduce the high import dependence of the economy. The situation seems, however, to be out of control. The actual consequences have turned out to be a nightmare: it resulted to structural imbalances in the system, depleting external reserves; unfavourable balance of payments; high inflation rate; low capacity utilization; increase imports and low rate of the naira. In an effort to contain these abnormalities, the government has adopted different exchange rate regimes and pricing methods yet the naira continues to depreciate. This study is aimed at determining among a set of possible factors and the major determinants of exchange rate depreciation in Nigeria. Some of these factors that have played major impact in exchange rate depreciation include: government policy; the external sector and macroeconomic performance, but this paper has been narrowed down to government policy. The study uses the method of regression analysis with Ordinary Least Squares (OLS) econometric technique and a time series secondary data from 1980 – 2011. . The data was first examined for unit roots using the Augmented Dickey Fuller (ADF) and Phillips-Perron (PP) tests. A co-integration regression was then used to examine the long run relationship among the variables. The short-run Vector Error Correction (VEC) model was also used to determine the speed of the adjustment to equilibrium. It was empirically shown that, there is significant relationship between government fiscal and monetary policies and exchange rate depreciation. The results further revealed high explanatory power of the coefficient of multiple determination (R^2) and the overall model was significant. Hence, government can curtail the naira depreciation by adopting a flexible exchange rate regime, reducing external trade imbalances and checking the performance of some macroeconomic variables.

Yamden (2011) examined the recent global financial crisis and its impact on the Nigerian crude oil revenue. The study used monthly data on crude oil revenue spanning 24 months before the crisis and the first 24 months during the crisis. The study employed the use of small sampling theory for analysis and the result showed that global financial crisis significantly affected oil revenue in Nigeria-even though the magnitude of the impact is beginning to ease from earlier reports. Tighter controls and regulation of the financial system together with economic diversification are recommended to mitigate against future occurrence.

Mougani (2012) analyzes the impact of financial integration on economic activity and macroeconomic volatility in Africa within the financial globalization contexts. Using the OLS panel regression, his results of the empirical analysis show that the impact of external capital flows on growth seems to depend mainly on the initial conditions and policies implemented to stabilize foreign investment, increase domestic investment, productivity and trade, develop the domestic financial system, expand trade openness and other actions aimed at stimulating growth and reducing poverty. The analysis also shows that financial instability was particularly severe as from the nineties. The instability was more pronounced in the case of portfolio investments than in foreign direct investment because of the longer-term relationship established by the latter. Similarly, trends in official capital flows were less unstable than in private capital flows. Lastly, the volatility of capital flows observed in financially “open” and “closed” countries was accompanied by moderate macroeconomic instability.

Terra & Valladares (2010) investigated episodes of real exchange rate appreciations and depreciations for a sample of 85 countries from 1960 to 1998 and used a Markov Switching Model to characterize real exchange rate misalignment series. They failed to find evidence of misalignment in some countries while in some other countries, there is no RER misalignment in one of the regimes and there is misalignment in the other state. For the countries with two misalignment regimes, the appreciated regime has higher persistence than the depreciated one.

AbdulRaheem, (2003) studied the effect of Globalization on Nigerian economic development. He reviewed the existing literature on the implication of globalization on the economic development in Nigeria. Thus, he conceptualizes globalization and development as well as some components of Nigeria development and the impact of globalization on the world economy. Based on determining implication of globalization on economic development, he concluded that if necessary measures are not put in place Nigeria may be excluded in this process and globalization of poverty rather than prosperity will occur.

Bayo, (2000) in his study, globalization and the Nigerian economy show that globalization offers developing countries like Nigeria the opportunities to create wealth through the export-led growth, to expand international trade in goods and services and to gain access to new ideas, technologies and institutional design. Although he did not do an empirical analysis but his assertion means that globalization affects all aspects of Nigeria development including her economy. In essence, globalization offers many opportunities to Nigeria and other developing countries as well as other actors in the global economy he concluded.

Methodology

3.1 Research Design

The study adopted the *Ex Post Facto* Research Design. This is necessary because the study used existing data to predict future outcomes. *Ex-post facto* research design is systematic empirical inquiry in which the scientist does not have direct control of independent variables because their manifestations have already occurred or because they are inherently not manipulated (Udude & Nwachukwu, 2016). Inferences about relations among variables are made, without direct investigation of independent and dependent variables.

The study made use of descriptive analysis and the econometrics research design for addressing the objectives of the study. The researcher adopted the multiple regression analysis based on the classical linear regression model, otherwise known as Ordinary Least Square (OLS) technique to analyze the objectives. For the econometrics model, the specification of the model is based on the empirical work of Jenrola & Daisi (2012) who conducted an empirical analysis of the effect of global financial crisis on Nigeria's capital market with the use of ordinary least square to demonstrate the aftermath of the global financial crisis on the Nigerian capital market indicators like MC, External Reserves,

International inflows and others as well as theoretical framework which are largely derived from the neo-classical framework.

Their model is an econometric analysis, of which the market capitalization is proxied as Nigerian capital performance as dependent variable while the independent variables like Number of Stocks (NOS), Value of Trade (VOT), Dummy variable for GFC (DGFC) and All Share Index (ASI) respectively. The model is expressed functional and econometrical in the equations below as:

$$MC = F(NOS, VOT, DGFC, ASI)$$

$$MC = \beta_0 + \beta_1 NOS + \beta_2 VOT + \beta_3 DGFC + \beta_4 ASI + \mu$$

Where

MC = Market Capitalization is proxied as Nigerian capital market performance as dependent variable.

NOS = Number of Stocks

VOT = Value of Trade

DGFC = Dummy variable for pre and post –Global Financial Crisis (i.e 0 for pre and 1 for post GFC).

ASI = All Share Index.

The work of Jenrola & Daisi (2012) is on the effect of global financial crisis on Nigeria's capital market. They only capture the linkage between capital market performance and economic growth in Nigeria, the study captures global economic crisis on exchange rate in Nigeria.

3.2 Nature of the Data

The data is a time series secondary data showing aggregate data for the Nigerian economy. Apart from population growth rate in percentages, all other variables are in N millions.

Model 1

In order to examine the effect of global trade crisis on exchange rate behaviour in Nigeria, the model is shown below;

Pre-Financial Meltdown and global oil market crises Periods (1985-2007)

$$EXCH = \beta_0 + \beta_1 OPN + U_3 \dots\dots\dots 3.1$$

During and Post-Financial Meltdown and global oil market crises Periods (2008-2015)

$$EXCH = \beta_0 + \beta_1 OPN + U_3 \dots\dots\dots 3.2$$

Model 2

In order to determine the effect of crude oil price crisis on exchange rate behaviour in Nigeria, the model is shown below;

Pre-Financial Meltdown and global oil market crises Periods (1985-2007)

$$EXCH = \beta_0 + \beta_1 COILP + U_3 \dots\dots\dots 3.3$$

During and Post-Financial Meltdown and global oil market crises Periods (2008-2015)

$$EXCH = \beta_0 + \beta_1 COILP + U_3 \dots\dots\dots 3.4$$

Model 3

In order to determine the effect of foreign capital inflow on exchange rate behaviour in Nigeria, the model is shown below;

Pre-Financial Meltdown and global oil market crises Periods (1985-2007)

$$EXCH = \beta_0 + \beta_1 FDI + U_3 \dots\dots\dots 3.5$$

During and Post-Financial Meltdown and global oil market crises Periods (2008-2015)

$$EXCH = \beta_0 + \beta_1 FDI + U_3 \dots\dots\dots 3.6$$

Where

EXCH = Real exchange rate as dependent variable.

OPN = Trade Openness (which capture trade crisis).

FDI = Foreign Direct Investment which captures the effect of external capital inflow to Nigeria.

COILP = Crude oil Price (which captures the international oil market crisis)

β_0 = Constant intercept, β_1 is coefficient of the explanatory Variables.

U = Error term.

Table 1 Pre-global economic crisis period (1985-2007)

Dependent Variable: EXCHR				
Independent Var	Coefficient	Std. Error	t-Statistics	Probability
Constant	-111.4144	27.03180	-4.121605	0.0004
FDI	-0.000283	0.000182	-1.557757	0.1329
OPN	1.490961	0.338373	4.406264	0.0002
COILP	2.295890	0.551788	4.160816	0.0004

R-Squared 0.6512; Adjusted R-squared 0.605757; DW Stat 1.573961

F-stat 14.31639; Prob(F-stat) 0.000018

Result Interpretation

The estimated pre global economic crisis result in table 4.2 above shows the independent variables that exert a significant influence on exchange rate behavior. The result revealed that trade openness and crude oil price has significant positive effect on exchange rate behavior in the country before the 2008 global financial crisis. A unit increase in trade openness increases exchange rate behavior by 1.5 units. And a unit increase in crude oil price also increases exchange rate behavior by 3.3 units. The effect of crude oil price is higher than that of trade openness.

Table 2 Post-global economic crisis period (2008-2015)

Dependent Variable: EXCHR				
Independent Var	Coefficient	Std. Error	t-Statistics	Probability
Constant	-411.6403	104.8951	-3.924305	0.0172
FDI	-0.000230	6.55E-05	-3.515148	0.0246
OPN	6.977845	1.155147	6.040654	0.0038
COILP	-0.292707	0.116374	-2.515226	0.0371

R-Squared 0.941961; Adjusted R-squared 0.898431; DW Stat 1.665946

F-stat 21.63959; Prob(F-stat) 0.006193

Result Interpretation

The estimated result during and after global economic crisis is presented in table 4.3 above, the result shows the independent variables that exert a significant influence on exchange rate behavior during and after the global economic crisis. The result revealed that capital inflow, trade openness and crude oil price all have significant effect on exchange rate behavior in the country during and after the 2008 global financial crisis. Trade openness has a positive and significant effect while foreign private capital inflow and crude oil price have a negative and significant effect. A unit increase in foreign private capital inflow will decrease exchange rate erratic behavior by a 0.0002 units, and a unit increase in trade openness increases exchange rate erratic behavior by about 7 units. And a unit increase in crude oil price decreases exchange rate behavior by 0.3 units. The effect of global trade crisis is higher during and after the global economic meltdown.

Test of Hypotheses

This test is carried out in order to test the various hypotheses of the study based on the probability value of the result in table 4.3 above. In other words it tests the statistical significant of the estimated parameters at 5 percent level of significance ($\alpha = 5\%$ (0.05)).

Decision criteria

If the probability of the independent variable is less than the chosen probability level of significance, then reject the null hypothesis and accept the alternative hypothesis and conclude that the variable in question is statistically significant at 5% level and is a good explanatory variable of the dependent variable. If otherwise, then the variable is not statistically significant at 5% level and is not a good explanatory variable of the dependent variable. The table below presents the t-test of the regression result and their assessment of significance.

Hypothesis 1

Ho: Global trade crisis do not have a positive and significant effect on the behaviour of exchange rate in Nigeria.

The coefficient of trade openness variable during and after period of global economic crisis is positive and significant with a probability value of 0.0038 which is less than the 0.05 probability level of rejecting the hypothesis. This means that the hypothesis that global trade crisis has no positive and significant effect is rejected. Thus, global trade crisis during and after the 2008 global economic crisis have a positive and significant effect on exchange rate behavior in Nigeria.

Hypothesis 2

Ho: Crude oil price fall do not have a positive and significant effect on the behavior of exchange rate in Nigeria.

The coefficient of crude oil price during and after period of global economic crisis is negative but significant with a probability value of 0.0371 which is less than the 0.05 probability level of rejecting the hypothesis. This means that the hypothesis that crude oil price fall does not have a positive effect is accepted while the hypothesis of no significant effect is rejected. Thus, crude oil price crisis have a negative and significant effect on exchange rate behavior in Nigeria.

Hypothesis 3

Ho: Capital inflow do not have a positive and significant effect on the behavior of exchange rate in Nigeria.

The coefficient of capital inflow variable proxied by FDI during and after period of global economic crisis is negative and significant with a probability value of 0.0246 which is less than the 0.05 probability level of rejecting the hypothesis. This means that the hypothesis that global crisis in foreign private capital inflow does not have a positive effect is rejected while the hypothesis of a significant effect is rejected. Thus, capital inflow has a negative and significant effect on exchange rate behavior in Nigeria.

From the value of the R-squared (R^2), it would be concluded that the regressors in the model explain over 65% of the systematic variations in exchange rate in Nigeria during the 1985-2007 period. This is complemented by the adjusted R-square of 60.5%. The probability value of the F-statistic of 0.000018 is highly significant. This implies that there exists a significant linear relationship between exchange rate and the explanatory variables such as FDI, openness and world crude oil price. The Durbin-Watson (DW) statistic of 1.57 suggests the absence of autocorrelation in the regression model.

Moreover, it would be concluded that the regressors in the during and post global economic crisis model explain over 94% of the fluctuations in exchange rate in Nigeria during the 2008-2015 period. This is complemented by the adjusted R-square of 80.0%. The probability value of the F-statistic of 0.006 is highly significant. This implies that there exists a significant linear relationship between exchange rate and the explanatory variables (FDI, OPN and COILP). The Durbin-Watson (DW) statistic of 1.66 suggests the absence of autocorrelation in the regression mode

4. Conclusion

The global financial crisis and oil market crisis has caused a considerable slowdown in most developed countries. Governments around the world are trying to contain the crisis, but many suggest the worst is not yet over. Many developing country economies are still growing strongly, but forecasts have been downgraded substantially. The resultant effect of the slowdown has posted into short fall in export revenues resulting into trade deficits; others include reduced capacity utilization for most industries, as majority depends on imported raw materials. The depreciation of global currencies precipitated by external shock impacted negatively on the economy. These brought about decline in output of this

prominent sector. The depth and vastness of financial meltdown cannot but require a leap by the government to reduce its effect on businesses and therefore the income of citizen. Finally, this study has revealed that over the years, both the period before and during the global financial crisis the exchange rate has been mostly affected by external and internal macroeconomic shocks independently. This is due to the level of openness of the economy and financial integration within the global system. Although, there exist slight structural changes in the level of exchange rate in Nigeria during the period of global financial crisis in first and fourth quarters of 2007 and 2008 (2007Q1 and 2008Q4) the negative impact of the global oil market crash still remains untamed. Hence, it is appropriate to suggest the need for government intervention in Nigeria in order to fully insulate the economic against the contagious effects of the global financial and oil crisis.

- i. financial rules and systems, and what the most appropriate rules are with respect to develop.
- ii. There needs to be an understanding of whether and how Nigeria and other developing countries can minimize financial contagion.
- iii. There is need to guard against excessive lending since this can further worsen the present situation.
- iv. Capital flight should be discouraged as much as possible, since it opens the economy to the contagion effects of external shocks.
- v. There is a need for new stability of the global financial system in which the voice of every nation, every continent is heard and their concerns taken into account.
- vi. The country should diversify the economy to reduce the overdependence on oil the business.
- vii. Government should also help in ameliorating the manifested problem of the oil sector to quickly introduce an intervention funds to revive the sector from its comatose state. The infrastructural operating environment of firms must necessarily impose on government the obligation of not postponing the proposed downstream deregulation of petroleum sector, in fact, the price of diesel, major input in power generation should be reversed downward if manufacturing activities must be sustained in the country.

Reference

- AbdulRaheem, Y. (2003), Globalization and Nigerian Economic development". A paper presented at the 4th Annual National Conference of the Social Studies Association of Nigeria (SOSAN).
- Ajakaiye, O and Fakiyesi, T (2009), Global Financial Crisis, and Nigerian Economy. Overseas Development Institute: Discussion Series Paper 8.
- Amin, Z. A and El-Sakka, M. I. T (2016) Determining Real Exchange Rate Fluctuations in the oil-Based Gulf Co-operation Council (GCC). *Asian Economic and Financial Review*, 2016, 6(7): 374-389.
- Anyanwaokoro, M (2008), *Methods and Processes of Bank Management*. Enugu: Johnkens and Willy Nigeria Limited. Page 140.
- Avgouleas, E. (2008), Financial Regulation, Behavior Finance, and the Financial Credit Crisis in Search of a New Regulatory Model' Retrieved from <http://papers.ssrn.com>
- Bayo, A. (2000). Globalization and Nigeria Economy". *The Economist*.
- Chari, V., and Kehoe, P. (2004), Financial crises as herds: overturning the critiques. *Journal of Economic Theory* 119, 128-150.
- Cipriani, M., and Guarino, A. (2008) Herd Behavior and Contagion in Financial Markets *The B.E. Journal of Theoretical Economics* 8(1) (Contributions), Article 24, 1-54.
- Eaton, J and Kortum, S (2002) Technology, Geography and Trade. *Econometrica*, 70(5), 1741- 1779.
- Eneji, M. A., and Mai-Lafia, D. I., (2016) Impact of Oil Price Volatility on Macroeconomic Variables and Sustainable Development in Nigeria. *International Journal of Economics and Financial Research*, 2016, 2(2): 33-40.
- Gbolahan, A.A. (2010). The 21st Century Global Financial Crisis and the Nigerian Oil Sector. Thesis, University of Jos, Nigeria.
- Iyortsuun, A. S. and Akpusuugh, T.K (2013) The Impact of the Global Financial Crisis on Business Development in Nigeria: A Case Study of Makurdi Metropolis, Benue State from 2007 – 2009. *European Journal of Business and Management*, 5, (30), 38- 50.
- 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), 803-819.
- Kindleberger.C.P., and Aliber, R. (2005), Manias, Panics, and Crashes: A History of Financial Crises, 5th ed. Wiley, [ISBN 0471467146](https://doi.org/10.1002/9781119111111).