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Effect of Global Financial Reform (GFR) on Nigeria's Exchange Rate Volatility (1989-2019)

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Abstract

The study examined the effect of global financial reform on Nigeria exchange rate volatility in Nigeria right from 1989 to 2019. The study reviewed major reformation in global financial system in line with the global financial crisis over time system. There has been an empirical neglect in this line of the study as it specifically examines the effect of minimum lending rate and the influence of money supply on Nigeria Exchange Rate Volatility. Time series analysis was conducted along with post estimation techniques to captured specified variables specified in the econometrics models, while third model captured the rate of volatility through ARCH and GARCH effect at 0.05 level of significance. Findings shows that exchange rates are extremely volatile in the short run because they are very responsive to monetary policy. The result above shows the coefficient to be positive and statistically significant at all levels (0.00<0.05). It can be seen that the past value of the real exchange rate (REXR) has a very strong predictive ability on the current rate of exchange. This study concludes minimum lending rate (MLR) has no significant impact on exchange rate, but money supply (MS) significantly influences the rate of volatility in exchange rate that the high predictive ability in the variables for global financial reforms has positive and significant effect on exchange rate volatility in the specified period of time.

Keywords: Money Supply, Minimum Lending Rate, Real Exchange Rate, Volatility, Global Financial Reform and Monetary Policy

1. Introduction

The global financial reform necessitated by the recent global financial crisis has impacted on the economies of developed and developing countries of which Nigeria is not an exception. Even though the causes of the crisis could not be separated from the failure of the monetary policies of some advanced countries' economies to contain the flaws in global financial regulation and supervision, global financial imbalances, week global financial architecture and global financial imbalances (Meniago, & Eita, 2017)

The causes of the global financial crisis among other factors included thegaps and weaknesses in the coverage of prudential guidelines and supervision of the global financial system as identified by the group of thirty (G-30), the lapses in the quality and effectiveness of prudential regulation and supervision, lacuna in transparency, risk management and corporate governance of financial industries. Though exchange rate movements have been interest to economies and researchers for centuries, modern exchange rate fluctuations received greater attention after the collapse of the fixed exchange rate system introduced during the Bretton Woods conference in the 1970s (Meniago& Eita 2017).

The collapse of fixed exchange rate was expected to elicit a drastic reduction in exchange rate fluctuations, but this was not to be as it became highly volatile thereafter. The attendant effect on the economy of developing countries and Nigeria in particular became obvious as the economy was held to a standstill due to the reforms resulting from the global financial crisis.

Volatility in exchange rates create exchange rate risk for international investors. A downward trend in exchange rate is a product of constant volatility. A lower-valued currency makes a country's imports more expensive and its exports less expensive in foreign markets. A higher exchange rate can be expected to worsen a country's balance of trade, while a lower exchange rate can be expected to improve it. Thus, fluctuating exchange rates make it more difficult for investors to know the best place to invest. One cannot merely look at what the interest rate is across countries but must also speculate about the exchange rate change and guess wrongly about the exchange rate movement and one could lose a substantial amount of money as global financial system is dynamic.

Global financial system is subjected to progressive reformation, Nigerian financial system has been considered as one of the largest and most robust in sub-Saharan Africa. In Nigeria recently, financial reformation has undergone significant changes in terms of the fiscal changes, policy environment, number of institutions, ownership structure, market size, as well as in the regulatory framework. These changes have been influenced largely by challenges posed by deregulation of the financial sector, globalization of operations, technological innovations and adoption of supervisory and prudential guidelines and requirements that conform to international standards(Mordi, 2006). Therefore, the paper is set out to examine the effect of global financial reform on Nigeria Exchange Rate Volatility. It thereby examines the effect of minimum lending rate on Nigeria Exchange Rate Volatility and determine whether the level of money supply influence the exchange rate volatility in Nigeria

- The hypotheses to be tested in order to arrive at the conclusions in this study are here under in their null forms:
 - H0₁: There is no significant effect between minimum lending rate and exchange rate volatility in Nigeria.
 - H0₂: There is no significant effect between level of money supply and exchange rate volatility in Nigeria.

The consistent interest in the global financial and economic reform and exchange rate volatility necessitates regular research on the subject. It is believed that in developing economies like Nigeria the global financial reform exert great impact on her exchange rate volatility. Therefore, this study will be significant from these perspectives: individual country's viewpoint, the study will not only broaden the people and policy makers on the relationship between exchange rate volatility and global financial reforms but also helps the government through the central bank to formulate appropriate growth enabling exchange rate policies.

Theoretically, this study will add to the pool of knowledge as it will contribute to the debate on the effect of global financial reforms on exchange rate volatility in Nigeria.

The study would capture 3 years observation from 1989- 2019 in order to track various phase of reformation in the Nigeria financial sector based on exchange rate volatility

Data for the study will be sourced from secondary sources, particularly the World Economic Development Data, World development Indicator (WDI) and Central Bank of Nigeria within 1990 – 2020. While the dependent variable shall be the REXR, the independent variables shall include Money supply (MS), Minimum Lending Rate (MLR), Investment Rate (INVR), Prime lending Rate (PLR) and the rate of Inflation (INF)., this study uses annual data from 1990 to 2020 in Nigeria.

2. Literature Review

2.1. Conceptual Framework

2.1.1. Global Financial Crisis (GFC)

The financial crisis of 2007 and 2008 which is also known as the global financial crisis (GFC), was a severe worldwide economic crisis. Prior to the Covid-19 recession in 2020, it was considered by many economists to have been the most serious financial crisis since the great depression. Excessive risk taking by banks with the bursting of the United States housing bubble, caused the values of mortgage-backed securities tied to American real estate to *plummet* and financial institution to suffer significant damage globally, leading to the bankruptcy of Lehman Brothers on September 15, 2008and a subsequent international banking crisis.

The risk taking was explicitly incentivized by government intervention in the housing and financial markets. Massive bail-outs of financial institutions and other palliative monetary and fiscal policies were employed to prevent a collapse of the global financial system. The crisis sparked a global recession that resulted in increases in unemployment and suicides, decreases in fertility and general trust in institutions and ultimately contributed to the Euro zone crisis.

2.1.2. Global Financial Reform

The global financial crisis that stated in the U.S had an immediate spill over to the rest of the world financial markets. As early as 2008 the G20 announced a thorough global reform agenda with an aim to tackle the rest causes f the crisis and to transform the system of global financial regulations. From the first meeting of the G20 in November, 2008 in Washington, it was clear that there was a political momentum throughout the world economies for global financial reform. It seems obvious that immediate global action was needed to prevent the reoccurrences of such a crisis in the future.

2.1.3. Global Financial Markets (GFM)

The GFM include the market for foreign exchange, the Eurocurrency and related money markets, the international capital markets, notably the Eurobond and global equity markets, the commodity markets and the market for forward contracts, options, swaps and other derivatives.

2.2. Exchange Rate Volatility

The unexpected movement in exchange rate is termed exchange rate volatility. It is associated with currency depreciation or appreciation and may have no trend to it. Exchange rates are extremely volatile in the short run because they are very responsive to monetary policy, central bank intervention policy, changes in expectations, etc. and are influenced by relative commodity prices in the long run ((Owuru&Farabiyi, 2016). Movement could also arise from overshooting behavior which is when the current spot rate does not equal a measure of the long-run equilibrium obtainable from a long-run model. This behavior could arise when the financial market is not operating as expected (Owuru&Farabiyi, 2016).

2.3. Theoretical Review

The following theoretical ideas explains why we might expect greater economic instability in institutionally weak societies

2.3.1. Optimum Currency Areas (OCAs) Theory

One theory that explains exchange rate movement is that of Optimum Currency Areas (OCAs) postulated by Mundell (1961). To Horvath (2005), the optimum currency areas proposition largely explains the dynamics of bilateral exchange rate variability and pressures. It identifies variables such as intensity of trade interdependence, dissimilarity of export commodity structure, openness, asymmetric shock to output and economic size (Ling, 2001; Horvath, 2005) as germane to a country's decision to join a monetary union. One of the objectives of forming a monetary or currency union is to reduce volatility in key macroeconomic indicators, including the exchange rate. The optimum currency areas (OCAs) theory suggests that a number of variables can help to explain patterns of exchange rate variability and intervention across countries on the grounds that the same factors that inform the decision of whether to form a currency union also influence exchange rate volatility across countries (Yusop, 2006).

2.3.2. Interest Rate Parity Theory

Interest rate parity is one of the most important theories in international finance due to the fact that it is probably the best way to explain how exchange rate is determined and the reason for their fluctuation. Most international currency exchanges occur for investment reasons; hence, understanding the sole determinant for international investment is of essence.

The interest rate parity characterizes the relationship between interest rate and exchange rate of two countries. It refers to a condition of quality between the rates of return on comparable assets between two countries. It assumes that that exchange rate of two countries will be affected as by their interest rate differentials. The interest rate parity tries to relate interest rate of one country to the exchange value of her trading partner (Fadli, et al; 2011).

2.3.3. Purchasing Power Parity Theory

The purchasing power parity theory first propounded by wheat lay in 1802 and 1920 to determine the exchange rate between countries on convertible paper currencies. The theory holds that over the long term, the average value of the exchange rate between two countries depends on their relative purchasing power. The theory further states that a currency will tend to have the same purchasing power when it is spent in its home country as it would have if it converted to foreign exchange and spent in the foreign country.

3. Methodology

Optimum Currency Areas (OCAs) was postulated by Mundell (1961) which explains exchange rate volatility and impact on the economy. The optimum currency areas (OCAs) theory suggests that a number of variables can help to explain patterns of exchange rate variability and intervention across countries on the grounds that the same factors that inform the decision of whether to form a currency union also influence exchange rate volatility across countries (Yusop, 2006).According to the OCA proposition, the higher the intensity of trade links among countries, and the more similar are shocks to their output, the more stable (or less volatile) will the exchange rate of the national currencies be (Horvath, 2005).

3.1. Model Specification

The study examines the impact of exchange rate movement on the economic growth in Nigeria changes from the perspective of imports, exports and trade balance. The variables used in the estimation of the equations were chosen based on economic theory as earlier discussed. The elasticity approach, states that the effects of exchange rate changes on trade are largely dependent on microeconomic behaviours.

The study shall adopt the model used by Meniago (2017) in studying the effects of global financial reform on exchange rate volatility in Nigeria. The authors' model expressed as

 $\begin{array}{l} REXR_{t} = \beta 0 + \beta_{1}MS_{t} + \beta_{2}MLR_{t} + \beta_{3}INF_{t} + \beta_{4}INVR_{t} + \varepsilon it......3.1\\ CRD_{t} = \beta 0 + \beta_{1}MS_{t} + \beta_{2}MLR_{t} + \beta_{3}INF_{t} + \beta_{4}INVR_{t} + \varepsilon it......3.2\\ h_{t} = Q + \theta_{1}h_{t\cdot1} + b_{1}u^{2}_{t\cdot1}......3.3\\ Where:\\ REXR = Real Exchange Rate\\ CRD = Credit allocation to Private Sector\\ MS = Money Supply (Broad Money)\\ MLR = Minimum Lending Rate\\ INVR = Investment Rate\\ INF = Inflation Rate\\ ht = ARCH and GARCH model \end{array}$

3.2. A-priori Expectation of the Specified Variables

At the end of this research workeach of the parameters in each equation should have the signs shown mathematically thus: i.e. α_1 , α_2 , α_3 , α_4 , $\alpha_5 > 0$; β_1 , β_2 , β_3 , β_4 , $\beta_5 > 0$; γ_1 , γ_2 , γ_3 , γ_4 , $\gamma_5 > 0$; δ_1 , δ_2 , δ_3 , δ_4 , $\delta_5 > 0$. All coefficient of the conditional variance specification meets the stability condition of $0 < b_1 < 1 < \theta < 1$ and $b_1 + \theta < 1$

4. Analysis and Interpretation of Results

	REXR	MS	MLR	INF	INVR
Mean	117.98	7152.60	2.8128	19.557	11.602
Median	125.80	2131.81	5.7905	13.006	12.100
Maximum	306.92	26079.7	18.180	72.835	19.500
Minimum	7.3647	47.423	-31.452	5.4000	5.4600
Std. Dev.	89.715	8573.07	10.596	17.503	3.9452
Skewness	0.6065	0.95081	-1.2323	1.7909	0.1935
Kurtosis	2.7623	2.48841	4.8675	4.97838	1.8638
Jarque-Bera	1.9738	5.008925	12.35079	21.62715	1.86085
Probability	0.3727	0.081720	0.002080	0.000020	0.39438
Sum	3657.611	221730.9	87.19972	606.2894	359.6621
Sum Sq. Dev.	241465.9	2.20E+09	3368.744	9191.197	466.9550
Observations	31	31	31	31	31

Table 1: Showing Descriptive Analysis of the Study Note: REXR Is Real Exchange Rate, MS Is Money Supply, MLR Is Minimum Lending Rate, INF Is Inflation and INVR Is Investment Rate

The above table presents the descriptive statistics of the basic features of the variables used for the study. The average value of the *Real exchange rate,* (REXR), is 117.9 with a minimum and maximum value of 7.36 and 306.9 respectively and a standard deviation of 89.7; this implies that there is a large variation in the series.

The average value of money supply (MS) is 7152.6 with a minimum and maximum value of 47.4 and 26079.7 respectively with a standard deviation of 8573.0; this implies that there is high variation in the data series

The average value of the minimum lending rate (MLR) is 2.81 with a minimum and maximum value of -31.5 and 18.18 respectively with a standard deviation of 10.59 this implies that there is moderate variation in the data.

Also, the table shows the average value of the inflation (INF) which is 19.55, result which is 0.86 with a minimum and maximum value of 5.4 and 72.8 respectively with a standard deviation of 17.5 this implies that there is low variation in the data.

Lastly, the average value of the investment rate (INVR) is 11.6 with a minimum and maximum value of 5.46 and 19.5 respectively with a standard deviation of 3.94 this implies that there is moderate variation in the data series.

Dependent Variable: REXR Method: Least Squares Date: 05/12/21 Time: 12:47 Sample: 1989 2019					
	Included (Observations: 31		1	
Variable	Coefficient	Std. Error	t-Statistic	Prob.	
MS	0.011504	0.001108	10.38345	0.0000	
MLR	-0.699722	1.103292	-0.634213	0.5315	
INF	0.747217	0.702167	-1.064159	0.2970	
INVR	-6.713504	2.406194	-2.790092	0.0097	
С	130.1774	21.52691	6.047194	0.0000	
R-squared	0.892645	Mean dependent var		117.9875	
Adjusted R-squared	0.876129	S.D. dependent var		89.71546	
S.E. of regression 31.57562 Akaike info criterio		o criterion	9.889338		
Sum squared resid	25922.52	Schwarz criterion		10.12063	
Log likelihood	-148.2847	Hannan-Quinn criter.		9.964732	
F-statistic	54.04691	Durbin-Watson stat		0.666157	
Prob(F-statistic)	0.000000				

4.1. Ordinary Least Square

Table 2: Ordinary Least Square Source: Eviews 9, 2021 Note: Rexr Is Real Exchange Rate, Ms Is Money Supply, MIr Is Minimum Lending Rate, Inf Is Inflation And Invr Is Investment Rate

Y = 130.1774 - 6.713504 + 0.747217.5 - 0.699722 + 0.011504t-sta = - (6.047194) + (2.790092) - (1.064159) - (0.634213) + (10.38345) R-squared = 0.892645 F-sta54.04691D-Watson stat 0.666157 The result above shows regression result of the ordinary least square of the specified variables. The dependent variable is Real Exchange Rate (REXR), while the independent variables are MS, MLR, INF and INVR. The result shows every unit increase in real exchange rate leads to 1% unit increase in the level of money supply in Nigeria. The study also shows a unit increase in real exchange rate leads to 69.9% decrease in the rate of minimum lending (MLR). The study also shows that a unit increase in real exchange rate leads to 74.7 % increase in level of inflation (INF).

Lastly, the result shows that a unit increase in real exchange rate leads to 6.71 unit increase in the rate of investment(INVR)

As indicated by the coefficient of determination (R square) 89.2 % of the variation in the level of the economy is explained by the independent variables, while other 10.8% is accounted for by other variables. It revealed that the model has a goodness of fit





Figure 1: Testing Arch Effect with Histogram Plots

The histogram shows the trend of data series from 1989 to 2019. ThePlot shows the series to be leptokurtic with high frequency over the specified period of time. The result shows the probability value not to be statistically significant at 5%.

4.3. Trend Analysis of the Specified Variables



Figure 2: Showing Money Supply (1989-2019)



Figure 3: Showing Investment Rate (1989-2019)



Figure 4: Showing Real Exchange Rate (1989-2019)



Figure 5: Showing Minimum Lending Rate (1989-2019)

Fig 2 shows an upward trend in the level of money supply in Nigeria, the figure shows an upward trend to the right especially from 2006. The level of money supplies trend with a sharp increase till 2019. This implies an adequate expansionary policy from the central Bank of Nigeria.

Fig 3 shows fluctuation in the level investment. Investment hit 15 units in 1990 and gradually decline to 8 unit in 1995. In 2003, there was a poor level of investment to 5 units. A policy reform caused a sharp increase from 2008 which trends upward to 20 unit in 2019

Fig 4 shows the graphical display of real exchange rate. The movement on exchange rate shows an upward trend especially from 1999 perhaps due to change in government policy. It was deterministic within 2000 to 2009, but later pick up till climax in 2019.

Fig 5 shows another level of volatility in display. The rate fluctuated based dynamism in banking sector. It was noticed that the rate trend upward sharply in 1995 and also fluctuated till 2019

Dependent Variable: REXR Method: ML - ARCH (Marquardt) - Normal distribution Date: 05/12/21 Time: 12:56 Sample (adjusted): 1989M02 2019M12 Included Observations: 371 after Adjustments Failure to Improve Likelihood after 24 Iterations PresampleVariance: Backcast(Parameter = 0.7) GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*GARCH(-1)						
Variable	Coefficient	Std. Error	z-Statistic	Prob.		
С	0.680267	1.436572	0.473535	0.6358		
REXR(-1)	1.001579	0.005469	183.1513	0.0000		
	Variance l	Equation				
С	23.16122	21.47581	1.078480	0.2808		
RESID(-1) ²	0.011358	0.006588	-1.724129	0.0847		
GARCH(-1)	0.586166	0.388090	1.510389	0.1309		
R-squared	0.995224	Mean dependent var		118.2856		
Adjusted R-squared	0.995211	S.D. dependent var		88.30721		
S.E. of regression	6.110977	Akaike info criterion		6.520629		
Sum squared resid	13779.95	Schwarz criterion		6.573408		
Log likelihood	-1204.577	Hannan-Quinn criter.		6.541591		
Durbin-Watson stat	2.039334					

4.4. Testing for ARCH and GARCH Effect on Exchange Rate Volatility

 Table 3: Testing For ARCH and GARCH Effect on Exchange Rate Volatility

 Source: Eviews 10, 2021

Table above shows the Autoregressive Conditional Heteroscedacity (ARCH) and GARCH model to examine the level of volatility on exchange rate and predictive ability of the past value. The time varying volatility includes a constant (0.68) and its past value (1.00) with a component which depends on past errors. Since the Lag value of the conditional variance and the square error are both positive. Result also shows fitness of model, R² to be 99.5% fit.

The result above shows the coefficient to be positive and statistically significant at all levels (0.00). It can be seen that the past value of the real exchange rate (REXR) has a very strong predictive ability on the current rate of exchange. Therefore, this implies the past value of exchange rate significantly predict the current value. All coefficient of the conditional variance specification meets the stability condition of $0 < b_1 < 1 < \theta < 1$ and $b_1 + \theta < 1$

4.5. Test of Hypothesis

Dependent Variable: REXR Method: ML - ARCH (Marquardt) - Normal Distribution Date: 05/12/21 Time: 12:49 Sample (Adjusted): 1989M02 2019M12 Included Observations: 371 after Adjustments Failure to Improve Likelihood after 27 Iterations PresampleVariance: Backcast(Parameter = 0.7) GARCH = C(7) + C(8)*RESID(-1)^2 + C(9)*RESID(-2)^2 + C(10)*GARCH(-1)						
Variable	Coefficient	Std Error	7-Statistic	Proh		
C	4 356785	5 915376	0 736519	0.4614		
REXR(-1)	0 974684	0.032042	30 41892	0.0000		
MS(-1)	0.000342	0.000463	0.739215	0.0098		
MLR(-1)	0.040122	0.202283	0.198345	0.8428		
INF(-1)	-0.006817	0.218568	-0.031190	0.9751		
INVR(-1)	-0.254035	0.656721	-0.386824	0.6989		
Variance Equation						
С	24.58763	33.67023	0.730248	0.4652		
RESID(-1) ²	0.046747	0.063950	0.730996	0.4648		
RESID(-2) ²	-0.032413	0.042049	-0.770825	0.4408		
GARCH(-1)	0.470199	0.598130	0.786115	0.4318		
GARCH(-2)	0.028703	0.240444	0.119374	0.9050		
R-squared	0.995330	Mean depe	118.2856			
Adjusted R-squared	0.995266	S.D. deper	88.30721			
S.E. of regression	6.075846	Akaike inf	6.519750			
Sum squared resid	13474.30	Schwarz criterion		6.635864		
Log likelihood	-1198.414	Hannan-Quinn criter.		6.565867		
Durbin-Watson stat	2.045181					

Table 4: Test of Hypothesis

The first hypothesis shows that minimum lending rate (MLR) coefficient to be positive but not statistically significant (0.84) at levels. Hence the study concludes that there is no significant effect between minimum lending rate (MLR) and exchange rate volatility in Nigeria

The second hypothesis also shows that money supply (MS) coefficient to be positive and statistically significant (0.001) at 5%. Therefore, the study concludes there is a significant effect between level of money supply and exchange rate volatility in Nigeria.

5. Conclusion and Recommendations

These findings clearly establish the presence of time varying conditional volatility of exchange rate. This result also indicates that the persistence of volatility shocks as presented by the sum of ARCH and GARCH parameters($b_1 + \theta_1$) is large. It denotes that the effect of present fluctuation remains in the forecast of variance for many periods in the future. This therefore confirms that the high predictive ability in the variables for global financial reforms has positive and significant effect on exchange rate volatility for the specified period of time.

Along with the findings made in the study, the following recommendations were made; there is a need for fiscal intervention to regulate the level of minimum lending rate in order to attract foreign investors, it is also needful to consider decentralizing international financial governance by assigning more tasks to the regional level to track the movement in exchange rate and the Central Bank of Nigeria must embark on continual expansionary policies to ensure consistent fund flow system in the financial sector

6. References

- i. Acemoglu, D., Robinson, J.A., (2003). Political losers as a barrier to economic development. American Economic Review 90, 126–130.
- ii. Akinlo, O. O., &Lawal, A. Q. (2015). Impact of exchange rate on industrial production in Nigeria 1986-2010. *International Business and Management*.
- iii. Asaolu, T. O., &Ogunmuyiwa, M. S. (2011). An econometric analysis of the impact of macroeconomic variables on stock market movement in Nigeria. *Asian journal of business management*, 3: 72-78.
- iv. Fadil, P. A., Nketiah-Amponsah, E., &Barnor, C. (2011). Effects of exchange rate regimes on FDI inflows in Ghana. *International Journal of Economics and Finance*, *3*(3), 277–286.
- v. Ekpo A.H (2004) Macroeconomic Model of the Nigerian economy. Vantage Publishers Ibadan
- vi. Eichengreen, B., Bordo, M.D., (2002). Crises then and now: what lessons from the last era of financial globalization? NBER Working Paper 8716, January.
- vii. Fadil, P. A., Nketiah-Amponsah, E., &Barnor, C. (2011). Effects of exchange rate regimes on FDI inflows in Ghana. *International Journal of Economics and Finance*, *3*(3), 277–286.
- viii. Frankel .J, (2003). Experience of and Lessons from Exchange Rate Regimes in Emerging Economies, in *Monetary and Financial Cooperation in East Asia*, Asian Development Bank, Macmillan, 2003.
- ix. Hviding O, Nowak, N.K. and Ricci, O (2004). 'Issues in Money, Finance and economicManagement' University Press Lagos.
- x. Horyath, M.O. (2005). The Management of Foreign Exchange Resources in Nigeria CBN Economic and Financial Review, Vol.28, No.3.
- xi. Meniago, C. & Eita, J. E. (2017). The effects of exchange rate changes on Sub-Saharan Africa trade, *International Journal of Sustainable Economy*, 9(3): 213-230
- xii. Mordi, C.N (2006). Challenges of Exchange Rate Volatility in Economic Management inNigeria. ||*Bullion*Vol.30, No.3. July Sept. 2006..\
- xiii. Mundell, L.A. (1961) 'The theory of international trade', in Ellis, H.S. (Ed.): *A Survey ofContemporary Economics*, pp.210–254, Blakiston, Philadelphia.
- xiv. Olowe, O. (2009) 'Effects of exchange rate trends and volatility on imports in Nigeria: implicationsfor macroeconomic policy', *International Journal of Economics, Commerce and Management*, Vol. 3, No. 7, pp.51–70.
- xv. Owuru, F. and Farayibi, A.F. (2016). The exchange rate, employment and hours: What firm- level data say. Journal of International Economics, 82(2):112-123.
- xvi. Rashid, G. and Hussain, J. (2010) *Devaluation and the Trade Balance: The Recent Experience ofSelected African Countries*, Centre for Economic Research on Africa.
- xvii. Sanusi, S. (2004). Global financial meltdown and the reforms in the Nigerian banking sector. Retrieved from http://www.cenbank.org/out/speechless/2010/govATBU%20 convocation %20lecture.
- xviii. Saborowski, J. (2009) Essays in the Theory of Employment, Basil Blackwell, Oxford.
- xix. Stancik, G. (2006) 'Currency depreciations and the trade balance: the case of Sub-Sahara Africa', *Journal of Applied Business and Economics*, Vol. 12, No. 6, pp.132–148.
- xx. Shehu, K. and Youtang, A. (2012) *Exchange Rate Management and Manufactured Exports inSub-Saharan Africa*, OECD Development Centre, Technical paper No. 134.
- xxi. Yusop, A.M. (2006) 'The effects of exchange rate changes on trade balances inNorth Africa: evidence', Paper presented at the *International Trade and Finance Association15th International Conference*, paper 46, May, Istanbul, Turkey.