

EXTERNAL RESERVES: CAUSALITY EFFECT OF MACRO ECONOMIC VARIABLES IN NIGERIA: 1980-2009

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Abstract

The paper employed econometric tools to analyze time series data sourced from CBN Statistical Bulletin (1980-2009). VAR and Wald tests point out that past value of GDP is significant in explaining the current values of foreign reserves with the causality effect. The model revealed that the EXTR was statistically significant in the current year (-1) but statistically insignificant in the previous years while among the macroeconomic variables only INFR was significant to EXTR. The study upheld that accumulation of foreign reserves does not produce satisfactory returns for Nigeria but effort should be made to create job and enabling environment for openness in trade that in turn increase the GDP of the Nigerian economy.

Keywords: Unit Root, Granger Test, VAR, External Reserve, Variables

1.0 Introduction

Many countries in the world usually hold foreign reserves to have a favourable level of exchange rate—especially with a view to stabilizing it and maintenance of robust economic. There has been a debate whether there is a need to beef up the level of nations' foreign reserves or trim them back, and this debate is becoming more interesting especially in developing countries like Nigeria. Some individuals are of the opinion that keeping scarce resources in reserve when there is a series of issues to be attended to domestically, such as agriculture, infrastructure, education and health among others, may not be a very wise decision (Osabuohien and Egwakhe, 2008). However, some others have argued that the foreign reserve position determines the country's rating in the global competitive market. In other words, these proponents hold the view that a robust level of foreign reserves will make the country appear financially responsible and creditworthy in the eyes of other countries, creditors and donors (Ford and Huang, 1994). In making the case for a robust level of foreign reserve in Nigeria, the Central Bank of Nigeria (CBN) argued that China has over one billion dollars in her foreign reserves even though her population is very large (Soludo, 2006). For example, China's foreign reserves position was estimated at US\$822 billion in 2004, while the value for Nigeria in the same year was about US\$17 billion, which has increased to about US\$51.33 billion in 2007 (CBN, 2007a; Russell and Torgerson, 2007). The objective of this research is to examine some of the factors influencing external reserve in Nigeria. Thus, the paper is aimed at providing empirical findings on the issue of foreign reserves in relation to some causality effect of macroeconomic variables such as (GDP) exchange rate (EXCHR); and inflation.

2.0 Literature Review

Foreign reserves are traditionally held and countries expect to maintain to considerable level of exchange

rate—especially with a view to stabilizing it and removing possible volatility. It is essentially held in terms of marketable securities, among others. According to Archer and Halliday (1998), the reasons for holding foreign reserves include: exchange rate stability, exchange rate targeting, exchange market stability, creditworthy consciousness, provision of emergency fund, and having transactions safeguard. Heller (1966) concludes that emerging-market economies hold reserves as a buffer stock to smooth unexpected and temporary imbalances in international payments. In determining the optimal level of reserves, the monetary authority will seek to balance the macroeconomic adjustment costs incurred if reserves are exhausted with the opportunity cost of holding reserves. Thus in theory, a country can decide to accumulate foreign reserves to eliminate some of its volatility.

Further empirical research works on foreign reserves (e.g. Landell-Mills, 1989; Lane and Burke, 2001) established a relatively stable long-run demand for reserves based on a limited set of explanatory variables such as gross domestic products (GDP). Gosselin and Nicolas (2005) grouped the determinants of reserve holdings in five categories: economic size, current account vulnerability, capital account vulnerability, exchange rate flexibility, and opportunity cost. In theory, the volume of international financial transactions and foreign reserve holdings are expected to increase with economic size. Also, GDP and GDP per capita have been used as indicators of economic size in the literature. The vulnerability of the current account can be captured by some measures as trade openness and export volatility. In the long run, central banks will increase their reserves in response to a greater exposure to external shocks. Thus, the level of foreign reserves could be positively correlated with an increase in both exports and imports. Capital account vulnerability increases with financial openness and potential for resident-based capital flight from the domestic currency. Consequently, reserves could be positively correlated with some variables like the ratio of capital flows to GDP. Exchange rate flexibility is usually important: it reduces the demand for reserves, since central banks no longer need a large stockpile of reserves to manage a pegged exchange rate. There could be an opportunity cost of holding reserves, because the

monetary authority swaps high-yield domestic assets for low-yield foreign ones. Iyoha (1976) had observed the factors that determined the demand for foreign reserves in 29 LDCs—Nigeria included—and established that a rise in the opportunity cost of holding reserves would result in a decrease in the level of foreign reserves holding. Furthermore, Osabuohien and Egwakhe (2008) noted that holding of foreign reserves promotes exchange rate stability and the existence of positive relationship between reserves and exports; however, the relationship was not significant for Nigeria between 1994 and 2005, hence suggesting that export was not induced significantly by the nation's foreign reserves.

India Economic Survey (2004) identified three main factors that predicated the nation's reserve holding (the sixth largest in the world with US\$113 billion in 2003 and rose to US\$132 billion in 2005) which include: import adequacy—the number of months of imports that it can finance; its ability to cover external payment obligations—captured by the ratio of reserve to external and short-term debt; and monetary adequacy—measured by ratio of reserve to broad money and reserve money.

A nation's external debt and reserves values are important indicators of external vulnerability, which include current account indicators; debt indicators; liquidity indicators; and other indicators such as the ratio of foreign reserves to money supply, nominal and real effective exchange rate (Vojtisek, 2002). Countries can also keep foreign reserves to meet their daily transactions, such as purchase of foreign goods or payment of obligations to international bodies (Ford and Huang, 1994). Moderate reserve holding may be adequate for these sources of demand outside a currency crisis, while non-currency crisis reserve demand will not exceed demand for reserves to protect against a currency crisis. On the other hand, countries may be interested in reserve acquisition as against shocks. Intervention to respond to terms of trade shocks, to fight deflation, or to support export-led growth may result in reserves stocks. However, resources kept in reserves have limited use beyond precautionary purposes.

In achieving the optimal level of external reserves, the monetary authority of the country could balance the macroeconomic adjustment costs incurred if reserves are exhausted with the opportunity cost of holding the external reserves. This means that a country can decide to accumulate reserves to get rid of all or some of its consumption unpredictability. Thus, the level of foreign reserves would move in the same direction with a country's risk aversion and output volatility. Country circumstances vary, and there may not be a precise level of reserves universally considered either sufficient or optimal. Advanced economies with highly liquid, floating currencies and stable financial market access in domestic currency are unlikely to derive any significant value from large precautionary reserve holdings, while developing countries may hold reserves equal to all external debt coming due within the next year. Some countries have acquired such high levels of reserves that the conventional benchmarks for reserves adequacy have been met with the largest absolute holdings of total gross reserves minus gold, as measured by the International Monetary Fund (IMF). At the end of 2005 major oil exporters held eight of the largest reserves. Japan tops the list, but by 2006, China had become the largest reserve holder. Both hold levels of reserves far greater than the rest (Russell and Torgerson, 2007). Foreign reserves normally kept in the form of high quality, marketable securities issued, usually have attendant cost, especially the opportunity cost (Gosselin and Nicolas, 2005). This implies that holding foreign reserve may or may not rub off on the economy directly but depending on whether the benefits (attracting investment, providing buffer against shocks and volatility etc.) are over and above the costs that are associated with it.

Aluko (2007), observed that External reserves has, in recent times, played significant role in the Nigeria economy. It has increased the level of money supply and therefore impact positively on the level of economic activities as more funds became available for investment in productive activities. Employment was in turn generated, output increased and consumption boosted. With their multiplier effects on the economy coupled with the efficient management of the financial resources, standard of living of the people improved considerably. Also, the contribution of the manufacturing sector to Gross Domestic Product (GDP), which has continued to dip, witnessed a boost. In a related study Obaseki (2007) noted that the uses of external reserves cannot be over emphasized. Essentially, external obligations have to be settled in foreign exchange. Therefore, the stocks of reserves become important as a source of financing external imbalances. Other uses to which external reserves can be put are to intervene in the foreign exchange market, guide against

unforeseen volatility and maintain natural wealth for future generations.

Typically, the purpose of holding reserves is to allow the central bank an additional means to stabilize the issued currencies from shocks. In addition to meeting the transaction needs of countries, reserves are used as a precautionary purpose to provide a cushion to absorb unexpected shocks or a sharp deterioration in their terms of trade or to meet unexpected capital outflows, like the negotiated exit payment of the Paris Club Debt by Nigeria. Reserves are also used to manage the exchange rate through intervention in the foreign exchange market. Thus, the motives for holding adequate level of external reserves can therefore be summarized as the reasons why individuals hold money CBN (2007).

Sound foreign reserves management practices are important because they can increase a country's overall resilience to shocks as the central bank will have the ability to respond effectively to financial crisis. Sound foreign reserves management can equally support but not substitute for sound macroeconomic management. Similarly, inappropriate economic policies can pose serious risks to the ability to manage foreign reserves. However, the process of foreign reserves management has spanned over the areas of risk management, securitization and the use of derivatives Anifowose (1997).

External reserves have impacted significantly on the development of Nigeria economy over the years. According to Ojokwu (2007), Foreign Direct Investment (FDI) into the country increased from \$42.4 million in 1997 to \$540.17 million in 2002 at an exchange of ₦118 to a dollar, while the level of investment increased in 1999 from ₦4.24 billion to ₦63.74 billion in 2002. He added that employment increased from 4,093 in 1999 to 10,885 in 2002, while revenue allocation to States and Local Government Areas grew from ₦156.06 billion in 1999 to ₦44.074 billion at August 2004. The Federal Government has also made significant progress in the war against corruption. All these are indicative of progress economically.

2.1 Concept of External Reserves

Prior to the inception of the Central Bank of Nigeria in 1959, the country formed part of the defunct West African Currency Board (WACB). In that period, management of external reserves posed little or no problems to the country because the manner in which the Board operated prevented such problems from arising. Optimal deployment of reserves then was really not an issue since Nigeria's non-sterling earnings were deposited in London in exchange for credit entries in the sterling accounts maintained there (Aizenman 2005). Subsequently, the 1959 Act which established the Central Bank of Nigeria (CBN) required the Bank to hold external reserves solely in Gold and Sterling. With the amendment in 1962 of this Act, the Bank acquired the mandate to maintain the country's foreign exchange reserves not only in sterling balance but also in non sterling assets such as gold coin or bullion, bank balances, bills of exchange, government and government guaranteed securities of countries other than Britain and treasury bills in other countries. The monetary options available to the country widened upon joining the International Monetary Fund (IMF) in 1961 to include many more assets Yuguda (2003).

3.0 Model Specification and Estimation Technique

The model for the paper assumes an underlying relationship between some macroeconomic variables that can influence the level of foreign reserves (EXTR). Based on the theoretical foundation on foreign reserves, the nature of GDP, other

macroeconomic variables can be brought in. To examine this, the paper employs diagnostic and unit root test using augmented Dickey Fuller to investigate time series data and to test the stationarity of the time series of the variables. Johansen co-integration analysis and Vector Autoregressive Model (VAR) are employed to test for relationship. Granger Causality test measures the impact of macroeconomic variables on External Reserve in Nigeria Engle and Granger (1987). Basically, variable Y is said to be 'Granger caused' by variable X if X helps in the prediction of Y, that is, if the coefficients on the lagged X's are statistically significant at a given level.

More so, the VAR method has merit of yielding consistent estimates of the long-run parameters that are asymptotically normal irrespective of the order of integration, i.e. whether variables are I(0), I(1), I(2) or mutually integrated. However, it is very necessary to complement the estimation process. Additionally, the stationarity tests can yield different conclusions due to their different power. As VAR method can distinguish between dependent and explanatory variables therefore, when using the VAR method it is possible to estimate even when the explanatory variables are endogenous (Alam and Quazi, 2003). In this wise, VAR provides robust results in Large sample size such as greater than 30 observations (Narayan, 2005). From the fall out above and with regards to the merits of the VAR modeling method, this paper represents a model below relating EXTR to some macroeconomic variables.

$$\text{EXTR} = f(\text{GDP}, \text{EXHR}, \text{TRADE}, \text{INFR}, \text{U}) \quad 1$$

The explicit form of Equation 1 is represented as follows:

$$\text{LNEXTR} = \gamma_0 + \gamma_1 \text{LNGDP} + \gamma_2 \text{LNEXHR} + \gamma_3 \text{LNTRADE} + \gamma_4 \text{LNINFR} + \varepsilon_2$$

where EXTR is external reserves; GDP is gross domestic product; TRADE is the level of trade captured by the sum of import and export as a ratio of GDP; EXHR is the exchange rate (naira to US dollar); γ s are parameters, while ε is an error term. The a priori is such that $\gamma_i > 0$, $i = 1-3$ and $\gamma_4 < 0$.

From Equation 2, VAR model can expressed as:

$$\text{LNEXTR}_t = \gamma_0 + \gamma_1 \text{LNEXTR}_{t-1} + \gamma_2 \text{LNGDP}_{t-1} + \gamma_3 \text{LNTRADE}_{t-1} + \gamma_4 \text{LNEXHR}_{t-1} + \gamma_5 \text{LNINFR}_{t-1} + e_t$$

3

The first part of Equation 3 shows the

long-run dynamics of the model while the second component represents the short-run relationship. The sign is the first difference operator; e_t is a white noise disturbance term. The equation points out that foreign reserve tends to be influenced and explained by its previous level, thus it involves other disturbances or shocks. The ARDL method involves two stages for the estimation of the long-run relationship. First stage involves the examination of the existence of a long-run relationship among all variables in the equation. The second stage involves the estimation of the long-run and the short-run coefficients of the same equation. However, the second stage is mainly essential only when a long-run relationship in the first stage has been established (Pesaran et al., 2000; Narayan, 2005).

To test the existence of a long-run relationship, Equation 3 can be conducted by placing some restrictions on estimated long-run coefficients of the variables. Thus, the null and alternative hypotheses are stated as follows:

$$H_0: \gamma_1 = \gamma_2 = \gamma_3 = \gamma_4 = \gamma_5 = 0 \text{ No long-run relationship—no co-integration.}$$

The test has a non-standard distribution that relies on whether the series included in the model are I(0) or I(1), the number of regressors and whether the model contains an intercept and/or a trend. This study used the Johansen and Juselius (1990) approach to test for the co integration before the ECM. If the

calculated trace and maximum Eigen values are larger than the critical values, then the null hypothesis of no co-integration is rejected and it is concluded that there is evidence of a long-run relationship between the variables at that level.

4.0 Estimation and Discussion

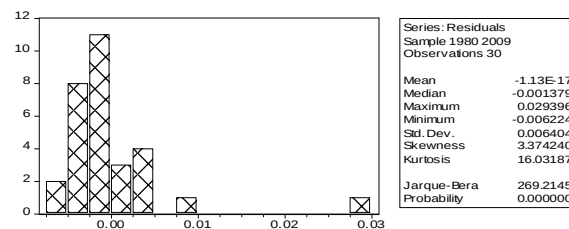
The paper used econometric tools in the analyses of the variables shown in the models. The data used in the estimation were sourced from CBN Statistical Bulletin for the period 1980-2009. E-views package was used in the estimation process and results are presented in tables. The variables were taken in their log form to bring them to a comparative level.

4.1 Test of Stationarity and Cointegration of Variables

It is usually conventional to examine stationarity of the chosen variables in econometric studies to obtain a reliable result. In taking cognizance of this, the paper carried a stationarity test of the variables using augmented Dickey Fuller (ADF) tests at intercept with and without trend, which is presented in Table 3. It is apparent from Table 1 that all the variables were stationary at first difference, i.e. I(1) series, except LINFR that was I(0) using ADF. When variables that are known to be I(1) produce a stationary series, then there is possibility of co integration among them: existence of a long-run relationship between them. To establish the existence (or otherwise) of a long-run relationship among the variables (series), a co integration test was performed using Johansen's multivariate approach. This is reported in the table 4.

4.2 Empirical Analysis and Result Output

4.2.1 Diagnostic Test Results



Breusch-Godfrey Serial Correlation LM Test:

F-statistic	18.38993	0.000017
	Probability	
Obs*R-squared	18.45765	0.000098
	Probability	

ARCH Test:

F-statistic	0.509083	Probability	0.607144
Obs*R-squared	1.095721	Probability	0.578186

White Heteroskedasticity Test:

F-statistic	11.72749	Probability	0.000003
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Obs*R-squared	24.51315	Probability	0.001879
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Ramsey RESET Test:

F-statistic	0.076381	Probability	0.784629
Log likelihood ratio	0.095325	Probability	0.757514

The table 1 above explain the diagnostic behave of the time series. The result indicated that the series of the variables are statistically significant at 5% as the probability value is less than 5%. Hence, the test confirm normality, no presence of serial correlation and absence of heteroskedasticity but structurally unstable as the probability value of Ramsey Reset test statistic is greater than the 5% critical value.

Table 2: Test of stationarity using Augmented Dickey Fuller (ADF)

Variables	ADF Test	5% Critical Value
LNGDP I(1)	-3.4200	-2.9798
LNEXTR I(1)	-4.7312	-2.9798
LNINFR I(0)	-7.6145	-2.9750
LNEXCHR I(2)	-4.3712	-2.9850
LNTRADE I(1)	-3.1430	-2.9798

**significant at 5% level, ADF test > Critical Value then Stationary*

Table 3: Test of Co integration among series

Series: EXTR GDP INFR EXCHR TRADE

Lags interval: No lags

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value	Hypothesized No. of CE(s)
0.986617	218.8515	68.52	76.07	None **
0.914319	93.75211	47.21	54.46	At most 1 **
0.297219	22.49535	29.68	35.65	At most 2
0.256635	12.26674	15.41	20.04	At most 3
0.118758	3.666272	3.76	6.65	At most 4

() denotes rejection of the hypothesis at 5%(1%) significance level*

L.R. test indicates 2 cointegrating equation(s) at 5% significance level

Normalized Cointegrating Coefficients: 4 Cointegrating Equation(s)

EXTR	GDP	INFR	EXCHR	TRADE	C
1.000000	0.000000	0.000000	0.000000	0.036920 (0.01487)	-0.224003
0.000000	1.000000	0.000000	0.000000	0.003083 (0.00141)	-0.184070

0.000000	0.000000	1.000000	0.000000	1.018813 (0.51432)	-4.357497
0.000000	0.000000	0.000000	1.000000	0.021501 (0.01744)	-0.245216

Log
likelihood 157.6536

From Table 3, the trace statistic, Max-eigenvalue and MacKinnon-Haug-Michelis (1999) p values, reveal that there is co integration at most one with atleast 2 co integrating equation among the variables were rejected in favour of the alternative hypotheses at 5 per cent. This is because their values exceed the critical values at the 0.05 level. This implies that a long-run relationship exists among the variables. It can equally be seen from Table 3 that there are at most one 1 co integrating equations in the series. Thus, we reported the normalized co integrating equation, which was at LEXTR and LEXCHR.

The results from the co integrating equations in Table 3 above suggest that all the variables in the two equations are significant at the 0.05 level. With respect to the sign and magnitude of the variables in the long-run equilibrium, the first equation, which is of interest, reveals that the key factors that influence the level of foreign reserves in Nigeria include: GDP, level of trade openness, foreign capital inflow and inflation. The levels of GDP and trade exert positive impacts on foreign reserves. This implies that in the long run the size of the economy and trade openness would induce the accumulation of foreign reserves. This is in line with the self-insurance theoretical base of foreign reserves. The values indicate that about a €1 billion increase in GDP and trade would bring about a €1.49 billion and €2.11 billion increase in the level of foreign reserves.

On the other hand, the equation points out that the level of Exchange rate and Inflation had a negative relationship with foreign reserves, while the sign of inflation conforms to the aprori expectation implying that an inflationary trend will reduce the level of foreign reserves. This is because as the domestic goods become costly, there would be lower demand for Nigerian exports, which will lower net exports and ultimately reduce the level of foreign reserves. However, the negative sign of foreign capital is unexpected.

The level of foreign capital should induce foreign reserves as foreign currencies come into the domestic economy from the mercantilist point of view. However, the reverse is observed. This may not be unconnected with the fact that most foreign capital in Nigeria goes mainly to the oil and gas sectors which have little multiplier effect in the economy with respect to linkages with other sectors. This tends to contradict the accumulation of reserves agenda of the CBN. Just as it has been noted that there are other factors such as stable macroeconomic environment that stimulate foreign investment than foreign reserves (Osabuohien, 2007; Hassan et al., 2009).

4.3 Causality Tests for Vector Autoregressive Model

The study examined the short-run dynamics (i.e. direction of causality) between the variables. The estimation also involved the Wald Exogeneity test, which is presented in

Table 5 below:

Date: 07/17/12 Time: 09:57

Sample(adjusted): 1982 2009

Included observations: 28

after

adjusting endpoints

Standard errors & t-statistics
in parentheses

	EXTR
EXTR(-1)	0.667061 (0.19248) (3.46568)
EXTR(-2)	0.007541 (0.17591) (0.04287)
C	-0.318148 (0.22659) (-1.40404)
GDP	2.019246 (1.37166) (1.47212)
INFR	0.002364 (0.00077) (3.07542)
EXCHR	0.051368 (0.04092) (1.25519)
TRADE	-0.000690 (0.00137) (-0.50475)
R-squared	0.957713
Adj. R-squared	0.945631
Sum sq. resids	0.004578
S.E. equation	0.014764

F-statistic	79.26808
Log likelihood	82.33287
Akaike AIC	-5.380919
Schwarz SC	-5.047868
Mean	0.214197
dependent	
S.D. dependent	0.063319

The model revealed that the EXTR was statistically significant in the current year (-1) but statistically insignificant in the previous years while among the macroeconomic variables only INFR was significant to EXTR. The VAR in Table 5, which measures the speed of adjustment, i.e. the tendencies of each variable to return to equilibrium shows that the past equilibrium values play a role in determining the current outcomes. This is because they all have the expected negative signs which are significant at either varying levels, which implies the possibility of convergence from the short-run dynamics to the long-run equilibrium. However, the speed of adjustment among the variables is quite slow. This denotes that the past errors of interactions of foreign reserves and the selected macroeconomic variables are corrected in the current period but not very fast.

Table 6 Granger Causality Tests

Pairwise Granger Causality Tests

Date: 07/17/12 Time: 09:59

Sample: 1980 2009

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Probability
GDP does not Granger Cause EXTR	28	3.52360	0.04625
EXTR does not Granger Cause GDP		1.40994	0.26448
INFR does not Granger Cause EXTR	28	10.8611	0.00048
EXTR does not Granger Cause INFR		39.3630	3.8E-08
EXCHR does not Granger Cause EXTR	28	0.02134	0.97891
EXTR does not Granger Cause EXCHR		2.05603	0.15083
TRADE does not Granger Cause EXTR	28	0.36173	0.70037
EXTR does not Granger Cause TRADE		0.26832	0.76703
INFR does not Granger Cause GDP	28	4.48241	0.02271
GDP does not Granger Cause INFR		10.1364	0.00070
EXCHR does not Granger Cause GDP	28	0.53322	0.59379
GDP does not Granger Cause EXCHR		0.74649	0.48517
TRADE does not Granger Cause GDP	28	0.18160	0.83512
GDP does not Granger Cause TRADE		0.17709	0.83884
EXCHR does not Granger Cause INFR	28	5.20769	0.01363
INFR does not Granger Cause EXCHR		1.25570	0.30369
TRADE does not Granger Cause INFR	28	0.81965	0.45305
INFR does not Granger Cause TRADE		0.05297	0.94853

TRADE does not Granger Cause	28	0.45400	0.64065
EXCHR			
EXCHR does not Granger Cause TRADE		0.09891	0.90621

****significant at 5% level, ADF test > Critical Value then Stationary***

4.3.1 Granger Causality Test Result

The causality points out that past value of GDP are significant in explaining the current values of foreign reserves. In other words, GDP Granger causes foreign reserves. However, the value of the joint significance implies that the previous values of foreign reserve are more influential in determining the current values of foreign reserves more than the previous values of the other variables taken together. For GDP, though the individual variables such as INFR Granger causes ETRS bi-directionally implying joint significance is relevant, which confirm that jointly the previous values of other variables can exact influence on the current value of GDP. In the trade, it is obvious that the joint significance of the variables is not relevant at the 5 per cent level. A similar explanation holds for TRADE and EXCHR equations, where at 10 per cent there was no joint significance. However, in the former it is observed that the previous values of GDP, level of trade openness and exchange rate influences its current values, while in the latter only exchange rate influences it. This means what drives inflow of foreign capital in Nigeria is the growth of the economy, the level of trade openness and flexibility of exchange rate. This means that policy that would focus on the enhancement of the productive base of the economy would be a better position than a call for foreign reserves.

5.0 Conclusion

The existence of a variety of debatable discourse regarding the level of Nigeria's foreign reserves motivated this paper. The paper employed econometric tools to analyze time series data sourced from CBN Statistical Bulletin (1980-2009) after reviewing the theoretical background for the reasons why countries keep reserves, which include self-insurance. The results from the econometric analyses show that there is a long-run relationship between foreign reserves and selected macroeconomic variables with some of them accounting for the increasing level of foreign reserves. The results obtained from the co integration indicate at least two co-integrating equations. The study confirms that in Nigeria, the factors that influence the level of foreign reserves are GDP, level of trade openness, exchange rate and inflation. The levels of GDP and trade openness were found to exhibit positive impacts on foreign reserves, supporting the self-insurance theoretical base of foreign reserves. Whereas the level of foreign capital inflow and inflation had a negative relationship with foreign reserves, which tends to contradict the accumulation of reserves agenda of the CBN.

The VAR model of the study showed the possibility of convergence from the short-run dynamics to the long-run equilibrium between the selected variables; however, the speeds of adjustment among the variables were observed to be slow. In addition, the causality in VAR and Wald tests point out that past value of GDP is significant in explaining the current values of foreign reserves. On the other hand, the value of the joint significance indicates that the previous values of foreign reserve are most influential in determining the current values of foreign reserves

more than the previous values of the other variables taken together. It was equally established that the previous values of GDP, level of trade openness and exchange rate influences the current values of foreign capital. This underscores that what drives inflow of foreign capital in Nigeria is the growth of the economy, the level of trade openness and flexibility of exchange rate. Thus, the policy that would focus on the enhancement of the productive base of the economy would be a better position than a call for foreign reserves accumulation. This paper therefore opines that accumulation of foreign reserves does not produce satisfactory returns for Nigeria. It is therefore recommended that policies, which would focus on the enhancement of the internal economy, especially the stability of the economy, should be pursued instead of a crusade for foreign reserves.

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