FOREIGN RESERVES ACCUMULATION AND MACROECONOMIC ENVIRONMENT: THE NIGERIAN EXPERIENCE (2004-2014)

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-Abstract-

This study examines the impact of Nigeria's foreign reserves accumulation on macroeconomic environment. Seven macroeconomic variables were selected to represent macroeconomic environment (GDP, inflation, exchange rate and unemployment, investment, external debt and total trade). Data were sourced from the Central Bank of Nigeria's Statistical Bulletin between 2004 and 2014. The ordinary least square (OLS) econometric model was employed in the analysis of the data. The study conducted the unit root test using both the Augmented Dicker-Fuller and Philip Perron with and without trend and the result showed that all variables were stationary at first difference except inflation. The cointegration result obtained from the analysis showed the existence of a long run relationship between foreign reserves and the explanatory variables. The paper concludes that foreign reserve is a necessary tool in the macroeconomic stability of the country. It recommended that government should adopt proper and well articulated strategies of managing the nation's reserve in order to achieve the desired objectives.

Key words: *Foreign Reserves, Gross Domestic Product, External Debt, Macroeconomic Environment.*

JEL Classifications: E30, E31

1. INTRODUCTION

The fear of financial crisis has necessitated countries, both developed and developing to maintain certain level of foreign reserves in order to intervene in the foreign exchange markets and reduce foreign exchange volatility while also safeguarding the international value of their currencies. Foreign reserves or international reserves as it is called refers to official public sector foreign assets that are readily available to, and controlled by monetary authorities for direct financing of payment imbalances, through intervention in the exchange market to affect the currency or assets of central banks or other monetary authorities held in different reserves countries such as the United States dollars, pound, sterling, euro, yen, etc. (IMF, 1993).

Foreign reserves are used by countries to support monetary and foreign exchange policies, among other uses, in order to meet the macroeconomic objectives of safeguarding currency stability and to smoothen the normal functioning of domestic and external payment system. It also serve as a veritable source of funds for the payment of government expenditures overseas, especially those with known import bills for the authorities to meet (Nugee, 1999).

Over the last two decades, there has been a marked increase in the accumulation of foreign reserves among countries, notably the Asian countries and the oil exporting countries of Africa. The massive accumulation of foreign reserves by Asian countries is, however, not unconnected to the East Asian financial crisis of the 1990s which necessitated these countries to build up massive level of reserves as a result of precautionary demand, reflecting the desire for self insurance against sudden restrictions in their ability to borrow funds from other countries (Allen and Hong, 2011). It is also noted that the bulk of the foreign exchange reserves accumulation in Asian can be attributed to an optimal insurance model that serves as a steady source of liquidity to mitigate the impact of a sudden stop in capital flows (Islam, 2009).

In Africa, the accumulation of foreign reserves is seen as a defensive strategy to serve as a form of self-insurance precipitated by high level of global economic and financial instability and the absence of an adequate international system for crisis management. In Nigeria, the level of accumulated foreign reserves has been on the increase since independence in 1960. Despite the unavailability of an articulated policy direction on ground at that time to stimulate economic activities towards projected reserves target through proper reserves management, the country's reserves gradually rose from ₦343.3 million in 1960 to ₦13,992.5 million in 1992 before the country converted her reserve holdings to the United States dollar in 1993 (Onoh, 2005).

Similarly, the level of reserves grew from US $1,330.1 million in 1993 to US $28,779 million in 2005 and reached an all time high of US $62,081.86 billion in September, 2000 when oil prices reached an all time high of $147 per barrel (CBN, 2007). This growth in the level of foreign reserves, according to Magnus (2007) was attributed to the improvement in macroeconomic fundamentals such internal reforms and the upsurge in oil prices in the international oil market. However, the country witnessed a downswing in the level of reserves as it dropped to US $42.4 billion at the end of the first quarter of 2009 and further declining to US $40.7 in the first quarter of 2010 which only financed 15.1 months of foreign exchange disbursement and about 18.9 months of imports cover. In 2011, the country witnessed a further decline in the level of reserve to US $32.6 billion and in May, 2014 it further nosedived to US $30.7. This plunge in the nation's reserve is largely as a result of the volatility of commodity prices in the global economy, particularly the oil market which compelled the CBN to intervene by deploying part of the reserves to defend the value of the naira (CBN, 2010). In defending its stance on massive foreign exchange reserve accumulation, the Central Bank of Nigeria (CBN) compared the nation's foreign reserves level to those of the Asian countries, particularly China whose foreign reserves stood at US $822 million in 2004 when compared to the nation's reserve of US $17 billion in the same year (Soludo, 2006, CBN, 2007).

The continued depletion of the nation's reserves has raised serious questions among scholars and policy makers on the relevance of foreign reserve accumulation to the macroeconomic environment of the nations. Whereas some argues that foreign reserves is an invaluable store of assets that monetary

authorities could use to influence the exchange rate of their domestic currency (Nugee, 2008; IMF, 2004, Williams, 2003). According to these scholars, the accumulation of foreign reserves help build international communities' confidence in the nation's policies and credit worthiness while also serving as a precautionary measures to cushion against sudden financial turbulence (Soludo, 2005; Nda, 2006; Osabuohien and Egwakhe, 2008).On the opposing side are those who believe that such amount of foreign assets could have been employed in infrastructural development and investment to stimulate economic productivity (Humphries, 1990; Acher and Halliday, 1998). They argue that although a good level of reserves do contribute to confidence in the nation by guaranteeing the availability of foreign exchange to domestic borrowers to meet international debt servicing and enhance its credit rating, the confidence is, however, influenced by the soundness of a nation's economic policies and overall business climate (UNCTAD, 2007; Osabuohien and Egwakhe, 2008). Again, there is an ongoing debate on the relevance of accumulating massive foreign reserves when the economy is almost in depression and the level of inflation, exchange and unemployment rates are rising rapidly. It is argued that the reserves are mere waste of resources that should be ploughed back in the building of infrastructures and job creation for the teaming unemployed youths.

Also, there is a dearth of studies on the macroeconomic impact of foreign reserves. While other available studies are focused on the determinants and composition of foreign reserve and its impact on economic growth, very few studies exist on the macroeconomic implication of foreign reserves accumulation. This paper, therefore, is an attempt to examine the impact of Nigeria's foreign reserves accumulation on the macroeconomic environment. Specifically it seeks to provide empirical findings on the macroeconomic impact of foreign reserves.

2. LITERATURE REVIEW

Different reasons have been advanced on the need for countries, both developed and developing to accumulate reasonable level of foreign reserves. For example, Archer and Halliday (1998) identified the reasons why countries hold foreign reserves to include; exchange rate targeting, foreign exchange market stability,

credit worthiness, transaction buffer, exchange rate stability and emergency. Similarly, Heller (1996) opined that countries hold reserves in order to meet unexpected and temporary fluctuations in international payment. Accordingly, the optimal size of reserves depends on the balance between the macroeconomic adjustment costs that result if reserves are exhausted and the opportunity cost of holding reserves (Olokoyo et al, 2009). Aizenman and Lee (2005) see reserves accumulation from the viewpoint of mercantilism. They argue that reserve accumulation serves not only as a means for effective exchange rate management, but also as a tool for maintaining low exchange rate in order to promote trade and international competitiveness. According to them, adequate accumulations of foreign reserves help boost investors' confidence and enhance investment and growth.

However, Floerkemeier and Sumshinski, 2008; Jeanne, 2007 and Jeanne and Ranciere, 2006 posited that there is no theoretical justification for the large quantity of foreign resources being amassed. They argued that irrespective of whether the rule of thumb or econometric models are used to measure the optimal level of reserve, the result always shows that there is always an excess international or foreign reserve. This excess reserves according to them it being wasted, and could be employed for alternative purposes such as growth of the economy. Allen and Hong (2011) posit that South Korea's foreign reserve accumulation is necessitated by the 1997 Asian financial crisis. Hence, foreign reserve is held as a self insurance in order to deal with future crisis. They argue that reserves accumulation helps countries whose currencies are less liquid and capital market access is less than assured to reduce both risk and impact of current account shocks or capital account crisis.

Foreign reserve build up in Nigeria is due to the unavailability of sound industrial base. Migap (2010) posits that countries with a sound industrial base - which exports a substantial portion of her industrial output is not likely to suffer from seasonal fluctuating in exports which is not applicable to developing countries whose major exports are primary product. He argues that foreign exchange reserves help developing countries to overcome the crop failure or cyclical variations of the prices in the world market that could lead to disruptions in the flow of imports into the country affected unless it has sufficient reserves to absorb the unexpected shock.

Foreign reserve accumulation in the country is also moved by the quest for macroeconomic stabilization such as exchange rate stability. Iyoha (1976) identified certain factors that determined the demand for foreign reserves in 29 LDCs including Nigerian and opined that increase in the opportunity cost of reserve accumulation would give rise to a decrease in the level of foreign reserve holding. Vojtisek (2002) maintains that a country's external debts and reserves are important indicators of external vulnerability which include current account indicators such as debt indicators, liquidity indicators and other indicators such as the ratio of foreign reserves to money supply, nominal and real exchange rate.

Osabuohien and Egwakhe (2008) opined that accumulating of foreign reserves by Nigerian government has shown some profound features with reference to size, pace, and ownership categorizations. They argue that the opportunity cost of stock piling Nigeria's external reserve in order to cushion financial crisis vulnerability appears as a risk aversion strategy. Polterovich and Popov (2002) and Cruz and Kreisler (2008) maintain that foreign reserve are used to stimulate growth. They argue that the accumulation of reserve contributes to economic growth by increasing both the investment / GDP ratio and capital productivity. Similarly, Fukuda and Kon (2008) opined that adequate foreign exchange reserves are expected to have a positive impact on total external debt outstanding and export and that it has a negative effect on the average maturing consumption.

It has also been argued that many developing countries pursue the conscious policy of low exchange rate as part of their general export orientation strategy (Polterovich and Popov, 2003). They explain that by creating a downward pressure on their currencies through building up foreign reserves. These countries are able to limit consumption and imports and to stimulate growth, export and investment. Popov (2005) in another study opined that foreign reserves accumulation causes real exchange rate undervaluation that is expansionary in the short run and may have long term effects, if such devaluation is carried out periodically and unexpectedly. He argues the accumulation of reserves attracts foreign direct investment (FDI) because it increases the credibility of the government of a recipient country and lowers the dollar price of real assets.

2.1 Overview of Nigeria's Foreign Reserves Accumulaton

The Central Bank of Nigeria has advanced the usefulness of foreign reserves accumulation to include; to safeguard the value of the domestic currency, timely meeting of international payment obligations; wealth accumulation; intervention by the monetary authority; to boost a country's credit worthiness, to provide a fall back for the rainy days and to provide a buffer against external shocks (CBN, 2010). In furtherance of its objective of maintaining monetary stability, the Central Bank Nigeria maintains adequate level of foreign reserves. The rise in reserve level in the country began after independence in 1960. Onoh (2005) opined that despite the unavailability of an articulated policy direction forward projected reserves target through proper reserve management, the country's reserves gradually rose from ₦343.3 million in 1960 to ₦13, 992.5 in 1992 before the country converted her reserve holdings to the United States dollars in 1993.

In 1993, the country's foreign reserve position stood at US $1,330.1 million and rose to US $28,77 million in 2005 and reached an all time high of US $ 62,081.66 billion in September, 2008 when the oil price reached an all time high of $147 per barrel (Businessday online, 2015). Magnus (2007) attributed this development to the improvement in some macroeconomic fundamentals such as internal reforms and the rise in oil prices in the international oil market. However, the country witnessed a downswing in the level of reserves as it dropped to US $ 42.4billion at the first quarter of 2009 and a further declining to US $40.7 in the first quarter of 2010 (CBN, 2010)

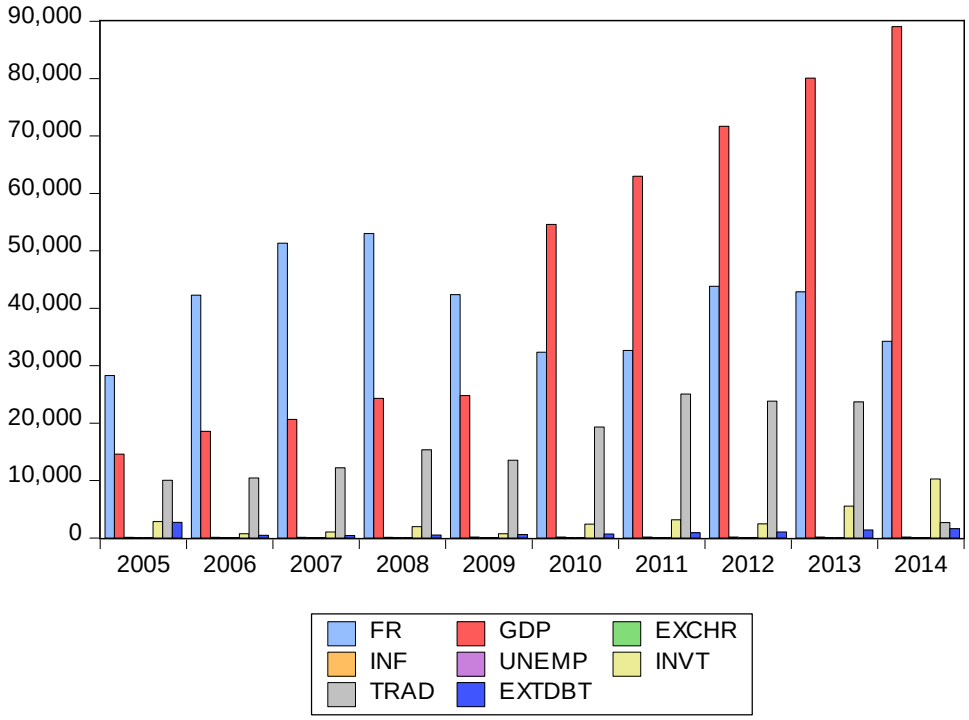
The nation's reserve witnessed a further decline in the level of reserve to US $ 31.7 billion and in May, 2014, it further dropped to US $30.7. This plunge in the nation's reserve is largely as a result of the volatility of commodity prices in the global economy particularly the oil market which, from time to time, compels the CBN to interview by deploying part of the reserves to defend the value of the naira.

***Figure** 1:* Trend of foreign reserve and selected macroeconomic variables *(2005-2014)*

	FR	GDP	EXCHR	INF	UNEMP	INVT	EXTDBT
2005	28271.1	14610.9	132.15	17.9	5.6	2859.2	2695.07
2006	42298.1	18564.6	128.65	8.2	4.4	709.2	451.46
2007	51333.2	20657.3	125.83	5.4	4.9	1036.2	438.89
2008	53000.4	24296.3	118.57	11.6	7.2	1958.2	523.25
2009	42382.5	24794.2	148.88	12.4	9.7	740.8	590.44
2010	32339.3	54612.26	150.29	13.7	21.1	2421.6	689.84
2011	32639.8	62980.4	153.86	10.8	23.9	3151.4	896.85
2012	43830.4	71713.94	157.499	12.2	24.8	2466.9	1026
2013	42847.3	80092.56	157.99	8.4	25.2	5562.5	1373.58
2014	34241.5	89043.62	158.55	8.8	26.8	10258.6	1631.52

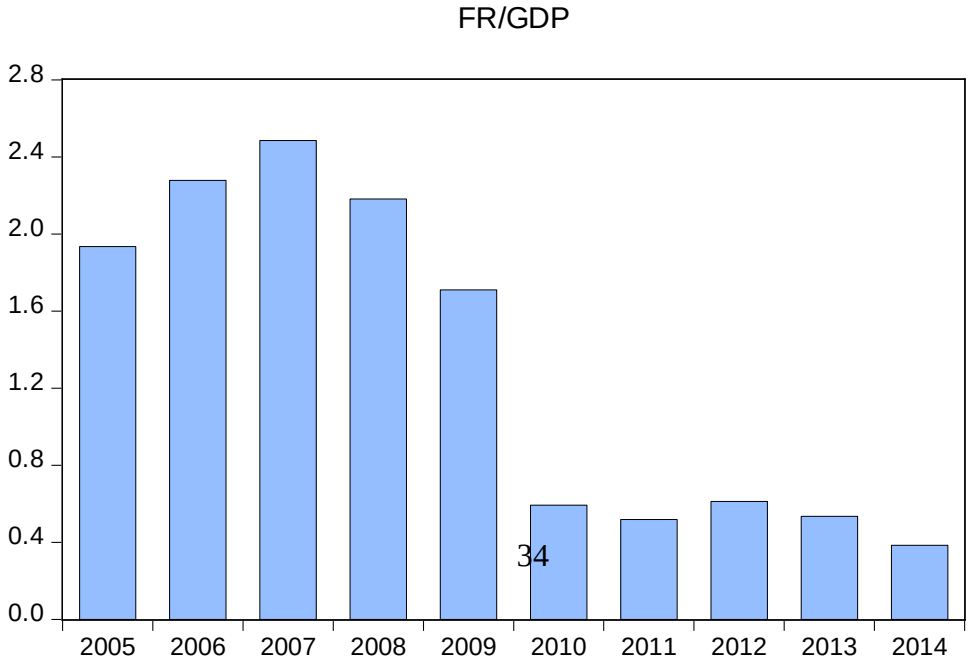
Source: CBN Statistical Bulletin-various issue

***Figure** 2:* Level of foreign reserve and some macroeconomic variables *(2005-2014)*

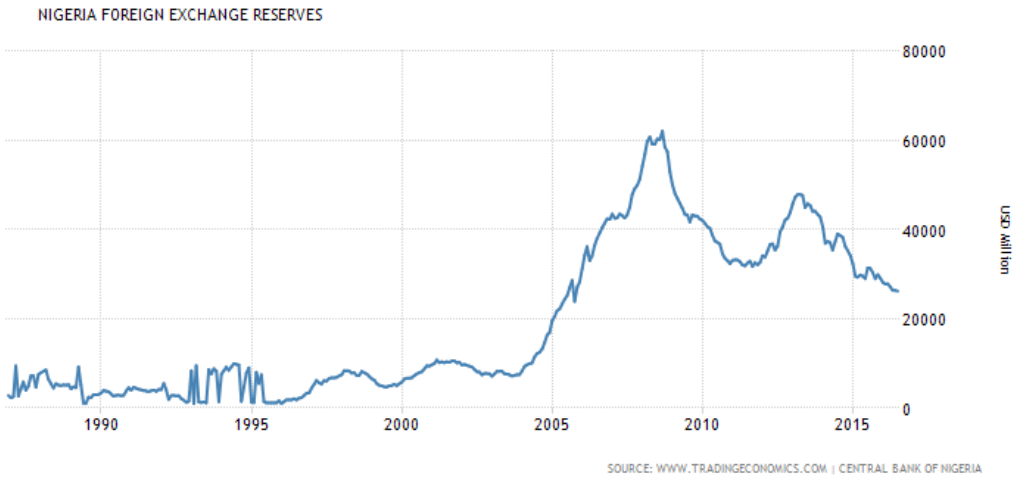


Source: Central Bank of Nigeria

Figure 3: Foreign Reserve As A Percentage Of Gdp (2005-2014)



Source: Central Bank of Nigeria



2.2 EMPIRICAL FRAMEWORK

Many empirical studies exist on the implication of foreign exchange reserve on macroeconomic variables. For example, Olokoyo et al (2009) examine the case of Nigeria, using an autoregressive distributed lag co-integration analysis, revealed that there is a long run relationship between foreign reserves and income, level of trade openness, foreign capital inflow and inflation. The study shows that the levels of foreign capital inflow and inflation have negative relationship with foreign reserves while local income and trade openness have a positive relationship with foreign reserves. Meshak (2014) in his time series analysis of the relationship between external reserve composition and economic growth in

Nigeria using data between 1970 and 2009 found that there is a significant relationship between level of economic growth and external reserve accumulation. The study further shows that the dependence on oil as the main source of foreign exchange earnings has opened up the economy to the vagaries in the international oil market and with the discovering of Frankins and Sheel oil which has contributed to the reduction in oil demand.

In another study, Umeora (2012) examines the effect of holding foreign exchange reserves on exchange rate and inflation in Nigeria using time series data from 1986 to 2011. The study found that there exist a negative relationship between foreign exchange reserve and exchange rate in Nigeria. The study also shows that for Nigeria to maintain a sound exchange rate so as to insulate it from volatility, the nation has to maintain adequate level of reserves. On the relationship between reserve accumulation and inflations, the study found that there is a positive relationship between reserve and inflation in Nigeria.

Osabuohien and Egwakhe (2008) examine the relationship between external reserves and the Nigerian economy using data obtained from the CBN Statistical Bulletin between 1994 to 2005. The study reveals that external reserves exceeding the three months benchmark of import was excess. Hence, the study shows that the holding of reserves was able to achieve stability of exchange rate. However, though there is a positive relationship between reserve and export, it was not significant which means that export was not promoted satisfactorily by the nation's reserve holdings.

Abdullateef and Waheed (2010) also carried out a study using a combination of ordinary least square (OLS) and Vector Error Correction (VEC) method in examining the external reserve holding in Nigeria and its implication on investment, inflation and exchange rates using data from 1986 to 2006. The study reveals that change in external reserves in the country only influences foreign direct investment (FDI) and exchange rate and no influence was found on domestic investment and inflation rate. The study however revealed that Nigerian government should reconsider reserve management strategies as the result shows that reserve holding by the country cannot be justified by its opportunity cost.

3. METHODOLGY

To determine the long run impact of increased foreign reserves on macroeconomic environment, the study adopted the econometric method to examine the relationship between foreign reserves and selected macroeconomic variables (gross domestic product, inflation, exchange rate, and unemployment rate, external debt, total trade and international investment position). The study employs the single equation econometric simulation. The choice of this technique is because of its theoretical plausibility, explanatory ability, accuracy of the parameter estimate, simplicity and forecasting ability (Gujurrati, 2003).

Key variables were grouped into dependent and independent variable. Foreign reserves (FR) becomes the dependent variable while the independent variables chosen to represent the Macroeconomic environment variables are the domestic product (GDP), exchange rate (EXCHR), inflation (INF), unemployment (UNEMP),external debt (EXTDBT),international investment position(INV) and total trade(TRAD).

The model employed by Olokoyo, et al (2009) was adopted for the study with minor modification. Hence the functional econometric model becomes:

FR = f (GDP, EXCHR, INF, UNEMP, INVT, TRAD, EXTDBT, μ) ---------- (1)

The model can be written in an explicit form thus: $FR = \beta 0 + \beta 1GDP + \beta 2EXCHR + \beta_3 INF + \beta 4UNEMP + \beta 5INVT + \beta 6TRAD + \beta 7EXTDBT + \mu$ ---------- (2)

Where FR represents foreign reserves; GDP stands for gross domestic product; EXCHR is exchange rate; INF represent inflation rate; UNEMP represent unemployment level; INV represent international investment position; TRAD represents total trade; EXTDBT is external debt;$\beta 0$ $\beta 1$, β_2, β_3, β_4 $\beta 5$, $\beta 6$, $\beta 7$ are the coefficient of the variables and represents the degree of change of the dependent variable (FR) as a result of a unit change of other independent variables, while μ is the stochastic disturbances or the error term.

Hypothesis:

H_0: there is no significant relationship between foreign reserves and the explanatory variables.

H_1: There is a significant relationship between foreign reserves and the explanatory variables.

3.1 Sources of Data And Estimation Technique

The study employs data sourced from the Central Bank of Nigeria Statistical Bulletin between 2005 to2014. The ordinary least square (OLS) estimation technique is employed in the study. The reason for using this is because it is fairly easy to compute and has some desired optical properties (Asher, 2012).

4. DATA ANALYSIS

To avoid spurious regression result, the study carried out unit root test using both the Augmented Dicker Filler (ADF) and Philip Perron tests in order to detect the stationary of the variables. The Johansen cointegration test will be employed in the study to determine the long run equilibrium relationship between the regressors and the regressand.

Table 1: Stationarity test-Augmented Dicker-Fuller (ADF) and Philip Perron **(PP)**

	ADF		**PP**		
VARIABLES	INTERCEPT NO TREND	INTERCEPT AND TREND	INTERCEPT NO TREND	INTERCEPT TREND	REMARKS
LFR	- 0.4827	- 2.6042	- 0.3608	- 2.7042	
ΔLFR	- 4.1802	- 4.0921	- 6.3462	- 6.2642	1 (l)
LGDP	1.8452	- 2.4120	1.61456	- 2.1032	
ΔLGDP	- 3.6282	- 4.2685	- 5.6346	- 6.8231	1 (l)
LEXCHR	- 0.1743	- 2.5216	- 0.0081	- 2.2324	
ΔLEXCHR	- 3.8642	- 3.6241	- 4.6015	- 4.5231	1 (l)
LINF	- 4.3490	- 4.5428	- 3.4927	- 3.4168	
ΔLINF	- 6.5824	- 6.6842	- 6.3821	- 6.40251	1(0)/1(1)

LUNEMP	- 0.1628	- 2.2462	- 0.0126	- 2.3460	
ΔLUNEMP	- 3.4628	- 3.6248	- 4.6208	- 4.8201	1 (l)
LINV	-2.5329	-3.3265	-0.2325	-7.5322	
ΔLINV	-4.4231	-2.1231	-5.4212	-3.2032	1(1)
LTRAD	-2.2721	-6.2318	-2.3381	-2.1132	
ΔLTRAD	-3.4421	-2.5619	-4.3276	-3.7632	1(1)
LEXTDBT	-2.2331	-4.4202	-3.2138	-3.2211	
ΔLEXTDBT	-0.1733	-3.2317	-5.2392	-5.2121	1(1)
Critical values (CV) at 5% level of significance					
Level	- 2.8248	- 3.6247	- 2.8244	- 3.6248	
1st Difference	- 2.8264	- 3.6628	- 2.8221	- 3.6621	

Decision Rules: A variable has no unit root when both the ADF and PP values are greater than the critical level at a given level.

Table 1 above shows the stationarity result of both the dependent and independent variables employed in this study. This was done to avoid spurious regression result. That is, establishing economic relationship even when there is none. The study adopted the Augmented Dicker Fuller (ADF) and the Phillip Perron (PP) tests at both intercept with and without trend.

From the analysis, as depicted on table 1 above, the unit root test shows that all the variables were stationary at first difference 1 (I). However, LINF was stationary using Augmented Dicker – Fuller i.e. 1(0) but stationary at first difference using Philip Perron (PP).

When variables that are well known to be stationary at first difference 1 (I) produces a stationary process, there tends to be a long run cointegration between them. Therefore, the Johansen multivariate Cointegration test is employed in this study to test for the presence of a long-run relationship between the dependent and independent variables. The result is a shown in table 2 below:

Table 2: Cointegration test

Hypothesized No. of CE(S)	Eigen value	Trace statistic	5% CV	Prob**	Max-Eigen statistic	5% CV	PROB**
None *	0.829434	1244.45601	104.4323	0.0000	66.04411	38.82901	0.6004
At most 1 *	0.668814	101.246304	70.6609	0.0044	54.22011	54.22011	0.0028
At most 2	0.582638	88.462801	88.72901	0.0100	36.28061	36.28061	0.1480

At most 3	0.382846	28.490231	54.30681	0.2104	22.01110	22.01110	0.4282
At most 4	0.176764	14.448231	28.37421	0.6627	8.04811	8.04811	0.5448
At most 5	0.084623	4.45360	10.482701	0.5270	2.66001	2.66001	0.4648
At most 6	0.432652	23.88233	11.232033	0.0035	3.23381	44.00322	0.0033
At most 7	0.389203	25.18229	17.89991	0.0443	12.5370	4.20811	0.0445
At most 8	0.230832	11.32822	16.22981	0.0232	11.6623	2.0211	0.2322

Series: ∆LFR, ∆LGDP, ∆LEXCHR, ∆LINF,∆LUNEMP,∆EXTDBT,∆TRAD,∆INVT

*Note: *Denotes rejection of the hypothesis at 0.05 level ** Mackinnon – Hang – Michelis (1999) P-values.*

The cointegration test among the series in table 2 above shows that the trace statistics, Mackinnon – Haug-Michelis (1999) P-values and the Max-Eigen values are greater than the critical values at 5 percent level of significance. Also, one cointegrating equation within variables was rejected and the alternative hypothesis accepted while the null hypothesis was rejected at 0.05 critical levels.

The implication of the result above is there is a long run relationship between foreign reserves and the macroeconomic variables used in the study.

Table 3: static regression result

Dependent Variable: FR
Method: Least Squares
Date: 04/29/16 Time: 07:05
Sample: 2005 2014
Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22054.57	67659.69	0.325963	0.0275
GDP	1.463316	0.886958	1.649814	0.0420
EXCHR	48.22903	463.2653	0.104107	0.0326
INF	1243.379	1572.338	0.790783	0.5119
UNEMP	-4789.146	2834.412	-1.689643	0.2332
INVT	0.453892	3.997663	0.113539	0.9200
TRAD	0.793064	0.912438	0.869170	0.4764
EXTDBT	-9.687227	7.794788	-1.242783	0.3399

R-squared	0.862263	Mean dependent var	40318.36
Adjusted R-squared	0.380184	S.D. dependent var	8258.068
S.E. of regression	6501.442	Akaike info criterion	20.38800
Sum squared resid	84537497	Schwarz criterion	20.63007
Log likelihood	-93.93999	Hannan-Quinn criter.	20.12245
F-statistic	1.788636	Durbin-Watson stat	2.602463
Prob(F-statistic)	0.024695		

Source: E-View 9.5 computation result

The regression result in table 3 above shows that the model is a good fit. The computed R^2 is 86% implies that about 86% of the total variation in the foreign reserves is explained by the regressors. The remaining 14% are caused by exogenous factors not capture in the model. F-statistic of 1.7886 shows that the model is statistically significant. This infers that all the explanatory variables simultaneously and jointly influenced the variations in the foreign reserves. The model also represents the Durbin Watson statistic of approximately 2.60 which implies that the model is free from auto-correlation and that the model can be relied upon.

We can conclude that the hypothesis that there is no impact of foreign reserves on macroeconomic variable is hereby rejected.

5. DISCUSSION OF FINDINGS

The study examined the impact of foreign reserves accumulaton on the Nigeria's macroeconomic environment. From the result of the analysis presented above, it is clear that all the variables that represents macroeconomic environment (GDP, inflation, exchange rate,unemployment,extrernal debt, total trade and international investment position) were stationary at first difference except inflation that was stationary in Augmented Dicker-Fuller but stationary at first difference using Philip perron (PP). This called for the existence of a long run cointegratron between the series.

The cointegration test conducted and presented in table 2 shows the trace statistic, Mc Kinnon – Hang – Michelis (1999) P values and the Max- Eigen values are greater than the critical values at 0.05 level of significance. Also, the ordinary least square regression result shows the Prob (F-statistic) of the model to be 0.026. This means that the entire model s statistically significant at 5% critical level. Individually, only gross domestic product and exchange rate are statistically significant at 5% level of significance, while other variables are not. Similarly, all the explanatory variables are positively related to the level of foreign reserves except unemployment and external debt. This is in consonance with of Prescott (1997) that there is an inverse relationship between foreign reserve and external debt and unemployment level. The implication of this result is that there is a long run relationship between foreign reserves and macroeconomic environment in Nigeria.

6. CONCLUSION AND RECOMMENDATION

The study examined the impact of Nigeria's foreign reserves accumulations on macroeconomic environment. The various literature reviewed shows the importance of holding reserves on economic growth. From our analysis it is clear that foreign reserves is necessary in the development of Nigeria's macroeconomic environment.

The study recommends that the Nigerian government should develop proper methods and strategies of foreign reserves management in order to know the adequacy level that is needed to bring about macroeconomic stability. It also

recommends that part of the foreign reserves should be channeled towards the rehabilitation of defunct public cooperation as this will reduce the level of unemployment in the country.

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