EFFECTS OF CURRENCY OUTSIDE BANKS ON REAL ECONOMIC GROWTH IN NIGERIA

[1]Odimgbe, Jude Chijekwu [2]Kanu, Success Ikechi and [3] Ogueze, Venitus Chinyereugo
[1]Department of Banking and Finance, Faculty of Administration and Management Sciences, Madona University, Okija Campus. Anambra State, Nigeria.
[2] Department of Banking and Finance, Faculty of Social and Management Sciences, Kingsley Ozumba Mbadiwe University, Ideato. Imo State Nigeria.
[3]Director, Nnewi Scool of Economics, Nnewi– Anambra state, Nigeria

Abstract
In the figures released by the Central Bank of Nigeria (CBN) in November, 2023, about 92% of currency in circulation (CIC) in Nigeria is outside the banking system. Obviously, this is a source of concern to the regulatory authorities. Some questions readily cme to mind in this regard - Does it mean that Nigerians no longer save their monies in banks or is it that they are investing into the economy. If the later is the case, then the Nigerian economy is better off for it. Thus, this study is set to ascertain the effects of currency outside banks (COB) on real economic growth in Nigeria. Varied econometric tests were carried out. .Outcome of the study revealed that Currency outside bank has a negative but not significant relationship with Real Gross Domestic Product. Pairwise Granger Causality test indicates that no causality was established between Currency outside banks and Real Gross Domestic Product. This implies that Currency outside banks did not influence Real Gross Domestic Product in Nigeria and vice versa for the period under review. However, the above results should be interpreted with caution as more Nigerians now prefer to keep money at home instead of banks for some obvious reasons that range from greed, corruption and loss of confidence in the Nigerian banking sector .Other reasons include poor banking services, instability of the financial sector and the political class who had stolen public funds, they need a safe haven for their loot which the conventional banks cannot offer them. The study therefore recommends that government should design policies to encourage and to incorporate financially excluded economic agents controlling huge chunks of funds outside the formal financial system. This is with the aim of contributing to economic growth, development and improved financial deepening in Nigeria.
Keywords: *Currency outside Banks, Currency in Circulation, Embezzled Funds, and Real Economic growth.*

Introduction

Currency outside bank (COB) refers to all notes and coins held outside the Central Bank of Nigeria (CBN, 2012). Fadiya (2013) defines it as the amount of notes and coins held by economic agents outside the banking sector.

In the latest figures released by the Central Bank of Nigeria (CBN) in November, 2023, about 92% of the currency in circulation (CIC) in Nigeria is outside the banking system. This marks a notable rise from about 86% that was recorded in October 2022. This remarkable increase may not be unconnected to the CBNs 'Naira redesigns policy of 2023.

The magnitude of this shift is further illustrated by the CIC, which soared by 21.37% in under three months, amid the intensifying cash crunch felt across the nation. Specifically, the CBN's data reveals a climb to N3.35 trillion in CIC in November 2023, a significant jump from N2.76 trillion noted in September 2023, coinciding with Yemi Cardoso's assumption of office as the governor of the CBN. Also, cash outside banks experienced a 27.80% increase, reaching N3.08 trillion in November 2023 from N2.41 trillion in September 2023.

This surge in non-bank held cash comes amidst growing public concern over the sufficiency of currency in the banking system. In response, the CBN issued a statement in November 2023, reassuring citizens of adequate currency stock and advising against panic withdrawals.

The backdrop to this scenario includes widespread reports of cash scarcity at banks, ATMs, Points of Sale, and Bureaux de Change (BOCs) across major cities in Nigeria. This shortage has placed considerable strain on Nigerian banks, which have struggled to meet customer withdrawal demands, leading to various operational challenges.

It will be recalled that, the immediate past CBN Governor Godwin Emefiele in 2022 opined that the increase in inflationary pressure was being fuelled by the prevalence of N1,000 and N500 bills in circulation. He bemoaned the difficulties of managing cash, citing widespread hoarding of banknotes as an example, with more than 80% of all currency in circulation stored in places other than commercial banks' vaults. According to a premium times newsparer report (2023), the CBN's naira redesign policy had a significant impact on the country's currency supply, reducing it from N3.29 trillion at the end of October 2022 to N1.38 trillion by the end of January 2023. However, with the change in leadership at the apex bank, it appears that the central bank is allowing more cash to circulate.

The Central Bank of Nigeria also removed the deadline for the legal tender status of old N200, N500, and N1000 notes from the initial December 31, 2023, till otherwise advised, which, likely signals a complete end to the cash scarcity crisis faced early this year. The Bullion(2023) did report that currency in circulation (CIC) reached a new year high of N3.4 trillion as of December 11, 2023. This further suggests an increase of N50 billion in less than one month.

The above trend reveals a deeper behavioural pattern among Nigerians. The spike in CIC strongly suggests that more people are opting to hoard cash. This behaviour is a likely contributor to the palpable cash scarcity currently gripping the country. As

more cash is held outside the banking system, the availability of currency within banks and ATMs dwindles, leading to the challenges many Nigerians are facing in accessing cash.

In the order of Keynesian approach to demand for money; people seek to hold money for three major reasons namely – the transaction, precautionary and speculative motives. It is assumed that currency outside banks is being used for productive processes. There appears to be so much cash outside the banking system in Nigeria. The questions that readily come to mind are - Does it mean that Nigerians no longer save nor keep their monies in banks or is it that they are actually investing in the economy with this humongous amount of money outside the banking system. If the later question is the reason, then the Nigerian economy will be better off for it.

Objective of the study

The objective of this study is to ascertain the effect of currency outside banks on real economic growth in Nigeria

Research Questions

To what extent has currency outside banks affected the level of real economic growth in Nigeria?

1.0 Review of Related Literature

There exists a vast literature on the effect of currency outside banks on real economic growth for developing countries .Stavreski (1998), identified major indicators showing the importance of Currency outside bank (COB) in every economy namely, share of money supply and ratio of currency outside banks to real Gross Domestic Product.

Tomlinson (2012) observed that where people do not have faith in the electronic payment system, demand for cash will be higher as most transactions will be on cash basis, citing Nigeria as being 99% transactions cash-based. Theoretically, the main purpose of currency in circulation is to provide for cash transactions within the economy.

Several reasons (Fadiya, 2013) have been put forward for the high currency ratio in Nigeria. They include:

i. cash is the best form of payment when economic agents want to hide part of their economic activities to reduce tax base
ii. Cash payment provides highest level of anonymity making it the most attractive form of financing unlawful activities.
iii. the underdeveloped nature of the banking system and the inadequate development of the electronic payment tools such as credit cards, debit cards and ATM cards
iv. inefficiency of Central Bank of Nigeria monetary policy

v. the underdeveloped nature of the Nigeria banking system
vi. Failure of the economy to develop the informal sector.
vii. Low interest rate environment appears to have affected the rising trends.

While currency outside bank is a liability item on the part of the Apex bank; , currency ratio is a co-efficient which depicts the behavior of the non-bank public with respect to the use of transactions balances. It is the ratio of total currency in circulation outside the banking system (COB) to total money supply in the economy (M) and with the formula C/M. (Onoh, 2007). The magnitude has great implications for money supply. 'C' is low in industrialized countries with developed financial system and habits. In the less developed countries, it is usually high due to the undeveloped nature of their financial system and non-cash payment systems.

According to Mark, Virenda and Justin (2013) the ratio of Currency outside bank to Demand deposits is a measure of electronic payment system development in an economy as, a low ratio indicates that the economy is tending towards a cashless society. A sustained improvement in electronic payment system enhances economic growth. This is true with Nigeria. In line with CBN statistical bulletin (various issues), Nigeria's Currency Ratio (COB/M1) has been on the increase while Demand Deposit Ratio has been on the decline. From 52.9% in 1994, it reduced to 33.3% in 2004 and drastically declined to 16.2% in 2021. On the other hand, demand deposit ratio has been on the increase. In the same period, it increased from 47.1% in 1994 to 66.7% in 2004 and further rose to 70.7% in 2021. This astronomical increase in the Demand Deposit Ratio was achieved with the launching of Financial Inclusion Strategy in 2012 and Cashless Policy initiated by the monetary authorities. The continuous improvement shows that the Nigerian financial system is growing and that financial habits are developing fast.

Methodology

An ex-post factor research design was adopted in this study. It covered the period from 1994 to 2019. The data set were culled from CBN's statisticak bulletin (various issues).

Specification

The model that we intend to use in this study was postulated by Milton Friedman - Quantity Theory of Money'' or the ''Monetarist model'' The model indicates the relationship between money in circulation outside banks and real economic growth path in a country. The model is represented as MV = PT

Where:

M= Money supply (money in circulation outside banks

V= Velocity of money (the rate at which which money is spent and re-spent in the economy)

P= Price level (the average price of goods and services)

T = Real economic growth (the total amount of goods and services produced in the economy).

The above equation suggests that an increase in the money supply (M) will lead to an increase in Real Economic growth (T), if the velocity of money (V) and the price level (P) remain constant.

However if the increase in money supply leads to inflatin,) an increase in the price level (P), the real economic growth (T) may not increase accordingly.
Friedmans Quantity Theory of Money emphasizes the importance of money supply in determining economic activity. It also acknowledges the role of other factors like velocity and price level in influencing the relationship between money and economic growth.

For sake of emphasis, this model is represented as: MV = PT
In a more simplified form, it could be written as: MV = PY
MV divided by P = Y
Where Y = Real Gross Domstic Product.

Data Analysis

Econometric techniques were employed in the analysis of the time series data with the aid of E- views10 software statistical package. The analytical tools employed include the following: Descriptive Statistics, Stationarity Test: Augmented Dickey Fuller (ADF) Test and Regression Analysis.
The study also ran the following tests: Diagnostic/Reliability Checks, Co-integration Test (Johansen's test),T-Test, F-Test and Causality test

Data Analysis

Unit Root Tests.

As procedure demands, unit root test is usually conducted on all the time series data of a model to confirm stationarity of the series. Data is stationary when it has a constant mean value, variance and co-variance or where the calculated ADF is greater than the critical ADF.

Table 4.1: Summary of the Unit Root Test – Model 1

Variable		t-statistic	Critical value	Prob.	Order of Integration
LNRGDP	Level	-1.514410	-2.976263	0.5112	1(1)
	1st Diff	-6.018807	-2.986225	0.0000	
LNCOB	Level	-1.084205	-3.004861	0.7030	1(1)
	1st Diff	-3.850135	-2.998064	0.0080	

Source: E-views version 10

From Table 4.1 above, ADF results show that all the two variables of Model 1 are integrated of order 1(1) and therefore stationary and suitable for further analysis Furthermore, this indicates that the regression is no more spurious but real. .All the variables are individually stationary or integrated of order 1(1).

Normality and Reliability Tests for Model 1

In order to ascertain further if the data for the study were good enough for analysis, we investigated if the data were normally distributed at the mean. Reliability tests were therefore conducted. The results of the tests are presented in Figure 4.1.

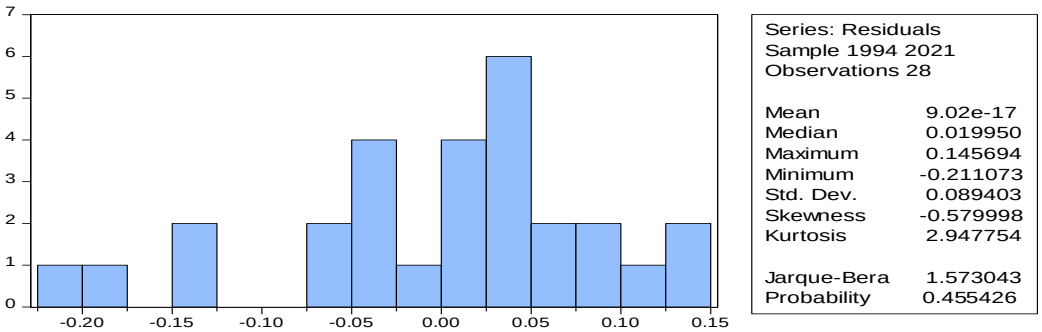


Figure 4.1: Jarque-Bera Normality Test for Model 1- Source: E-views10 output

Though the Histogram Normality Test as shown in Table 4.7 is not bell-shaped, the nearness of the skewness and kurtosis of -0.580 and 2.9 to 1.0 and 3.0 respectively indicates that the residual were to a large extent normally distributed around the mean. Furthermore, the JB statistic and p-value were 1.573 and 0.455 respectively. Because the p-value of 0.455 is greater than 0.05, it is concluded from the skewness and the kurtosis that the residuals of the model are normally distributed around the mean.

Table 4.2: Serial Correlation and Heteroskedasticity Tests
Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.700614	Prob. F(2,3)	0.3208
Obs*R-squared	2.06556	Prob. Chi-Square(2)	0.2001
Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.33615	Prob. F(28,5)	0.9998
Obs*R-squared	3.70869	Prob. Chi-Square(28)	0.8813
Scaled explained SS	0.509331	Prob. Chi-Square(28)	0.7915

Source: E-views10 output

The Breusch-Godfrey serial LM Test as well as the Heteroskedasticity tests in Table 4.5, indicates that the residuals of the model are neither serially correlated nor heteroskedastic, given the Observed R-sqared values and associated p-values of 2.06556(0.2001) and 3.70869(0.8813) respectively.

Table 4.3 Ramsey Reset Test Results for Model 1
Ramsey RESET Test
Specification: LNRGDP LNCOB C
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.695004	25	0.5124
F-statistic	0.263049	(1, 25)	0.6124
Likelihood ratio	0.141309	1	0.3075

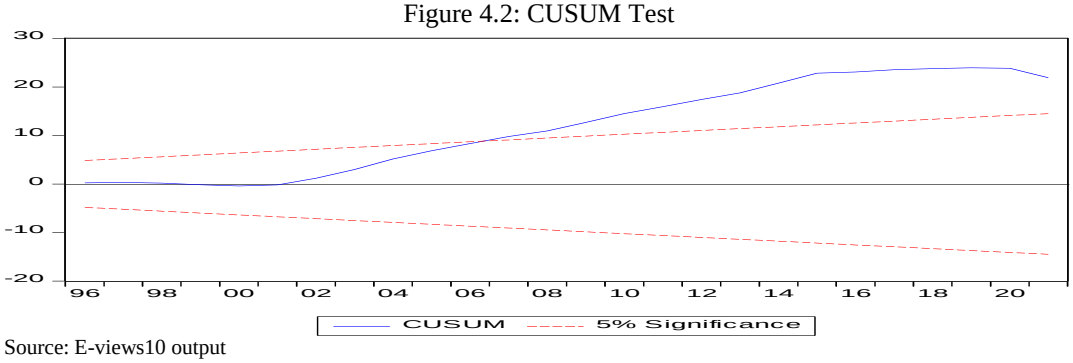
F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	0.048583	1	0.048583
Restricted SSR	0.215808	26	0.008300
Unrestricted SSR	0.167226	25	0.006689

Source: E-views10 output

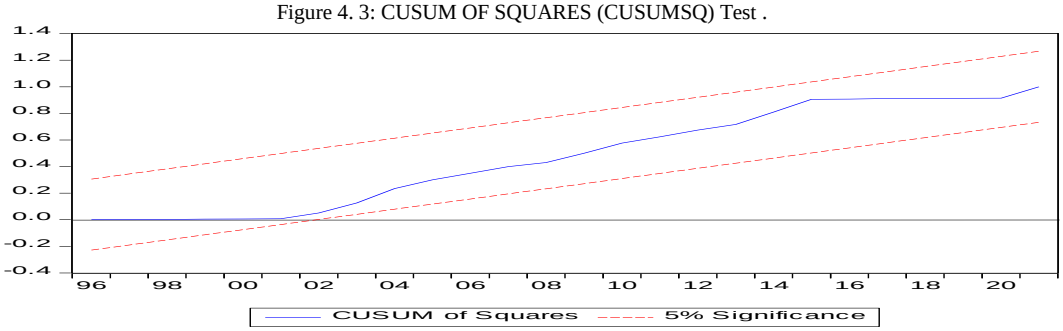
The result of the Ramsey Reset test presented in Table 4.6, indicates p-value of 0.5124 for both 't' and the 'F' statistics, which are considered good for the acceptance of the null hypothesis at 5% Alpha value. Thus there are no misspecification errors in model 1.

Figure 4.2: CUSUM Test



Source: E-views10 output

Figure 4. 3: CUSUM OF SQUARES (CUSUMSQ) Test .



Source: E-views version10

The Cusum and Cusum of Squares tests in Figures 4.8 and 4.9 reveal that the model estimates are stable across the period and no structural break.

Co-integration Test for the Model.

Having established the stationarity of the individual variables, it is also important to establish the stationarity of the linear combinations of the variables of the model in order to establish if a long-run or stable equilibrium relationship existed between the dependent variable and the independent variables.

Table 4.4: Johansen Co-integration Test Results

Series: LNRGDP LNCOB
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)		
Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic
None *	0.589778	30.72269
At most 1	0.252175	7.555233

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Source: E-views10 output

Table 4.4 shows the summary results of the Johansen Co-integration test employed on the long run co-integration relationship between Real Gross Domestic Product and Currency Outside Bank. The Trace test indicates one co-integrating equation at the 5% level of significance which implies a co-integration of the variables of the model and a long run equilibrium relationship.

Table 4.5 Error Correction Model.
Dependent Variable: D(LNRGDP)
Method: Least Squares
Date: 07/16/23 Time: 04:48
Sample (adjusted): 1995 2021.
Included observations: 27 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.051208	0.008234	6.218822	0.0000
D(LNCOB)	-0.016319	0.050761	-0.321495	0.7506
ECM(-1)	-0.300147	0.058278	-5.150233	0.0000

R-squared	0.627469	Mean dependent var	0.047683
Adjusted R-squared	0.588092	S.D. dependent var	0.035847
S.E. of regression	0.025647	Akaike info criterion	-4.384309
Sum squared resid	0.015787	Schwarz criterion	-4.240327
Log likelihood	62.18817	Hannan-Quinn criter.	-4.341495
F-statistic	13.39517	Durbin-Watson stat	1.745487
Prob(F-statistic)	0.000124		

Source: E-views version 10

As shown in Table 4.5 above, the Error Correction Co-efficient of -0.300147 is appropriately signed in the negative and is also significant at the 5% level of significance with a p-value of 0.0000. The co-efficient shows that the periodic speed of adjustment of the model is approximately 30.01 per annum. Every period (year) there is a deviation of 30.01% from equilibrium caused by shocks. To correct the error 100% will take 100/30.01 years, approximately three years and four months.
There is the need to reiterate here that the above tests are a function of our earlier stated research hypothesis and the research questions**.**

Interpretation and Discussion of Results of Model 1

Based on Table 4.5 above, the Adjusted R-squared value 0.5881 shows that about 58.81% of the changes in Real gross Domestic Product (RGDP) of the period covered by the study was caused by the variation of the explanatory variable, COB, while the remaining 41.19 percent is unaccounted for by the model but captured by the error term. The F-statistic of 13.40 with p-value of 0.0001 shows the strong overall significance of the model. Currency Outside Bank did not impact significantly on the Real GDP of Nigeria. The Durbin Watson statistic of 1.75 shows

absence of autocorrelation. The model can be used for reliable prediction. Below is the coefficient of the variable and the regression equation becomes **RGDP = 0.051208 - 0.016319LNCOB -0.321495* 0.050761#**

Where * represents t-statistic, # represents standard error
The equation above shows that Currency outside bank has a negative and no significant relationship with Real Gross Domestic Product. The result is consistent with the study of Fadiya (2013) whose findings revealed that the coefficient of currency outside bank is statistically not significant to RGDP.

Table 4.6: Pairwise Granger Causality Test Result
Pairwise Granger Causality Tests

Null Hypothesis:	Obs	F-Statistic	Prob.
LNCOB does not Granger Cause LNRGDP	26	7.85990	0.0028
LNRGDP does not Granger Cause LNCOB		2.48390	0.1076

Source: E-views version 10.

In the result as presented in Table 4.6, p-value of 0.0028 is less than the Alpha value of 0.05. In view of the low p-value, the null hypothesis that LNCOB does not Granger cause LNCOB is rejected. Similarly, based on the high F-statistic 7.85990 and low p-value 0.0028, the null hypothesis of LNRGSP does not Granger cause LNCOB is rejected. This implies that Currency outside banks significantly influenced Real Gross Domestic Product in Nigeria in the period under study.

Discussion of Findings
Currency outside bank has a negative and no significant relationship with Real Gross Domestic Product. Pairwise Granger Causality test indicates that no causality was established between Currency outside banks and Real Gross Domestic Product. This implies that Currency outside banks did not influence Real Gross Domestic Product in Nigeria and vice versa in the period under study.

Though the result does not agree with the a priori expectation, but it gives a strong support to the findings of Fadiya (2013) whose findings revealed that the coefficient of currency outside bank is statistically not significant to RGDP.

Summary, Conclusion and Policy Recommendations
The study has proved that money-output function conforms to Irvin Fisher's Exchange Equation and also incorporates the idea of other well-known theories. The study here by make the following recommendations:
Government should design policies to encourage financially excluded economic agents controlling funds outside the formal financial system with the aim of contributing to economic growth and development. The current move by CBN

through Financial Inclusion Strategy initiated in 2012 and recent Naira redesign policy are steps in the right direction which should be supported. Banks while embracing financial technology should further strengthen financial intermediation through e-channels and agency banking activities towards improved financial deepening.

Limitations of Study and Strategic Imperatives

The above results should be interpreted with caution as majority of currency in circulation (CIC) in Nigeria is outside the banking system

References

Central Bank of Nigeria (2012). Monetary sector modelling for Nigeria, CBN ResearchDepartment Publication,1SBN, 978-978-53289-5.0. Website: www.cbn.gov.ng

Fadiya, B. B. (2013), Does Currency in Circulation Promote Economic Performance in Developing Countries? Evidence from Nigeria, International Business Research; 6(10), 13-21

Premium times newspater report : June,23, 2023

Onoh, J. K. (2007). Dimensions of Nigeria's Monetary and Fiscal Policies: Domestic and External, Lagos, Astral Meridian Publishers.

Stavreski, Z., (1998). Currency in Circulation. National Bank of the Republic of Macedonia Working Paper No. 1.

Tomlinson, M (2012). "Modeling of Currency Outside Banks in Croatia." Croatia National Bank working paper.Econometric Modeling Department, Croatia Central Bank