ASSESSING THE IMPACT OF LIQUIDITY REFORMS ON ECONOMIC GROWTH OF NIGERIA

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ABSTRACT
The study assesses the impact of bank liquidity reform on the economy of Nigeria with annual time series data from 1986 to 2013. There are mixed and conflicting conclusions indicating that the effect of bank liquidity reforms on economic growth has not yet been resolved. Thus, there is the need to further examine the effect of liquidity on the economic growth of Nigeria. The present study improves on the previous ones by restricting the data to the period stated. Based on the theoretical issues discussed and the literature surveyed the model is built around the augmented Solow growth model whose operational framework is the Lobb-Douglas production function. Econometric evidence reveals stationarity of the variables at their first differences while the Johansen co-integration approach also confirms the presences of one co-integrating relationship at one percent and five percent levels of significance. The study further shows that bank liquidity rate reforms have proven to have very high explanatory influence on Nigerian economy, which indicates that bank liquidity reform is a veritable tool for repositioning and reorienting Nigerian economy. Based on the findings and conclusions, the study recommend that the central bank of Nigeria and other relevant regulators must insist that banks maintain sound and stable liquidity ratios in order to promote sound financial system and enhance potentials of economic growth of Nigeria.

Keywords: Liquidity, banking sector reforms, economic growth, monetary policy, Nigeria

INTRODUCTION
Liquidity management is very important in the daily activities of commercial concerns, financial institutions, corporate organizations and companies to meet daily payment obligations within short term period. Payment obligations includes but not limited to both operating and financial expenses that are short term but maturing long term debt. Liquidity ratios are used by banks to maintain certain level of cash and near cash to meet depositor's obligations and other expenses incurred in the course of business transactions.

Liquidity ratio are key management ratios to sustain sound financial stability of the organization and which include current ratio, quick ratio and acid test ratio that also affect the profitability of organization. Inability of an organization to maintain reasonable liquidity to meet customers/depositors/suppliers and other short term expenses might affect the survival, growth, performance and profitability levels of the organization. It therefore important to maintain good liquidity base in order to meet all short term obligations. In Nigeria, the effects and problems of poor liquidity management in financial institutions especially banks came into clearer picture during the liquidity and distress era of 1980s and 1990s. The negative cumulative effects of banking system liquidity crisis from the 1980s and 1990s lingered up to the re-capitalization era in 2005 in which banks were mandated to increase their capital base from N2 billion to N25 billion. This move by the apex bank was believed would stabilize and rectify liquidity challenges that were prevalent in the economy. Barely five years of what was applauded and considered as a fortified repositioning of banks against liquidity shortage, central bank of Nigeria (CBN) in 2009 came on a rescue mission to save five illiquid banks. Against this backdrop this research study seeks to do further investigation to assess the impact of bank liquidity reforms on economic growth of Nigeria.

Liquid assets constitute the primary line of defence of banks against both anticipated and unanticipated funds withdrawal demands of customers. The maintenance of adequate levels of liquidity therefore, represents banking virtue which banks aspire to cultivate and which banking regulators endeavour to instill on the banking system. There is a short as well as a long-term dimension to the maintenance of adequate levels of cash and liquid assets relative to customers' withdrawal needs. In the long term, liquidity is a measure of the solvency position of a bank, that is, a bank's ability to redeem its obligations out of the realizable value of its assets.

Liquidity management seeks to strike a delicate balance between the need to maintain sufficient liquidity to meet depositors' cash calls and the danger of compromising earnings by capacity of sitting on excess

liquidity. Illiquidity jeopardizes ability to service customers' withdrawal demands while excess liquidity erodes the income and profit performance of banks.

The Central Bank of Nigeria adopts both indirect (market based) and direct (targeted) methods of liquidity management. The main instrument of indirect control is open market operations through which the Central Bank of Nigeria seeks to inflate or deflate banking sector liquidity through open market intervention to buy or to sell money market instruments. The direct approach endeavours to control liquidity at the level of individual banks through the imposition of prudential liquidity management ratios on banks. The typical liquidity performance ratios prescribed for Nigerian banks are liquidity ratio, cash reserve and capital adequacy ratio.

OBJECTIVE OF THE STUDY
The main objective of the study is to investigate the impact of bank liquidity reforms on economic growth of Nigeria.

THEORETICAL FRAMEWORK
Anticipated income theory postulates that a bank's liquidity can be managed through the proper arrangement and structuring of the loan commitments made by a bank to the customers. Here, liquidity can be planed if the scheduled loan redemption by customers is based on the future of the individual borrower. According to Nzotta (2004), the theory lays more emphases on the earning potential and the credit worthiness of a borrower as the greatest guarantee for ensuring adequate liquidity. This theory has encouraged many deposit money banks to adopt an advanced collection of investment trade off theory liquidity suggests that firms target an optimal level of liquidity to balance the benefit cost of holding cash. The cost of holding cash includes low rate of return of these assets because of liquidity premium and possibly tax disadvantage. The major advantage of holding cash is for firms to save transaction costs to raise funds and does not need to liquidate assets to make payments. Secondly firms use liquid assets to fiancé its activities and investment if other source of funding are not available or are extremely expensive.

Jensen (1986) presents agency problem associated with free-cash flow. He suggests that-free cash flow problem can be somehow controlled by increasing the stake of managers in the business or by increasing debt in the capital structure, thereby reducing the amount of free cash available to managers. Pecking order theory liquidity emerges as a result of asymmetric information existing in the financial markets, that is corporate managers often have better information about the health of their companies than outside investors. Myers and Majluf (1984) introduced very influential pecking order theory saying manager prefers to fiancé deficit of capital by issuing SAFE security. The theory states that in the event where retained earnings and other internal source of financing will be low to invest then manager will issue debt and only issue new equity with possibility of issuing junk debt/financial distress possibility). An important survey of Myers (2003) documented the following findings on the pecking order theory of corporate financing:

- Firms prefer to use internal source of fund as their first choice.
- Dividend payout ratio has separate determinants. A change in divided payment ratio does not facilitate capital expenditure.
- In the question of external financing, debt issuance is more preferable by the firm than issuance of equity.
- The firm's debt ratio show's their requirement of external financing.

Sebastin (2010) Examine Dutch firm's liquidity and solvency and their effect on financial decision. He discovered that corporate liquidity and solvency interact through information, hedging, and leverage channels. The information and hedging channels increase equity-value of firms which helps to pay regular dividend and most importantly reduce volatility in cash flow.

Frank and Goyel (2002) studied US firms (1971-1998) and came up with evidence that bigger firms are more organized to take decision followed by this theory smaller firms were not following this theory and being traded publicly during that time which also supports trade-off theory. As the smaller forms moved away from pecking order theory, so overall average moves further from the pecking order.

Soku (2008) tested US firms (1971-2006) and found different security issues pattern by small, medium and large industry. While testing financial flexibility and capital structure of the firms the author observed that, large mature firms prefer using internal funds and safe debt in order to recharge financial flexibility rather than issuing equity.

To the best of our knowledge, empirical investigation on the effect of bank liquidity reforms on economic growth is scanty and particularly dearth in Nigeria. Hence, this study is a major contribution to knowledge in banking and finance and the world over.

Consequently, Gambacorta (2011) had analyzed the long-term economic costs of the new regulatory standards (the Basel III reform) for the US. Using a Vector Error Correction Model that estimated long-run relationship among a small set of macro-variables over the period 1994-2008, it showed that tighter capital and liquidity requirements had negative (but rather limited) impact on the level of long-run steady- state output and more sizeable effect on banks' return on equity. The economic cost were considerably below the estimated positive benefit that the reform should have by reducing the probability of banking crises and the associated banking losses.

A recent extant study from Monjazeb, Sadeghi and Oladi (2014) investigated the impact of liquidity growth on saving rate in developing countries. The study evaluated the role of liquidity growth on savings rate in II developing countries (Ecuador, Venezuela, Colombia, Armenia, Brazil, Iran, Azerbaijan, Turkey, Tunisia, China and Thailand) within the period 2001-2010, with the aid of panel data analysis. The study demonstrated the undeniable role of economic growth on savings, because the estimations results indicated that although both variables of liquidity ratio and economic growth has significant and positive effect on savings, economic growth was more effective when it was fully reasonable.

Furthermore, in Jappelli and Pagano's (1994) experimental research on savings, growth and limitation of liquidity, they performed a regression analysis for 22 organizations of state Economic Cooperation and Development from 1960 to 1987. The result of the research showed high rate of savings because limited liquidity leads to higher economic growth.

Karami (2008) studied the effect of liquidity growth on national savings rate of Iran and concluded that the effect of economic growth on savings rate was positive both in short term and long term periods; and the effect of liquidity growth on national savings rate was negative in short term period and positive in long term period. The empirical reviews successfully linked liquidity with savings, and equally provided a faint relationship between liquidity and economic growth.

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METHODOLOGY

The model for the study of the impact of liquidity reforms on economic growth is based on the work of Monjazeb, Sadeghi and Oladi (2014). Monjazeb, Sadeghi and Oladi (2014) adopted a bivariate model where ratio of gross domestic savings to GDP is the dependent variable and Ratio of Liquidity to GDP is the independent variable. The present study modified the mode to include other variable as below:
GDP = f(LQT,LDR,SAVR)

Where
GDP = Gross Domestic product is the dependent variable
       and is the proxy for economic growth
LOT = Liquidity ratio as the proxy for liquidity reform
LDR = Loan to Deposit Ration
SAVR = Saving rate.
The model form of the relationship can be written thus:
LnGDP –β_o+β_1LOT+β_2LDR+β_3SAVR+μ
Where:

β_o	=	the constant
β_1	=	the coefficient of the relationship between bank liquidity reform (LOT) and economic growth (GDP)
β_2	=	the coefficient of the relationship between loan-to-Deposit (LDR) and economic growth (GDP)
β_3	=	the coefficient of the relationship between savings rate (SAVR) and economic growth (GDP)
μ	=	the error term.

Results and Interpretation
Table 1: Statistical properties of the variables of Bank Liquidity Reform Model

	LNGDP	LQR	LDR	SAVR
Mean	8.415714	45.69429	65.16179	7.872500
Median	8.630000	45.75000	66.70000	5.310000
Maximum	11.29000	64.10000	85.66000	18.80000
Minimum	4.900000	29.10000	38.00000	1.410000
Std. Dev.	1.874925	9.225705	12.63110	5.645997
Skewness	-0.259744	0.105026	-0.481461	0.556090
Kurtosis	2.035545	2.641336	2.447628	1.717412
Probability	0.496573	0.904134	0.487307	0.186159
Observations	28	28	28	28

The Characteristic of the time serial data used in the analysis are presented in Table 1 (liquidity reform), The table provides clues about the mean, median, standard deviation, Skewness as well as the Jarque-Bera statistics of each variable. From the Jarque-Bera statistic, the normality of the variables is explained.
The variables considered here are Natural log of Gross Domestic Product (LnGDP), Liquidity Ratio (LQR), Loan-to-Deposit Ratio(LDR), Saving Ratio (SAVR), The variables are systematically distributed.
Specifically, the outcomes of each of the variables on Table 1 have mean, median as well as values for their maximum and minimum that suggest well behave variables. The mean values employed are not too different from their respective median values. This is an indication of absence of excessive outliers and stability of the variables employed, which are essential for the analysis carried out in this study. The value of the standard deviation of each of the variables is a further proof of the fact that the distribution of the variables is approaching normal distribution. In addition, the Skewness, Kurtosis and Standard deviation statistics show that the variances of the variables are not unnecessarily large. Only LQR, SAVR, FDI, are positively skewed. This implies a relatively fat-right tail. Other variables have relatively fat-left tails.
The probability values of the Jarque-Bera Statistics as presented in the table show that LnGDP, LQR, LDR, SAVR, are normally distributed. All the employed variables have 28 data point observations.

Table 2:The Unit Root Test Results for the selected Variables

Variables	Level: 1(0)		First Differences:1(1)		Conclusion
	ADF PP		ADF PP		
LnGDP	-1.3196	-1.7415	-4.1140*	-5.0846*	1(1)
LQR	-2.3622	-2.4657	-3.7175**	-4.7601*	1(1)
LDR	-2.7163	-2.3673	-4.1514*	-4.5130	1(1)
SAVR	-0.7742	-0.7854	-3.9022*	-4.0468*	1(1)
Critical1%	-3.7076	-3.6959	-3.7204	-3.7076	
Values5%	-2.9798	-2.9750	-2.9850	-2.9798	
10%	-2.6290	-2.6265	-2.76318	-2.6290	

Significance of coefficients are reported using p-value. *denotes significant at 1%, ** denotes significant at 5%; *** denote significant at 10%.

The variables employed in the analysis are tested for stationarity using two unit root tests, namely, Augmented Dickey-fuller test and Phillips-Peron test, to determine whether they are stationary or non-stationary series. The two test, to determine whether they are stationary or non-stationary series. The two tests are employed to reinforce one another, to ensure their robustness and boos confidence in their reliability. The tested null hypothesis for both unit root tests is the presence of a unit root. The results on Table 2 above, shows that at level, all of the variable have unit root. This implies that none of the variables is stationary at level. At first difference, all the variables including LnGDP, SAVR, do not have unit root. This implies that the first difference of the variables has no unit root and the null hypothesis is rejected at 5% level of significance, indicating that the variable are integrated at the same order, that is 1(1).

Table 3: Test of Co-integration among the variables of Bank Liquidity Reform Model
Date: 05/10/15 Time: 18:35
Sample: 1986 2013
Included Observation:26
Test assumption: Linear deterministic trend in the data
Series: LNGDP LQR LDR SAVR
Lags interval: 1 to 1

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1percent Critical Value	Hypothesized No. of CE(s)
0.642055	53.46337	47.21	54.46	None*
0.421537	26.75156	29.68	35.65	At most 1
0.307826	12.51965	15.41	20.04	At most 2
0.107391	2.953766	3.76	6.65	At most 3

*(**) denotes rejection of the hypothesis at 5%(1%) significance level L.R. test indicates 1 cointegrating equation(s) at 5% significance level.

The liquidity Reform and Economic Growth model, which is specified to examine the effect of liquidity reform on the economic growth of Nigeria, is tested for the null hypothesis of no co-integration assuming linear deterministic trend. The results of the co-integration test for liquidity reform variables and economic growth are presented on Table 3 above.

Comprised in the model are LnGDP, LQR, LDR and SAVR. The result on Table 3 indicates that there is one cointegrating equation, since the likelihood ratio value of 53.46337> critical value of 47.21 at 5%. It becomes necessary to reject the null hypothesis of no co-integration and conclude that there is the existence of long-run relationship among the variables of liquidity reform and economic growth.

Table 5: Multivariate OLS Regression of the Liquidity Reform and Growth Model
Dependent Variable: LNGDP

Variable	Coefficient	Std. Error	t-statistic	Prob.
LQR	-0.039218	0.021062	-1.862024	0.0749
LDR	-0.045366	0.014429	-3.143992	0.0044
SAVR	-0.304984	0.030413	-10.02799	0.0000
C	15.56486	1.729923	8.997433	0.0000
Adjusted R-squared	0.804789			
F-statistic	38.10406*			
Durbin-Watson stat	1.933921			

Note: *denotes significant at 1%, **denotes significant at 5%; *** denote significant at 10%

The results of regression equation for Liquidity Reform and Growth Model are presented in Table 5. The results tested the null hypothesis three that "Bank liquidity reforms have no significant positive effect on economic growth of Nigeria".

The coefficients of the regression are liquidity ratio (LQR) = -0.039218, Loan-to- Deposit Ratio (LDR) = -0.045366 and Savings rate (SAVR) = -0.304984. The results indicate that LQR, LDR and SAVR have negative effect on economic growth. This indicates that a unit increase in LQR, LDR and SAVR brings about 3.9%, 4.55 and 30.5% increase in economic growth respectively, this largely implies that liquidity reform variables have negative relationship with economic growth in Nigeria.

The significance of coefficients of the regression is tested with t-statistics. The results indicate that LQR (t-1.862024>0.05) has insignificant effect, LDR (t-3.143992<0.05) has significant effect and SAVR (t-10.02799<0.05) has significant effect. The results indicate that LDR and SAVR have significant negative effect on economic growth while LQR has insignificant negative effect on economic growth. As all the variables are negative and majority are significant, it implies that liquidity reform have negative effect on economic growth in Nigeria.

The value of F-statistics (38.10406) with probability less that 5% (p.<0.05): Since the probability of F. value is less that 5% level, we reject the null hypothesis that liquidity reforms have no significant effect on economic growth of Nigeria. But as the coefficients of the variables are negative, we accept the null hypothesis that bank liquidity reforms have no significant effect on economic growth of Nigeria. But as bank liquidity reforms have no significant positive effect on economic growth of Nigeria. However, as the coefficient and negative and t-values statistically significant, the study concludes that bank liquidity reforms have significant negative effect on economic growth of Nigeria.

The result of Adj R^2 is 0.804789 which indicates that about 80.5% of changes in economic growth can be explained by bank liquidity reforms. The result of the Durbin-Waston statistics (1.933921) which is approximately equal to 2 indicates absence of autocorrelation in the model.

Based on the results of the t-statistics, F-statistics and Adj R^2, we conclude that bank liquidity reforms have significant negative impact that explains 80.5% of changes in economic growth in Nigeria.

CONCLUSIONS AND RECOMMENDATIONS

Bank liquidity ratio reforms have significant influence on economic growth of Nigeria. Sound and competitive bank liquidity ratios management have contributed immensely to the economic growth of the country

The study supports previous findings of Jappeli and Pagano (1994) and Monjazeb, Sadeghi and Olade (2014). Jappelli and Pagano (1994) have advanced that liquidity has significant positive influence on growth due to high rates of savings since limited liquidity lead to higher economic growth.

The 80.5% explanatory power of liquidity reform variables implies that liquidity control is a sound policy tool for enhancing economic growth of Nigeria.

Based on the findings and conclusions, the study recommend that the central bank of Nigeria must insist that banks maintain sound and stable liquidity ratios in order to promote sound financial system and enhance potentials of economic growth of Nigeria.

Furthermore, Central bank of Nigeria should always review on regular basis liquidity indicators of the various financial institutions to ensure compliance with the relevant laws of the country in order to maintain robust economic stability.

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