

LIQUIDITY MANAGEMENT IN NIGERIAN DEPOSIT MONEY BANKS: ISSUES, CHALLENGES AND PROGNOSIS

Godwin E. Bassey 

Department of Economics, Faculty of Social Sciences

University of Uyo, Uyo, Akwa Ibom State, Nigeria

godwinbassey07@yahoo.com

Udo N. Ekpo

Department of Economics, Faculty of Social and Management Sciences

Akwa Ibom State University, Ikot Akpaden, Akwa Ibom State, Nigeria

udonekpo@yahoo.com

Abstract

The major focus of this paper was to identify the key issues, challenges and the way forward for effective liquidity management by the Central Bank and Deposit Money Banks (DMBs) in Nigeria. The paper adopted a descriptive approach using published data from the balance sheets of DMBs. It examined the critical role played by the CBN and DMBs in fashioning out appropriate framework for liquidity management and identified the challenges inhibiting effective performance of these roles. In particular, the study revealed that deposit liabilities constituted a major source of funding liquidity by DMBs while loans and advances constituted the bulk of the illiquid assets. It was further found that DMBs in Nigeria operated above solvency level, having current ratio greater than unity. Also, DMBs in Nigeria are over cautious, investing more in short-term securities to protect their liquidity positions. But money market instruments played a diminishing role as a source of liquidity funding by DMBs. Among the major liquidity management challenges identified in the study was the inability of the monetary authorities to determine appropriate mix of policy instruments that would exert minimum costs while achieving monetary policy targets. As a way forward the paper recommended the adoption of price level as nominal anchor of monetary policy and the alignment of movements in systemic liquidity with the announced target of monetary policy stance of the CBN. Furthermore, banks should strengthen their credit risk assessment mechanism so as to increase their credit exposure to the

private sector. Finally the paper concluded that DMBs should establish a robust liquidity risk management framework that is well integrated into the bank-wide risk management process and ensure that competitive pressures do not compromise the integrity of their liquidity risk management framework, control functions, limit systems and liquidity cushion.

Keywords: Liquidity Management, DMB's Balance Sheets, Money Market Instruments, Nigeria

INTRODUCTION

A major challenge which financial managers the world over, face is how to maintain sufficient funds to meet their obligations as they mature while at the same time ensuring adequate returns on their investment. This rises from the apparent conflict that exists between the management objective of simultaneously maintaining a high level of liquidity and profitability. As explained in Olagunju, Adenauju and Olabode (2011), both goals run in opposite direction in the sense that an attempt by a bank to achieve higher profitability will certainly take a toll on the liquidity level and solvency position and vice versa.

Elaborating on this point, Bassey and Moses (2015) argued that the contradictory nature of liquidity and profitability objectives can be explained by the intuitive reasoning that a bank operating with high liquidity level (and in the process tying down investible funds) may have low insolvency risk, but with a trade-off of low profitability. It behoves on a financial institution seeking to thrive under the existing competitive environment to ensure astute management of its profitability and liquidity levels as both variables can make or mar its future.

At the macroeconomic level, liquidity is critical for the conduct of monetary policy, financial sector soundness and economic growth. Consequently, efficient and effective management of liquidity is at the heart of the conduct of monetary policy (CBN, 2011). From the monetary authorities' point of view, liquidity management is critical in delivering on the mandate of monetary and price stability. Adequate liquidity promotes a sound banking and financial system which provides a virile platform for sustainable economic growth and development.

The financial meltdown which engulfed the world economy between 2007 and 2009 clearly demonstrated the dire adverse consequences of liquidity mismanagement. The Zenith Economic Quarterly (2008) reported that the global equity market lost about \$30 trillion to the crises while stock market prices fell by 35 percent in the UK, 31 percent in the US and 73.6 percent in Russia. In the process, financial giants in the USA like Fannie Mac, Freddie Mac, Merrill Lynch, Lehman Brothers and American International Group (AIG) became major victims.

In Nigeria, the Central Bank of Nigeria (CBN) injected over N620 billion into the banking system to improve the banks' liquidity and keep them from failing as a result of the financial melt-down between 2008 and 2009 (CBN, 2013). Nigerian banks wrote off loans equivalent to 66% of their total capital during the crises. Furthermore, the dire consequences of inefficient liquidity management in banks were brought to the fore in Nigeria during the liquidation and distress era of the late 1980s and early 1990s. Pat and James (2011) as cited in Bassey (2012) reported that there were eight (8) distressed banks in 1991, sixteen (16) in 1992, thirty eight (38) in 1993, fifty five (55) in 1994 and sixty (60) in 1996. As a result of the liquidity crises during that period, the number of commercial and merchant banks in the country fell from about 120 in 1991 to 89 in 2004. Bassey (2012) reported that out of the 89 banks that survived in 2004, 69 of them were declared marginal or fringe players while eleven (11) were in distress conditions. The CBN in the exercise of its mandate to ensure a sound financial structure for Nigeria, implemented a number of financial sector reforms which culminated in the recapitalization and consolidation exercise that raised the equity base of banks from N2 billion in 2004 to N25 billion in 2005, resulting in further reduction in the number of banks from 89 to 25 at the end of the exercise.

Against the backdrop of the above analysis, this study seeks to examine the concept and major issues of liquidity management, challenges and way the forward for sound liquidity management in Nigeria.

THE CONCEPT OF LIQUIDITY

Liquidity is defined in different ways by different people and for different reasons. The CBN Monetary Policy Series No. 4 (2011) viewed liquidity as a macroeconomic concept which refers to the overall monetary conditions, indicating the extent of mismatch between demand and supply of monetary resources. It also considered liquidity in the context of the financial markets, as the ease of undertaking transactions in financial assets at narrow bid-ask spreads. Still from the financial market perspective, Allen and Carletti (2013) defined liquidity as the ease to raise funds by selling asset instead of borrowing against it. From corporate finance point of view, Olagunju, Adeyanju and Olabode (2011) defined liquidity as the ability of a company to meet its short term obligations or the ability of a company to convert its assets into cash. Thus, an asset is liquid if it can be turned into cash quickly without loss (Kohn, 1994). Bank liquidity therefore, means the ability of a bank to maintain sufficient funds to meet financial commitments or pay for its maturing obligations at a reasonable price. In a rather technical sense, PricewaterhouseCoopers (PwC) (2015) in a global Study of Financial Market Liquidity, defined liquidity as a multi-dimensional concept, generally referring to the ability to execute large

transactions with limited price impact, and tends to be associated with low transaction cost and immediacy in execution. The study identified the different dimensions of liquidity as follows:

- i) Immediacy:** This refers to the time it takes to complete a transaction under an agency trading system.
- ii) Depth and resilience:** A market is deep when there is a large inflow of trading orders on both the buy and sell side. There should be a sustained interest and willingness to trade with large orders with minimum price impact,
- iii) Breadth:** This refers to the consistency with which liquidity is distributed within asset classes and the differences in liquidity characteristics across markets.
- iv) Tightness:** This refers to the financial cost of completing the transaction, it is measured by the bid-ask spread.
- v) Stability:** The price of the asset should remain stable regardless of the level of transaction. There should be no price loss at the time of resale.

From the foregoing, liquidity can be seen as the ability to ensure the availability of funds to meet financial commitments or maturing obligations at a reasonable price at all times. It measures the extent to which financial assets can be sold at, or close to, full market value at short notice. It could also be defined as the availability of funds, or assurance that funds would be available, to honour all cash outflow commitments (both on-and-off balance sheet) as they fall due. To this end, the most liquid financial assets are currency and transferable deposits as they are exchangeable immediately at their full nominal value. Money in its basic form of bank notes and coins is the most liquid asset and is held as a medium of exchange and store of value. On the contrary, some assets are described as illiquid because they may not be easily traded or their full market value realized at short notice. Such assets include unsecured loans to bank customers, shares of moribund companies or real estate (CBN, 2011).

Types of Liquidity

From a liquidity management perspective, there are three broad types of liquidity. These are central bank liquidity, market liquidity and funding liquidity (CBN, 2011; CBN, 2013; Buschmann and Heidorn, 2014).

Central bank liquidity: This refers to deposits of financial institutions at the central bank, often known as reserves or settlement balances. These reserves are held by financial institutions to meet statutory prudential requirements, if any, and to achieve final settlement of all transactions in the payments system. Such reserves are traded in the interbank money market.

Market liquidity: This relates to the ability to buy and sell assets in reasonably large quantities without significantly affecting the asset price.

Funding liquidity: This describes the ability of an individual or corporation to raise cash or its equivalent in reasonably large quantities either through asset sales or by borrowing.

According to Buschmann and Heidorn (2014), while funding liquidity and market liquidity are crucial elements of a bank's liquidity management which heavily rely on the bank's business model, and therefore are intrinsically linked to both sides of bank's balance sheet, central bank liquidity is measured by money supply and is influenced by a country's economic growth and stability, monetary circulation and monetary policy.

Sources of Liquidity

In respect of central bank liquidity, five primary sources of liquidity in the financial system have been identified. These are monetary financing by the central bank, net foreign assets, monetary operations, bank rescue and fiscal operations of the government (CBN, 2011).

Monetary Financing

This involves central bank's accommodating monetary policy of lending to the government in the form of Ways and Means Advances (WMA) as in the case of Nigeria or outright deficit financing in other jurisdictions. Any time the central bank lends to the government to finance its deficits, it is injecting liquidity into the system.

Net Foreign Assets/External Reserves Build up

The level of net foreign assets of the Central Bank and Deposit Money Banks (DMBs) could lead to an increase in the net domestic assets of the economy. This can occur in two ways, either by government monetizing its foreign assets, and hence increasing domestic liquidity or through the monetization of private flows by individuals and corporate organizations. Through this process, liquidity is injected into the financial system.

Monetary Operations

Central banks intervene in the domestic money market from time to time to alter the liquidity conditions through open market operations (OMO). This is achieved through treasury bills and foreign exchange transactions, which are complemented by REPO, Reverse REPO, standing deposit and lending facilities as well as special instruments.

Bank Rescue

This is another source through which liquidity is injected into the financial system. As the central bank or government injects funds into a bank to shore-up its capital base/liquidity, liquidity is injected into the banking system.

Fiscal Operations

The sales proceeds from NNPC are deposited in the domestic banks, which after a few days, are transferred to the statutory account in the CBN. The distributed oil and tax revenues are subsequently credited to the accounts of various tiers of the government. Moreover, oil revenues are used for (extra-budgetary) payments for fuel subsidy and other discretionary spending programs. Thus, spending oil revenue beyond the levels dictated by the budget oil price rule and the current practice of once-a-month distribution of oil and tax revenues generate large movements in the available liquidity (IMF, 2013).

THE CONCEPT AND THEORIES OF LIQUIDITY MANAGEMENT

Meaning of Liquidity Management.

From the stand point of Monetary Authorities, liquidity management involves the control of the level of liquidity in the economy in order to maintain monetary and financial stability (CBN, 2011). Adequate control of liquidity is essential to achieve price stability as too much or too little liquidity affects the behaviour of banks, and indirectly the economy. Still from the point of view of the monetary authorities, Ibe (2013) defined liquidity management as the strategic supply or withdrawal from the market or circulation the amount of liquidity consistent with a desired level of short term reserve money without distorting the profit making ability and operations of the banks. Looking at the concept from the view point of corporate organisation generally, Olagunju et al. (2011) defined liquidity management as the planning and control necessary to ensure that the organisation maintains enough liquid assets either as an obligation to customers of the organisation so as to meet some obligations incidental to survival of the business or as a measure to adhere to the monetary policies of the Central Bank.

Theories of Liquidity Management

The Real Bills Doctrine

The real bill doctrine states that a commercial bank should advance only short-term self liquidating loans to business firms. Self liquidating loans are those which are meant to finance the production and movement of goods through the successive stage of production, storage, transportation and distribution. When such goods are ultimately sold, the loans are considered

to liquidate themselves automatically. The advantages of such loans are that (1) being self liquidating loans, they do not run the risk of turning into bad debts. (2) They ensure adequate return to the bank on the loans.

According to this doctrine, the central bank would supply liquid reserves to commercial banks whenever they need funds to make loans for productive investment. Such loans were discount loans in which the collateral was various forms of short term high-quality commercial papers. The central bank would buy the commercial papers at a discount while the commercial bank would buy back the papers at face value. When business activity increased and there was greater demand for liquidity as evidenced by increase in commercial papers, the central bank would supply the liquidity, lending notes and reserves to commercial banks that presented these real bills as collateral. (Baye and Jansen, 2006)

However, the success of the scheme depended on the continuation of the lending by the banks. If the banks withhold lending, the supply will fall and the economy will be depressed thus making it impossible for the existing debtors to repay the loans. Moreover, the doctrine is rooted in Say's law which asserts that supply creates its own demand. If there is depression, the economy's aggregate demand will be deficient and sales would fall, thus creating repayment difficulties for the banks.

Anticipated Income Theory

This theory holds that a bank's liquidity can be managed through the proper phasing and structuring of the loan commitments made by a bank to the customers. Here the liquidity can be planned if the scheduled loan payments by a customer are based on the future income of the borrower. According to Nzotta (1997) the theory emphasizes that the earning potential and the credit worthiness of a borrower are the ultimate guarantees for ensuring adequate liquidity. Nwankwo (1991) posited that the theory pointed to the movement towards self-liquidating commitments by banks.

Shiftability Theory

This theory posited that a bank's liquidity is maintained if it holds assets that can be shifted or sold to other lenders or investors for cash. This point of view contended that a bank's liquidity could be enhanced if it always has assets to sell and provided the Central Bank and the discount Market stands ready to purchase the asset offered for discount. Thus this theory recognized and contended that shiftability, marketability or transferability of a bank's assets is a basis for ensuring liquidity (Ibe, 2013).

LIQUIDITY MANAGEMENT IN NIGERIA- THE ROLE OF CBN

In Nigeria, the Central Bank has over the years controlled the volume of liquidity in the banking system through the Deposit Money banks (DMBs) by employing various techniques and instruments. In order to achieve the objective of optimum liquidity, some processes and institutional arrangements are put in place by the CBN.

The Process of Liquidity Management

The process of liquidity management by the CBN is part of the larger risk management framework of the financial services industry against the background of the need to deliver on the mandate of monetary and price stability. The processes involved are the setting of objectives, formulation of policy targets, implementation through the use of direct and indirect instruments and monitoring of policy implementation (CBN, 2011).

Objectives of Liquidity Management

While the overall objective of monetary policy is the maintenance of monetary and price stability, the specific objectives of liquidity management according to the CBN are to:

- honour all cash outflow commitments (both on- and off-balance sheet) on an ongoing, daily basis;
- avoid raising funds at market premiums or through the forced sale of assets; and
- to satisfy statutory reserve requirements (liquidity ratio and cash reserve requirement).

Formulation of Liquidity Management Policies

The formulation of liquidity management policies involves the setting of monetary and liquidity targets. Target setting is such a difficult but important activity in the liquidity management process. The targets are designed to generate an assessment of achieved performance. Setting appropriate and realistic targets is vital in the liquidity management process. Policy targets are grouped into three categories:

- **The Ultimate Targets:** These are macroeconomic variables that represent the ultimate objectives of economic policy. They include the price level, the level of output, employment and balance of payments.
- **The Intermediate Targets:** These are macroeconomic variables that have strong relationship with the ultimate targets, which the CBN wish to influence indirectly through the operational targets. They include money supply, interest rate, exchange rates and credit to the private sector.

- **Operational Targets:** These are variables within the tool kits of CBN, which it uses to control the level of liquidity in the economy. They include bank reserves, currency in circulation and the monetary policy rate (MPR).

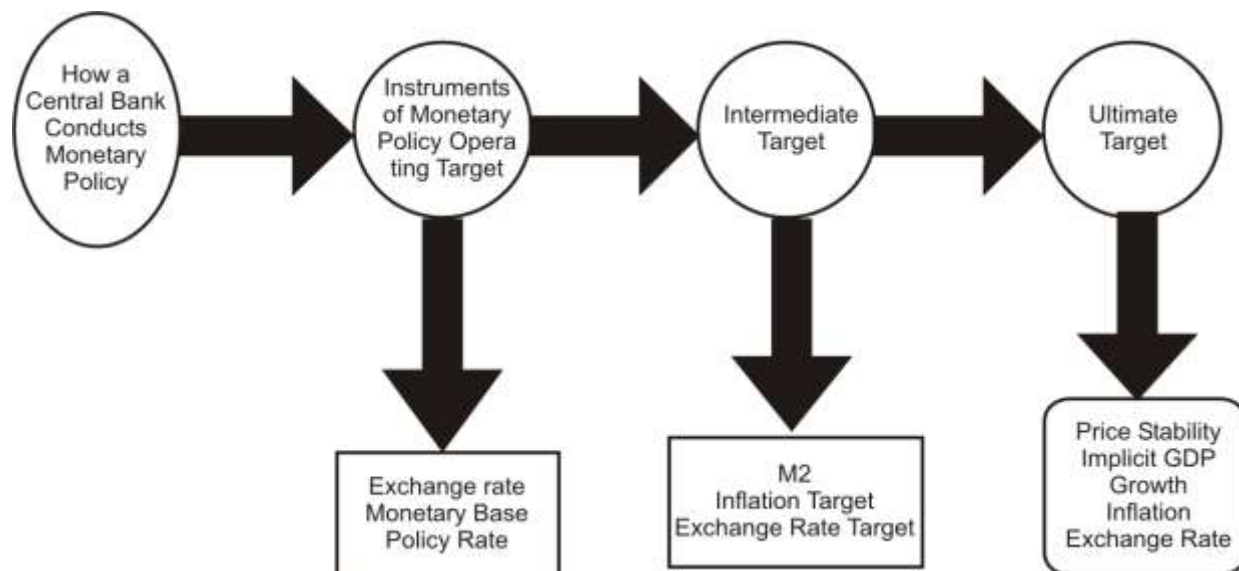


Figure 1: How CBN conducts monetary policy

Source: Adopted from CBN, 2011

Instruments of Liquidity Management

IMF (2013), in a study on strengthening the monetary and liquidity management in Nigeria, explained that the CBN has a comprehensive set of instruments for conducting monetary operations. The use of market-based instruments such as Open Market Operations, introduced in 1993, and discounting windows are the major instruments of liquidity management in Nigeria. In both cases, macro-prudential ratios such as reserve requirements are employed as complementary measures. In performing this task, the Central Bank had to develop the money and capital markets to facilitate the development of the payments system. The major instruments of liquidity control are;

- **Cash Reserve Requirement (CRR):** The CRR is the proportion of specified total deposit liabilities of DMBs that is kept with the CBN as reserves (CBN, 2011). It is mostly unremunerated and is measured based on a daily average of reservable liabilities over a two-week period. It serves prudential, monetary control and liquidity management objectives. Changes to the CRR require banks to make abrupt adjustments in their portfolios and as such can induce volatility in financial market prices. An increase in the

CRR, particularly when it is unremunerated, imposes additional costs on banks, which then get passed on to the economy in the form of wider interest rate spreads. In a study, IMF (2013) estimated that where banks have constant costs per unit of deposit, a 2 percent increase in the level of the CRR adds approximately 0.5 percent to the spread between deposit and lending rates. The study recommended that changes in the ratio should be infrequent and made only when there is a strong reason not to use market-based instruments.

- **The Monetary Policy Rate (MPR):** The MPR is the interest rate set by the CBN to serve as indicative rate for transactions in the interbank market. It was introduced in December 2006 and is used as the operating target for monetary policy. It also serves as a signaling device for the monetary policy stance. The Monetary Policy Committee (MPC) sets an interest rate corridor of $MPR \pm 2-5$ percentage points as the tolerable margin for the Open Buy Back (OBB) rate. At times, the CBN used asymmetric corridor around the MPR, particularly in the aftermath of the 2009 banking crisis.
- **Government Securities (FGN T-bills and bonds) Auctions:** The Debt Management Office and the CBN are committed to scheduled auctions for FGN bonds and Nigerian Treasury Bills (NTBs) respectively, based on the Federal Government's funding requirements. The NTBs auctions are held every other week and the tenors range between 91 to 364-days. The 3-month rate is the second most important reference rate used by market participants after the Central Bank rate (MPR). The FGN-bond auctions held once every four weeks has tenors ranging from 2, 3, 5, 10, and 20 years (IMF, 2013)
- **CBN Bills:** These are interest bearing instruments issued by the CBN for liquidity management purposes. They are sold when additional sterilization is required. While these are sold as CBN securities however, once issued, the market does not differentiate between CBN Bills and NTBs. Given this absence of segmentation between the two types of bills, there is no loss of trading liquidity for CBN bills.
- **Sale (and purchase) of foreign exchange:** This is another instrument that helps the CBN to influence liquidity. However, the main objective of the foreign exchange operations is to ensure stability of the Naira. The CBN acts as the net supplier of foreign exchange in the market given that the government surrenders almost all of its foreign exchange earnings from oil sales to it. The CBN also supplies about 40 percent of foreign exchange to the market. Because the CBN is able to choose the volumes it sells at the bi-weekly auctions window, this instrument could be used to manage liquidity. The study by IMF (2013) confirmed that CBN typically sells \$2.5 billion a month of foreign exchange as part of its role as structural supplier. In the process, supplying the foreign exchange market with

dollars also mops up part of domestic liquidity injection arising from government spending of oil receipts.

- **The Standing Deposit Facility (SDF):** This provides a floor on rates, with the CBN accepting an unlimited amount of deposits from banks on an overnight basis. The SDF rate serves as the lower bound of the MPR corridor. While banks' excess reserves do not earn interest, a bank or discount house wanting to earn interest using the SDF must apply to the CBN Liquidity Management Office for transfer of funds from their Current Account to the SDF. The principal amount, plus interest, is repaid to the bank automatically on the following business day (IMF, 2013).
- **The standing lending facility (SLF):** This serves as the upper bound of the MPR corridor. It is available to all banks and discount houses upon application, like the SDF. The eligible securities are; NTBs, FGN Bonds, and CBN Bills. The amount of collateral required is set at 110 percent of the amount borrowed, based on nominal and not market values of the securities. The title to the securities is transferred to the CBN. The advantages of the standing facilities are to encourage interbank trading, thereby deepening the money market, smoothening or eliminating volatility of short-term overnight interest rates, providing liquidity in the money market, reducing or eliminating excess bank reserves and influencing other rates in the economy (IMF, 2013).
- **Repos/reverse repos** are used for short term liquidity management by banks. Repos are used to inject liquidity and reverse repos to mop up liquidity on a temporary basis. Under repo agreement, the trading desk of CBN buys securities from dealers who agree to purchase them back at specified price and specified date (Akhtar, 1997). The repo facility is available up to 90 days, with a rate set at an increasing margin to the MPR for longer-term repos. Under the reverse repo contract, the trading desk undertakes to sell securities to a dealer with a simultaneous undertaking to buy them back at a specified price and date. The reverse repos are available only up to 28 days, with decreasing margin to the MPR relative to the length of the reverse repo. The eligible securities are; NTBs, FGN Bonds, and CBN Bills. For repos, the CBN holds a portfolio of government securities.
- **Outright Transactions:** These adopt a two way quote and are used often by the CBN to influence liquidity levels. One obligation of being a Money Market Dealer is to provide two-way quotes in NTBs to other dealers in amounts of ₦250 million and to the CBN in ₦1 billion. When the CBN is buying and a dealer may not have the NTBs in their portfolio, the dealer will have to ask at least three other dealers for prices to cover the position because the CBN transaction is four times the size of a standard market transaction. In addition to

management of liquidity, another rationale for using this instrument is to provide the CBN information about the market prices of NTBs (IMF, 2013)

- **Deposit auctions**, where banks can bid for deposits at the central bank, have recently been added to the toolkit, but have not yet been used. (IMF, 2013)

LIQUIDITY MANAGEMENT IN NIGERIA- THE ROLE OF BANKS

The ability of banks to meet their financial obligations is usually measured by examining their balance sheet and relating their current assets to current liabilities. A close look at the balance sheet of Deposit Money Banks (DMBs) reveals the liquidity management strategy adopted by the banks.

Table 1 shows selected items in the balance sheet of DMBs in Nigeria between 2009 and 2016. The major sources of fund highlighted are demand, time and savings deposits; foreign assets (net) and capital account. Obviously deposit liabilities constitute the most important source of funding for the Nigerian banks over the review period. Total deposit liabilities increased double fold from N9,150.04 billion in 2009 to N18,521.9 billion in 2016.

Tables 1: Balance Sheet of Deposit Money Banks: Selected Items (2009-2016)

ITEM	2009	2010	2011	2012	2013	2014	2015	2016
Reserves	521.80	531.40	1,222.47	1,849.83	3,252.45	4,474.72	4,473.62	4,263.18
Agg. Credit (Net)	11,340.1	11,217.3	12,878.3	11,793.7	12,207.7	17,320.1	18,257.7	21,518.1
Loans & Advances	7,708.27	6,733.93	6,618.24	7,703.35	9,540.98	12,178.4	12,247.9	14,971.2
Claims on CBN	188.47	262.32	598.46	1,693.55	927.01	476.08	623.99	733.97
Total assets	17,522.8	17,331.5	19,396.6	21,303.9	24,468.2	27,690.1	28,369.0	32,130.4
Total Deposit Liabilities	9,150.04	9,784.54	11,452.7	13,135.8	13,825.1	17,258.6	17,344.0	18,521.9
Demand Deposits	3,386.53	3,830.28	4,920.85	5,072.99	5,169.06	5,250.9	5,885.9	6,201.7
Time & Savings Deposits	5,763.51	5,954.26	6,531.91	8,062.90	8,656.12	12,208.2	11,458.1	12,320.2
Money Market Instruments	388.0	227.0	198.8	141.4	14.2	50.7	16.2	42.1
Foreign Assets (Net)	1,265.64	1,296.36	1,702.51	2,007.64	2,106.47	2,064.23	1,859.86	2,076.56
Credit from Central Bank	409.16	418.71	294.98	228.04	262.17	257.0	732.2	992.3
Capital Accounts	4,930.61	2,217.80	3,682.12	3,640.68	3,915.30	4,516.3	5,051.4	5,685.0

Source: CBN Statistical Bulletin 2016.

A decomposition of the analysis shows that while time and savings deposits increased from N5,763.51 billion to N12,320.2 billion over the period, representing 113% increase, demand deposit increased from N3,386.53 billion to N6,201.7 an increase of 83.1%. The implication here is that banks in Nigeria enjoy relatively stable sources of funds which should allow them to invest in long term assets for higher earnings. There is however, a negative effect on the cost of funds since time and savings deposits are costlier than demand deposit. In terms of liquidity management, higher time and savings deposits ratio promotes stability of funding and reduces the need for excess reserves for liquidity management.

Net foreign asset increased from N1,071.08 billion to N2,076.56 over the review period, representing an increase of 93.3%. It captures external borrowing by banks to meet urgent liquidity short falls within the domestic economy. These sources of funding have remained relatively stable over the period of review, although not very significant.

Money market instruments appear not to play any significant role in the liability management of Nigerian Banks. A possible explanation for this is that most of the interbank borrowings takes place on overnight basis and are therefore treated as off balance sheet items. From Table 1, Money market instruments maintained a declining trend from N388.0 billion in 2009 to N42.1 billion in 2016. Credit from the Central Bank has maintained a fluctuating trend, reflecting the monetary policy stance of the CBN. They are used to cushion the adverse liquidity shocks with the banking system.

The importance of capital account lies in the fact that it is a confidence booster, a measure of bank stability and a cushion against risks and liquidity shocks. From Table 1, the capital account of DMBs dipped from N49,306.61 billion in 2009 to N2,217.8 billion in 2010, largely due to the effect of capital flights arising from the global financial melt-down that engulfed the country at that time. Thereafter it rose marginally from N3,682.12 billion in 2011 to N5,685.0 billion in 2016.

From the uses of fund perspective, the reserves of DMBs maintained an interesting pattern. Being the most liquid asset of DMBs, reserves provide the barometer for measuring the liquidity pressure in the economy. Between 2009 and 2010, the level of reserves remained low at N521.80 and 531.40 respectively, reflecting the liquidity crunch that prevailed in the country at the time. Thereafter, it increased rapidly from N1,222.47 billion in 2011 to a peak of N4,474.72 billion in 2014 but declined marginally to N4,263.18 billion in 2016. The growth in reserves may be attributed to the increase in the required reserves set by the CBN as a result of tight monetary conditions at the time. For instance, the monetary policy rate increased from 6.25% in 2010 to 14.0% in 2016, while Cash Reserve Ratio jumped from 4.8% to 22.5% over the period.

Aggregate Credit (Net) from the DMBs, which captures financial leverage within the system, maintained an upward trend, rising from N11,340.1 billion in 2009 to N21,518.1 billion in 2016. Similarly, loans and advances rose from N7,708.27 billion in 2009 to N14,971.2 billion in 2016, an increase of 94.2%. Being a less liquid asset, increase in credit and loan portfolio means more earnings and less liquidity for the banks. The Claims on CBN, which consist mostly of overnight calls, maintained a fluctuating trend reflecting changes in the monetary policy stance of the CBN.

Table 2 presents ratio analysis of selected balance sheet items of DMBs in Nigeria between 2009 and 2016. From the Table, reserves to total asset ratio rose moderately from 2.98% in 2009 to 8.68% in 2012. Thereafter, it rose sharply to 13.26% in 2013 and peaked at 16.16% in 2014 before declining to 15.76% and 13.26% in 2015 and 2016 respectively. The high reserve to total asset ratio experienced in 2014 is attributed to the monetization of foreign reserves, liquidity injections due to maturity of FCN bonds and NTBs as well as cyclical Federation Account allocations and increased spending towards the 2015 general elections (CBN 2017).

Table 2: Percentage Contributions of Selected Balance Sheet Items

	2009	2010	2011	2012	2013	2014	2015	2016
Reserves to Total Assets %	2.98	3.07	6.30	8.68	13.29	16.16	15.76	13.26
Agg. Credit to Total Assets %	64.71	64.72	66.39	55.35	49.89	62.54	64.35	66.97
Loan & Advances to Total Deposit Liabilities %	92.36	67.76	56.67	52.02	69.51	70.56	70.62	80.83
Deposit Liabilities to Total Liabilities %	52.21	56.45	59.04	61.65	56.50	62.32	61.13	57.64
Foreign Assets to Total Liabilities %	7.22	7.48	8.78	9.42	8.61	7.45	6.55	6.46
Capital Account to Total Liabilities %	28.13	12.79	18.98	17.08	16.00	16.31	17.80	17.69
Capital Account to Total Deposit Ratio %	53.89	22.67	32.15	27.72	28.32	26.17	29.12	30.69
Current Ratio	1.92	1.77	1.69	1.62	1.77	1.60	1.64	1.73
Reserves Deposit Ratio %	5.70	5.43	10.67	14.08	23.53	25.93	25.79	23.01
Foreign Assets to Reserves Ratio %	242.55	243.95	139.27	108.53	64.77	46.13	41.57	48.71
Demand Deposits to Total Deposit Ratio %	37.01	39.15	42.97	38.62	37.39	30.42	33.94	33.48
Credit from CBN to Total Credit Ratio %	3.61	3.73	2.29	1.93	2.15	1.48	4.01	4.61

Source: Computed from Table 1

Although aggregate bank credit maintained a fluctuating trend over the review period, it nevertheless dominated as a major component of DMBs assets, accounting for over 60% on the average. Since bank credits are illiquid assets, the implication here is that less than 40% of the

total bank asset was available for effective liquidity management during the review period. The use of this ratio as a measure of illiquidity has been criticized on the ground that it measures only the asset illiquidity and excludes the possibility of raising funds other than through the sale of assets (Ibe, 2013).

Loan and advances to total deposit liabilities ratio is another important measure of the liquidity conditions of DMBs. It represents the portion of the bank deposit that is given out as loans vis a vis what is left in liquid form. Between 2009 and 2012, the loan to deposit ratio declined progressively from 92.36% to 52.02%. Thereafter, it increased gradually from 69.51% in 2013 to 80.3% in 2016. The observed trend can be explained in terms the fall outs of the global financial crises that crippled bank lending and the subsequent recovery due to expansionary fiscal operations of the government. The implication of this ratio is that banks use it as a guide in lending and investment and to evaluate their credit expansion programs. But the ratio fails to indicate the maturity or quality of the assets and does not give accurate indication of liquidity needs (Olagunju, et al, 2011; Ibe, 2013).

Taking a look at the sources side of the DMBs balance sheet, it is obvious that deposit liabilities remained a stable source of funding for the DMBs in Nigeria. They accounted for more than 50% on the average. Also the ratio of demand deposit to total deposit liabilities fluctuated between 30% and 40% over the period, indicating a low level of banking habits. The implication for liquidity management is that DMBs in Nigeria enjoy a stable source of funding and may not need to maintain large excess reserves for liquidity management. But the costs of funds are higher which have negative implications for bank efficiency and profitability.

Foreign assets to total deposit liability ratio has been suggested as a possible indicator of liquidity conditions within the banking system. It indicates what percentage of total funding is accounted for by foreign asset. Apart from the fact that foreign assets account for less than 10% of the total funding over the period, its contribution as a percentage of total reserves has shown a dramatic decline. This demonstrates the diminishing importance of net foreign assets as a tool for liquidity management in Nigeria, probably due to the limited global impact of Nigerian banks.

Credit from CBN played a minimal role as a source of funding for the DMBs. According to IMF (2013) it is mainly used as a sterilization device. The funds are borrowed mostly on overnight basis and accessed by banks that need to meet daily statutory liquidity ratio. Over the review period CBN credit accounted for less than 5% of the total funding to the DMBs.

Capital accounts accounted for less than 20% of the total funding of DMBs over the review period on the average. This betrays the fragile nature of Nigerian banks despite the recapitalization and consolidation efforts of 2005. Similarly the capital adequacy ratio

maintained a declining trend dropping from 53.89% in 2009 to 30.69% in 2016. This has adverse implications for liquidity management since bank capital has a cushioning effect during liquidity crises. The thin equity base of DMBs in Nigeria should be a source of concern since it can ignite another spate of bank liquidity crises in the nearest future, unless remedial actions are taken.

The current ratio is calculated as current assets divided by current liabilities and is a measure of a DMB short term solvency. The current assets are composed of cash and those assets which can be converted into cash in a short period which include marketable securities, receivables, inventories, and prepaid expenses. Current liabilities consist of all obligations maturing within a year. They include accounts payable, bills payable, note payable, accrued expenses and tax liability. A current ratio that is greater than one is adjudged satisfactory for most business firms even though it is difficult to authoritatively set one standard for all firms (Olagunju, et al., 2011). Going by this explanation, one can safely say that DMBs in Nigeria operated above solvency level, having ratio greater than unity. The ratio fluctuates from 1.92% in 2009 to 1.60% in 2014 and settled at 1.73% in 2016.

Table 3 gives the trend in major performance indicators of sound liquidity management in Nigeria over the period 1995-2016. The major performance indicators used are Liquidity Ratio (LR), Loan/Deposit Ratio (LDR), Cash Reserve Ratio (CRR) and Monetary Policy Rate (MPR). A cursory examination of the Table reveals that DMBs in Nigeria generally maintain liquidity ratios that are above the required minimum. Therefore, the policy of minimum liquidity is not binding on them. What this suggests is that DMBs in Nigeria are over cautious investing more in short-term securities to protect their liquidity positions. While this approach may ensure bank safety, it has a negative implication for bank's profitability. Since DMBs enjoy stable funding through time and savings deposits, keeping a large chunk of bank resources in liquid form deprives the system of funds that should be deployed to finance real investment and economic growth.

A trend analysis shows that liquidity ratio, which mirrors the liquidity conditions in the system, increased steadily from 33.1% in 1995 to a peak of 64.1% in the year 2000. Between 2001 and 2005 the ratio stabilized at about 50% but fluctuated widely thereafter to terminate at 46% in 2016. The use of liquidity ratio as index of liquidity management has been criticized on the ground that it measures only asset liquidity while ignoring liquidity available through the bank's ability to borrow (Ibe, 2013).

Table 3: Major Performance Indicators for Sound Liquidity Management by Nigerian Banks

Years	Liquidity Ratio (LR)	Loan/Deposit Ratio (LDR)	Cash Reserve Ratio (CRR)	Minimum Rediscount Rate (MRR) /Monetary Policy Rate (MPR)
1995	33.1	73.3	5.8	13.5
1996	43.1	72.9	7.5	13.5
1997	40.2	76.6	7.8	13.5
1998	46.8	74.4	8.3	13.5
1999	61.0	54.6	11.7	18.0
2000	64.1	51.0	9.8	14.0
2001	52.9	65.6	10.8	20.5
2002	52.5	62.8	10.6	16.5
2003	50.9	61.9	10.0	15.0
2004	50.5	68.6	8.6	15.0
2005	50.2	70.8	9.7	13.0
2006	55.7	63.6	2.6	10.0
2007	48.8	70.8	2.8	9.5
2008	44.3	80.9	2.3	9.7
2009	40.9	79.8	3.5	6.0
2010	30.5	80.1	4.8	6.2
2011	42.0	44.8	8.0	12.0
2012	49.7	42.3	12.0	12.0
2013	63.2	38.0	12.0	12.0
2014	38.3	64.2	20.0	13.0
2015	42.3	69.6	20.0	11.0
2016	46.0	80.0	22.5	14.0

Source: CBN Statistical Bulletin, 2016

Cash Reserve Ratio (CRR), as already mentioned is a veritable tool for regulating liquidity within the banking system. A rise in CRR increases the amount of funds held as reserves at the CBN and therefore reduces the level of liquidity within the system. By reducing liquidity in the banking system, banks would have less funds to give out credit. An examination of the Table shows that CRR maintained a fluctuating pattern, reflecting the changing stance of the monetary policy. Between 1995 and 1998, the ratio remained low at average of about 6%. This was due to the expansionary monetary stance at the time as indicated by a high loan to deposit ratio average of 74.4%. Between 1999 and 2003, the ratio rose to average of 10% while loan to

deposit ratio fell to 63% over the period, indicating a tight monetary posture. As a result, liquidity ratio fell to average of 51% in sympathy.

Between 2004 and 2010, the CRR dropped to average of 2.9% while loan to deposit ratio increased to 73.5% on the average over the period, reflecting an era of monetary ease. Between 2011 and 2016, CRR rose sharply to average of 15.8% while loan deposit fell to 56.4% on the average to capture the tight monetary stance of CBN over the period.

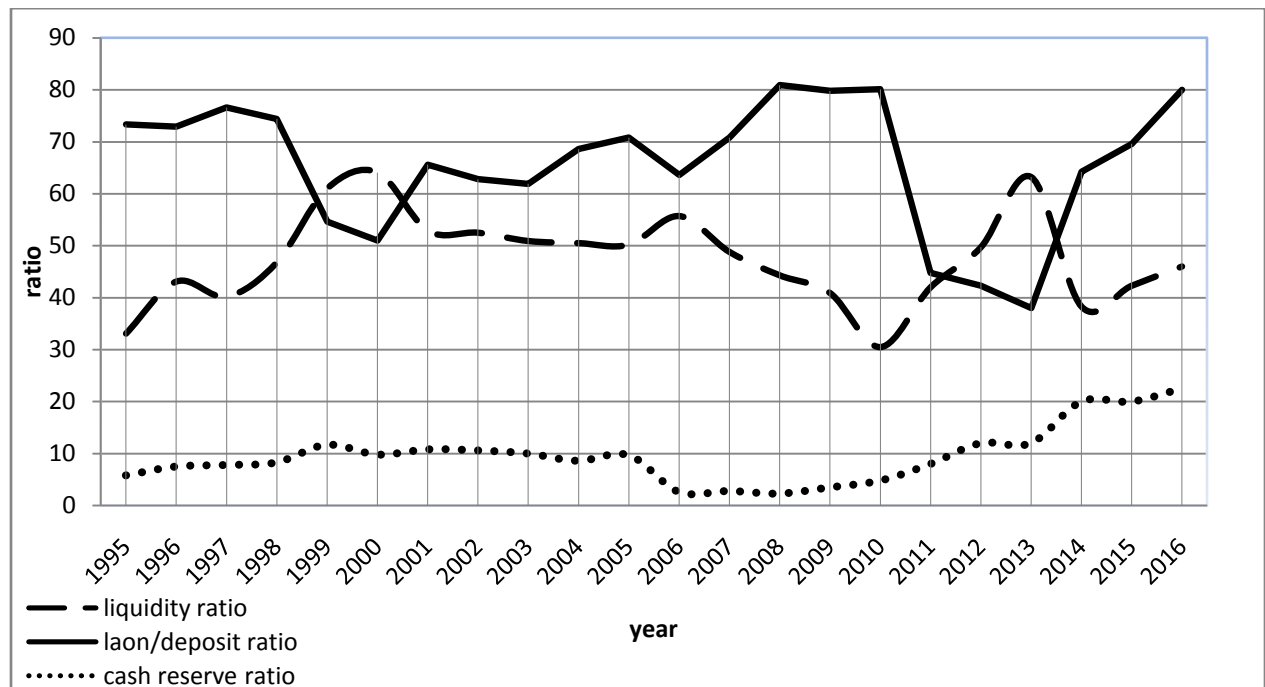


Figure 2: Measures of Liquidity Management in Nigerian Deposit Money Banks 1995 – 2016

The Monetary Policy Rate (MPR) replaced the Minimum Rediscount Rate (MRR) in 2006. The trend in MRR between 1995 and 2005 reflected a tight monetary stance. But this did not correspond with the trend in CRR and loan to deposit ratio, which indicated monetary ease. This explains why MRR could not be effective as indicative rate of monetary policy stance. The change from MRR to MPR improved the link between MPR, CRR and loan to deposit ratio. For instance the fall in MRR from 10% in 2006 to 6.2% in 2010 led to increase in loan to deposit ratio from 63.6% to 80.1% over the same period. But when MPR rose from 12% in 2011 to 14% in 2016, the loan deposit ratio maintained a positive trend, rising from 44.8% to 80.0% over the period. This may imply that investors suffer from money illusion, arising from the impact of rising inflation on demand for investment. The above analysis is captured graphically in figure 2.

THE CHALLENGES OF LIQUIDITY MANAGEMENT

The pursuit of multiple objectives by CBN

The Banking Act of 2007 assigned to the CBN multiplicity of objectives which tended to be at conflict with one another, leading to policy inconsistencies. For instance, after the 2009 financial crisis, the CBN decided not to raise interest rate in view of poor liquidity and solvency position of banks. This was in conflict with the significant pressure on the currency and prices due to expansionary fiscal policy of the government. The use of excessive foreign exchange sales to arrest the Naira depreciation led not only to the depletion in international reserves but also to a double digit inflation.

Market Segmentation

Market segmentation in the money market on the basis of perceived credit risk has remained a daunting challenge despite efforts by the CBN to redress the situation. As rates for standing facilities increased, banks with excess liquidity appear to prefer deploying their funds to the CBN Standing Deposit Facility (SDF) instead of supplying them into the interbank market. Thus some banks considered as high credit risk have little or no access to credit from banks with excess liquidity. This created a situation whereby some banks have liquidity shortages while others are awash with excess liquidity. This has compounded the problem of determining the optimal liquidity needs for the system.

Persistent Excess Liquidity

One common feature of the Nigerian money market is the prevalence of excess liquidity. This is caused largely by lodgment of large funds by bankers bidding for foreign exchange during the weekly or daily auctions. Furthermore, admitting AMCON bonds for discount window operations was another factor contributing to excess liquidity (IMF, 2013). Besides, banks are said to be reluctant in giving credit to private sector operators due to their poor credit ratings.

Fiscal Operations of the Government

One major source of liquidity in the financial system is the monetization of oil receipts and other oil related inflows from the government. The spending of this oil revenue beyond the levels dictated by the budget oil price rule and the current practice of once a month distribution of oil and tax revenues makes forecasting and managing liquidity in the banking system difficult. Moreover, fiscal operations of states and local governments, which account for about half of public spending, are not fully reflected in the liquidity projection plans. Therefore, effort to

improve liquidity forecasting must focus on better coverage of fiscal operations of government at all levels (IMF, 2013).

Money Market Volatility

Money market volatility is largely caused by sporadic injection of liquidity through monetization of oil receipts and related foreign exchange inflows. Other sources of instability include lumpy disbursement from the federation account and the maturity of government bonds and securities. Often, the CBN responds to these shocks through foreign exchange sales and issuance of government securities to sterilize the excess liquidity. These policy responses by CBN are not without trade-offs in terms of rising interest rates in the case of open market sales or an appreciated exchange rate in case of foreign exchange sales. The goal of liquidity management should be to seek the “least cost” mix of sterilization.

Frequent Changes in CRR

These have been identified as major challenge to liquidity management. When CRR is changed, banks are required to make necessary adjustment in their portfolio which may alter finance market prices. According to IMF (2013), CRR is best used to create stable demand for reserves consistent with the level of systematic liquidity. An increase in the CRR, particularly when it is unremunerated imposes additional cost on banks, which can be passed on to the economy in the form of wider interest spreads. Therefore, changes in the CRR should be infrequent and made only when there is a strong reason not to use market bond instruments.

Volatility in Short term Money Market Rates

Despite efforts by the CBN to establish interest rate corridor around the MPR to keep short term interbank rates within limits, excessive gyrations in short term still persist in the market. According to IMF (2013) this volatility ranges between 3% and 30%. This is attributed to the volatility in the underlying liquidity base as well as the high risk premium charged, depending on the credit worthiness of the borrowing bank and the quality of bank asset pledged as collateral. The introduction of CBN guarantees and the purchase of nonperforming assets by AMCON have mitigated the problem.

The Contagion Effect

Banks in Nigeria trade in the same market and in similar products and are subject to the same market vagaries and uncertainties. There is little or no diversification in the products and services provided. It is therefore possible that liquidity crisis in one bank can easily spread like

wild fire across the entire system. This is made even worse by the fact that banks in Nigeria adopt branch banking instead of unit banking in which case the failure of one bank has a far reaching impact on other banks and the entire economy.

Low level of Trading in the Interbank Market

Money market activities remain relatively low despite attempts by CBN to promote the market. As mentioned earlier, money market instruments maintained a declining trend from N388.0 billion in 2009 to N42.1 billion in 2016. This may be due to high risk premium on marketable securities, asymmetric information problem, leading to credit rationing and the availability of cheaper source of funding through CBN's Standing Facilities.

Fragile Equity Base

As noted earlier, despite the bank recapitalization and consolidation exercise of 2005, the equity base of banks remain weak and fragile. For instance, the capital adequacy ratio of Nigerian DMBs fell from 53.89% in 2009 to 30.69% in 2016. This has adverse implications for liquidity management since bank capital has a cushioning effect during liquidity crises.

THE PROGNOSIS

Based on the foregoing analysis and findings, the following recommendations are made as the way forward for the effective management of liquidity by the CBN and Nigerian banks.

Reduce Multiple Objectives of Liquidity Management

As a positive step towards addressing this problem, the CBN should set monetary and price stability as its overriding objective for liquidity management. Other objectives of monetary policy such as maintenance of external reserves, promotion of sound financial system and balance of payments viability should be secondary and subsumed in the price stability. This is based on the logical reasoning that the Central Bank should do what it knows best to do- maintaining price stability. To achieve this objective the CBN should work towards adoption of price level as the nominal anchor for monetary policy through a policy of inflation targeting.

Reduce Money Market Segmentation

To reduce segmentation in the money market, the CBN needs to address the gaps in bank supervision framework and take measures to enhance credibility of its assessment of banks health. Insistence on disclosure by banks of their true net worth and asset qualities through adherence to prudential guidelines will help to ward off possible threats of liquidity crises.

Address the Problem of Excess Liquidity

The use of large foreign exchange sales to mop up excess liquidity even though it has a salutary effect of strengthening the Naira, may fail to deal with problem of excess liquidity. This is because while the announced policy measures of the government have maintenance period of two weeks, major sources of systemic liquidity shocks such as oil receipts and disbursement come on monthly basis. There is therefore the need to align systemic liquidity with the announced policy stance through the adoption of medium term forecast of banking system liquidity. Also banks should strengthen their credit risk assessment mechanism so as to increase their credit exposure to the private sector.

Reduce Monetization of Crude Oil Receipts

The current practice whereby oil receipts from excess crude oil account of the federation are monetized should be discontinued. Instead such funds should be invested in medium to long term securities to deepen the money and capital markets and promote investment and growth of the economy. Besides, strict adherence to budget oil price rule and avoidance of extra budgetary spending from excess crude account will help to mitigate the problem.

Reduce Volatility in the Money Market

Despite the concerted effort of the CBN, volatility in the quantity and prices of assets remains a regular feature of the Nigerian money market. To address this problem, the major source of this instability should be identified and controlled. The major sources of this instability include monetization of crude oil receipts, CBN large sales of foreign exchange, and frequent changes in CRR as well as high risk premium on interbank rates and conflict in the monetary policy stance of Government. To redress these problems, the CBN should use its full array of instruments to ensure adequate supply of liquidity to meet banks demand for reserves. There should be clearly articulated monetary framework so that market participants can understand applicable operating target of monetary policy.

Reduce Frequent Changes in CRR

Since changes in CRR entails some costs on the part of the banks, using it as instrument of monetary policy should be infrequent and only used when there is a strong reason for not using market based instruments. Study by IMF (2013) has also confirmed that changes in CRR widen the spread between lending and deposit rates.

Adopt of Sound Principles of Liquidity Risk Management by Banks

The following selected principles for sound liquidity risk management by banks, enunciated by Basel Committee on Bank Supervision (2008) are quite instructive and are adopted in this study.

- i. DMBs should establish a robust liquidity risk management framework that ensures they maintain sufficient liquidity, including a cushion of unencumbered, high quality liquid assets, to withstand a range of stress event, including those involving the loss or impairment of both secured and unsecured funding sources.
- ii. DMBs should clearly articulate a liquidity risk tolerance that is appropriate for their businesses and role in the financial system.
- iii. DMBs should have sound processes for identifying, measuring, monitoring and controlling liquidity risk. These processes should include a robust framework for comprehensively projecting cash flows arising from assets, liabilities and off-balance sheet items over appropriate set of time horizons.
- iv. DMBs should actively monitor and control liquidity risk exposures and funding needs within and across legal entities, business lines and currencies, taking into consideration legal, regulatory and operational limitations to the transferability of liquidity.
- v. DMBs should establish a funding strategy that provides effective diversification in the sources and tenor of funding. They should maintain an ongoing presence in their chosen funding markets and strong relationships with fund providers.
- vi. DMBs should actively manage their collateral positions, differentiating between encumbered and unencumbered assets. They should monitor the legal entity and physical location where collaterals are held and how it will be mobilized in a timely manner.
- vii. DMBs should publicly disclose information on a regular basis that enables market participants to make an informed judgment about the soundness of their liquidity risk management framework and liquidity position.

CONCLUSION

The major focus of this paper was to identify key issues, challenges and the way forward for effective liquidity management by DMBs in Nigeria. The paper adopted a descriptive approach using published data from the balance sheets of DMBs. It examined the critical role played by the CBN and DMBs in fashioning out appropriate framework for liquidity management and identified the challenges inhibiting effective performance of these roles. In particular, study revealed that deposit liabilities constituted a major source of funding liquidity by DMBs while

loans and advances constituted the bulk of the illiquid assets. It was further found that DMBs in Nigeria operated above solvency level, having current ratio greater than unity. Also, DMBs in Nigeria are over cautious investing more in short-term securities to protect their liquidity positions. The money market instruments however, play a diminishing role as a source of liquidity funding by DMBs. Among the major liquidity management challenges identified in the study are the inability of the monetary authorities to determine appropriate mix of policy instruments that would exert minimum costs while achieving monetary policy targets and the problem of market segmentation which create a situation whereby some banks have liquidity shortages while others are a washed with excess liquidity.

In conclusion, DMBs should establish a robust liquidity risk management framework that is well integrated into the bank-wide risk management process. A primary objective of the liquidity risk management framework should be to ensure with a high degree of confidence that DMBs are in a position to both address their daily liquidity obligations and withstand periods of liquidity stress affecting both secured and unsecured funding, the source of which could be bank-specific or market-wide. In addition to maintaining sound liquidity risk governance and management practices, DMBs should hold adequate liquidity cushion comprising readily marketable assets to be in a position to survive such periods of liquidity stress. They should demonstrate that their liquidity cushion is commensurate with the complexity of their on- and off-balance sheet activities, the liquidity of their assets and liabilities, the extent of their funding mismatches and the diversity of their business mix and funding strategies. Furthermore, DMBs should not allow competitive pressures to compromise the integrity of their liquidity risk management, control functions, limit systems and liquidity cushion. Rather, they should strengthen their credit risk assessment mechanism so as to increase their credit exposure to the private sector.

SCOPE FOR FURTHER STUDIES

This work undertook a descriptive analysis of the liquidity management issues and challenges in Nigeria, using the CBN's liquidity management instruments and the DMBs balance sheet performance as reference points. Further empirical studies are required to establish the link between the CBN instruments and the liquidity management performance of the DMBs. Apart from allowing for strong policy inferences to be drawn; such studies would give room for effective evaluation of the relative importance of the monetary policy variables within the tool kits of the CBN.

REFERENCES

- Adebayo, O. Adeyani O. and Olabode, O. (2011): Liquidity Management and Commercial Banks Profitability in Nigeria. *Research Journal of Finance and Accounting* 2(7/8): pp. 24.
- Allen, F. and Carletti, E. (2013), Financial Markets Institution and Liquidity. Reserve Bank of Australia (Conference Volume): 77-106.
- Bassey G. (2012), The Impact of Recapitalization and Consolidation on Bank Performance in Nigeria. *International Journal of Africa Culture Politics and Development*, 7(2): 1-16.
- Bassey, G. and Moses, C. (2015). Bank Profitability and Liquidity Management: A Case Study of Selected Nigeria Deposit Money Banks. *International Journal of Economics, Commerce and Management*.111 (4) pp. 1
- Baye, M. R. and Jansen, D. W. (2006), Money, Banking and Financial Market: An Economics Approach. India: A. I. T. B. S.
- Buschman, C. And Hedorn, T. (2014), The Liquidity Reserve Funding and Management Strategies, Frankfort School Working Paper Series. No. 210: 1-45.
- CBN (2011). Liquidity Management in Nigeria. Understanding Monetary Policy Series No. 4 pp. 1.
- CBN (2013) Banking System Liquidity. Understanding Monetary Policy Series, No. 34
- CBN (2017), The conduct of Monetary Policy. <http://www.cbn.gov.ng>.
- Ibe, S. O. (2013), The Impact of Liquidity Management on the Profitability of Banks in Nigeria. *Journal of Finance and Bank Management* 1(1): 37-48.
- IMF (2013). Strengthening Monetary and Liquidity Management: Technical Note. Public Sector Assessment Programme Update, July
- Kohn, M. (2006). Financial Institution and Market, New Delhi: Tata Mc Graw-Hue Publishing Co Ltd.
- Nwankwo, U. (1991), Economic Agenda for Nigeria. Lagos: Centralist Production Ltd.
- Nzotta, S. M. (1997). Theory of Money and Finance. Owerri,: Intercontinental Educational Books and Publishers.
- Pat, D. and James, O. (2011). Effects of the Consolidation of the Banking Industry on the Nigerian Capital Market, *Journal of Economics*, 2(1): 57-65
- Pwe (2015), Global Financial Market Liquidity Study. www.pwe.com: 1-152.
- Zenith Bank Plc (2008). Global Financial Crisis: Recession, Depression and Other Threats. *Zenith Economic Quarterly*. 3(4)