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The Role of the Central Bank Of Nigeria Analytical Balance Sheet In Monetary Policy Implementation

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Abstract

This paper examines the role of the Central Bank of Nigeria (CBN) analytical balance sheet in the implementation of monetary policy. The Bank currently uses a mix of both quantity-based (monetary base) and price-based (short-term interest rate) nominal anchors. However, irrespective of the targeting regime adopted, both depends on the central bank's ability to manage its balance sheet given the huge fiscal influence on banking system liquidity in Nigeria. Therefore, the paper analyses the various liquidity management operations of the CBN and their implications for the size and structure of the analytical balance sheet.

Key words: Monetary policy, monetary base, balance sheet, currency in circulation, open market operations.
JEL Classification: E52, E58.

1.0 Introduction

The analytical balance sheet (ABS) conveys vital information on monetary and credit developments in an economy. This was aptly noted by Bindseil (2004), "whenever a central bank transacts with the rest of the world – that is when it issues currency, conducts foreign exchange operations, invests its own funds, engages in emergency liquidity assistance, and, last but not least conduct monetary policy operations – all of these operations affect its balance sheet". The CBN monetary policy objective focuses on maintaining monetary and price stability. The recent quest for increased private capital inflows has also made attention to be focused on building external reserves and ensuring exchange rate stability. Therefore, monetary policy in Nigeria tries to maintain a cautious balance between price and financial system stability conducive to sustainable and inclusive economic growth. Although the expansion or contraction in the size of the balance sheet is not necessarily a signal of the stance of monetary policy,the balance sheet is key in the successful implementation of monetary policy by central banks.

The CBN currently uses a mix of both quantity-based (monetary base) and price-based (short-term interest rate) nominal anchors. The fact remains that irrespective of the targeting regime adopted, both regimes depend on the central bank's ability to manage its balance sheet. However, the Monetary Policy Rate (MPR) is viewed as the anchor instrument for monetary policy management in Nigeria. This is achieved using "standing facilities" with an asymmetric corridor of +200/-500 basis points around the MPR. The CBN provides overnight lending facility to other depository corporations (ODCs)in need by applying 200 basis points above the MPR while it pays interest on overnight deposits with it at 500 basis points below the MPR. The rates on the standing facilities is to gauge the deviation of overnight rates in the financial market from the MPR. In practice, overnight rates have deviated due to the erratic liquidity conditions in the market driven largely by fiscal operations.

The magnitude and structure of the CBN-ABS can change significantly without necessarily impacting interest rates in the market. This is true as banks reserve the discretion to access the standing lending facility (SLF). Though the CBN balance sheet expands when banks use these facilities, it does not in any way compromise the CBN's ability to implement monetary policy. Due to the relatively small size of these facilities, they are not major drivers of the CBN-ABS. Clearly, the key influence on the size and composition of the ABS is liquidity management operations of the CBN. Gray (2006) opines that the presence or otherwise of a liquidity surfeit or squeeze has implication for the central bank and has the potential to influence the following: (a) the transmission mechanism of monetary policy; (b) the conduct of central bank intervention in the money market; and (c) the central bank's income. Open Market Operations (OMO) is the primary instrument of liquidity management, lending to, and borrowing from the market using CBN bills of not more than 364 days. These operations are aimed at smoothening the day-to-day fluctuations in the cash balances of banks.

In recent years, liquidity management operations have led to huge changes in the size and composition of the CBN balance sheet. The effect of the operations on the balance sheet differs from instrument to instrument.

The objective of this paper is to highlight the interactions between liquidity management operations and the analytical balance sheet of the Central Bank of Nigeria.

The rest of the paper is structured thus, section 2 highlights the structure of a typical central bank balance sheet discussing the composition of assets and liabilities. Section 3 looks at the Central Bank of Nigeria analytical balance sheet. The impact of various transactions on the Central Bank of Nigeria balance sheet highlighting how different operations can change the size and composition of the balance sheet is discussed in section 4. Section 5 gives the general perspective of the paper and finally, section 6 summarises and concludes the paper.

2. The Composition of a Typical Central Bank Balance Sheet

Central bank balance sheets are typically the same with minor differences reflecting the history and the operational structure of the macroeconomy. A stylised form of the balance sheet is depicted in Table 1, thus:

Table 1: Stylised central bank balance sheet

ASSETS	LIABILITIES
Foreign assets (including gold)	Foreign liabilities
Claims on government - government securities	Currency in circulation (notes and coins)
Claims on government – overdraft/ways & means advances	Government deposit
Claims on other depository corporations - ODCs	ODCs' deposits
Claims on other resident sectors	Central bank bills – OMO
Other	Equity
	Other

Source: Author's construct

[2] *All financial corporations that take deposit liabilities on their own account are referred to as Other Depository Corporations. In Nigeria, they include all commercial, merchant, non interest, primary mortgage and microfinance banks.*
[3] *This is the supply of central bank money to economic agents including the Federal Government. CBN lending to the Federal Government is called Ways and Means Advances.*
[4] *The CBN creates naira liabilities for the holding of third-party foreign currency assets.*
[5] *The total amount of such advances outstanding shall not at any time exceed five per cent of the previous year's actual revenue of the Federal Government, repayable by the end of the Federal Government financial year in which they are granted.*

The composition of the stylised balance sheet in table 1 comprising asset and liability items can be individually described below.

2.1 Foreign assets and liabilities

Central banks hold assets in foreign currency to enable them to defend the value of their national currencies. This is achieved through intervention in the foreign exchange market by purchasing local currency. In Nigeria, foreign assets do not match foreign liabilities one for one because substantial part of the assets have been monetised by the CBN. Furthermore, third party holding of foreign assets by the CBN are matched by local currency cover.

2.2 Currency in circulation

One of the major functions of central banks is the issuance of notes and coins of fixed nominal value. In some jurisdictions, central government also issue currency. TheCBN is the sole issuer of naira and kobo in Nigeria. The quantum of currency in circulation (CIC) is exogenously determined, the CBN has no control but to comply with the demand of the economy. Assuming Nigerians have preference for holding more or less of the share of their wealth in the form of cash, the CBN responds by increasing or reducing the supply accordingly. Consequently, the amount of the currency liability on the CBN balance sheet adjusts in the same direction.

Often, question is asked, 'why is CIC a liability to the CBN?'. CIC is a liability to the CBN because a mutilated note or coin is usually returned to the CBN at any time and replaced with a new note or coin accordingly. The CIC is 'fiat money' as is issued without the right of exchange for a different physical asset. Although ODCs acquire currency directly from the CBN, it remains a liability to the CBN because they can return it in exchange for the ODCs' account at the CBN to be credited with the same value. The act simply switches one CBN liability for the other. Remember that CIC and deposits are channels of making payment.

2.3 Claims on government/government deposits

Central banks provide banking services to their respective governments as their bankers. Presently, the CBN offer this service only to the Federal Government, although, treasury single account (TSA) services is also provided to few state governments. A positive (debit) balance in the deposit account (Consolidated Revenue Fund (CRF)) of the government is a liability to the CBN, while an overdrawn government position (credit) creates a loan which is an asset of the CBN. Government cash balance at the central bank can fluctuate by the CBN Act of 2007 and the CBN uses its instrument to manage the effect of the fluctuations. Currently, the CBN pays no interest on Government deposits but charges the government MPR plus three (3) per cent on overdrawn position.

Allowing the CRF to be overdrawn is only a temporary banking facility to cushion the volatility of Government cashflows during the financial year. This is referred to as “monetary financing”. Full-funding regime - a situation whereby government finances all its anticipated borrowings through the issuance of long tenored debt instruments to non-bank private sector – is advocated to promote sound government finances and safeguard the economy from the influence of high-powered money. Although there is a declining emphasis on the quantity of high-powered money being a leading indicator of future inflation, it may impact short-term interest rates. It is becoming increasingly clear in Nigeria that prices rather than quantities are at the core of transmission mechanism. This understanding is responsible for the asymmetric corridor of the standing facilities around the MPR to ensure that short-term interest rates do not fluctuate significantly in response to variations in banks' excess reserves.

2.4 Claims on Other Depository Corporations

The function of “Lender of last Resort” performed by the CBN implies that in times of illiquidity, other depository corporations run to the CBN for either temporary 'overnight' accommodation or long-term loans for a more serious liquidity problem. Overnight repos are conducted in the discount window – a lending outlet by the CBN to ODCs experiencing temporary liquidity needs not met at the money market. The central bank decides the maturity of the repos in line with its desire to control interest rates in the market. However, the CBN presently uses standing facilities 200 and 500 basis points above and below the MPR to control the overnight interest rates.

In situations of banking system distress, the loans can be a large percentage of the central bank's assets as was the case in the aftermath of the 2007/08 Global Financial Crisis. If the CBN plans to inject liquidity into the banking system for a longer period, it simply buys financial instruments or some other assets outrightly from the ODCs.

2.5 Claims on Other Resident Sectors

The CBN also have claims on the other resident sectors of the economy, such as other financial corporations (OFCs), public nonfinancial corporations (PNFCs) and state & local governments (S&LGs). The claims on OFCs are not loans per se but CBN's equity holdings in the institutions. This includes the central bank's holding of AMCON bonds, as it is presently classified as OFC.

The PNFCs are Federal Government parastatals such as Nigeria National Petroleum Corporation (NNPC), Nigerian Ports Authority (NPA), Federal Inland Revenue Service (FIRS), among others. The claims on PNFCs are unintended overdrafts due mainly to reconciliation issues.

On the other hand, the claims on S&LGs are the bailout funds provided to them by the Federal Government as budget support facility when the country was hit by fiscal crisis due to the volatility of oil prices in the global market. The over-reliance of S&LGs on statutory allocations slackened their efforts at raising internally generated revenue (IGR). The low IGR coupled with reduced federal allocations, forced them to rely on short-term borrowing from financial institutions. As the situation persisted, their indebtedness lowered their credit worthiness and chances of further borrowing from the financial institutions hence, their inability to honour statutory and discretionary obligations. In view of this, they sought for financial bailout from the Federal Government to avert eminent crisis and collapse of the economy.

2.6 Other Depository Corporations Deposits

The CBN is also a banker to ODCs and as such maintains accounts for them. These accounts range from their current accounts for inter-bank settlement, required reserves to meet statutory reserve requirements and other special deposits as may be demanded by the CBN. Given that the quantity of money is also a focus of monetary policy implementation in Nigeria, the aggregate holding of ODCs' settlement cash balances is particularly relevant. The settlement cash balances matter for the day-to-day liquidity management operations of the central bank via OMO. These accounts in addition to currency in circulation, constitute monetary base or reserve money.

These operations are meant to ensure that the settlement account balances of ODCs remains within the set limit for each day. ODCs lend and borrow overnight from the CBN using the standing facilities to square up their positions thereby avoiding overdrafts.

The CBN also provides interest free intra-day demand driven lending to ODCs to smoothen operations at the real-time gross settlement system which expands the balance sheet during the day and reverses at the end of the business day. The intra-day expansion of the monetary base has no monetary policy implication of impacting interest rates.

2.7 Central Bank of Nigeria Bills/Securities

In recent years, the CBN have been faced with incessant liquidity surfeit in the banking system mainly due to fiscal operations resulting in continuous liquidity management operations to stabilize the system. The withdrawal of liquidity from the market is achieved by selling CBN bills through open market operations (OMO). The bills are typically of a short maturity, not exceeding 364 days. OMO is a market-based technique that involves the buying and selling of CBN bills to influence the ability of ODCs to create credit. Furthermore, with OMO, the CBN can influence ODCs' excess reserves and indirectly impact interest rates as well as the availability of credit and consequently, broad money supply in the economy.

2.8 Equity

The capital of any central bank is normally wholly subscribed by the Government and is usually not a significant item on the balance sheet. The CBN equity is N100 billion but fully paid-up is N5 billion and held entirely by the Federal Government. The equity is not like the usual share capital as the central bank is not an incorporated entity.

3. The Central Bank of Nigeria Analytical Balance Sheet

The analytical balance sheet is indispensable in the effective implementation of monetary policy by central banks. Although, the changes in the size of the balance sheet may not necessarily signal the stance of monetary policy. Table 2 is a stylized presentation of the analytical balance sheet of the CBN.

Table 2: A Stylized Central Bank of Nigeria Analytical Balance Sheet

Asset	Liability
1. Foreign Assets	9. Foreign Liabilities
1.1 Gold and SDR Holdings	9.1 Short term
1.2 Foreign Currency	9.2 Long term
1.3 Denmand Deposits at Foreign Banks	
1.4 Securities of Foreign Govt	10. Currency in Circulation
1.5 Foreign Equity	
1.6 FX Swaps/Forward/Futures	11. CBN Securities
2. Claims on Federal Government	12. Federal Government Deposits
2.1 Treasury Bills & TB Rediscount	13. Private Sector Deposits
2.2 Nigerian Converted Bonds	
2.3 Overdraft to Federal Government	14. Liabilities to Other Depository Corporations
2.4 Other Claims on Federal Government	14.1 Demand Deposits (Excess Reserves)
2.5 Claims on Federation and Mirror Acct	14.2 Special Deposits
3. Claims on State and Local Government	14.3 Required Reserves
4. Claims on Public Nofinancial Corp	15. Capital Account
5. Claims on Private Non-financial Corp	15.1 Capital
6. Claims on Other Depository Corporations	15.2 Reserves
7. Claims on Other Financial Corp	15.3 Provisions
8. Unclassified Assets	15.4 Revaluation Accounts
	16. Unclassified Liabilities

Source: CBN Monthly Monetary Survey Report

Table 2 is not significantly different from the general format in Table 1, except for some sub-items to accommodate our idiosyncrasies, such as claims on federation and mirror accounts, meant to warehouse funds for allocation to the three tiers of Government.

Table 3: Stylized Central Bank of Nigeria Monetary Survey

Asset (Monetary Base Determinants)	Liability (Monetary Base Components)
Net Foreign Assets (NFA = 1.-9.)	Currency in Circulation (CIC = 10.)
NDA: Net Claims on Federal Government (NCG = 2. -12.)	Other Depository Corporations' Deposits (R = 14.)
NDA: Claims on Other Resident Sectors (CORS = 3.+4.+5.+7.)	
NDA: Other Assets Net (OAN = 6.+8.-11.13.-15.-16)	
= Monetary Base	**= Monetary Base**

A summarised version of Table 2 is referred to as monetary survey and presented in Table 3. The CBN survey is simplified by netting the central bank's transactions with the rest of the world (net foreign assets) and the Federal Government (net claims on Federal Government) to aid economic analysis as well as all other assets and liabilities. The presentation is such that the sum of all items on the asset side (monetary base determinants) and those on the liability side (monetary base components) each equals monetary base.

Table 4: Stylized CBN Analytical Balance Sheet as at End-September 2019

Asset	N'Billion	Liability	N'Billion
1. Foreign Assets	**16,150.5**	9. Foreign Liabilities	1,572.3
2. Claims on Federal Government	11,628.0	10. Currency in Circulation	2,005.60
3. Claims on State and Local Government	719.5	**11. CBN Securities**	**17,741.13**
4. Claims on Public Non-financial Corp	154.7	12. Private Sector Deposits	2,899.29
5. Claims on Private Non-financial Corp	52.9	13. Liabilities to Other Depository Corp	4,994.65
6. Claims on Other Depository Corp	1,565.7	14. Federal Government Deposits	5,953.13
7. Claims on Other Financial Corp	7,212.4	15. Capital Account	1,307.54
8. Unclassified Assets	5,827.6	16. Unclassified Liabilities	6,837.53
Total Assets	**43,311.17**	**Total Liabilities**	**43,311.17**

The analysis of the CBN analytical balance sheet at end-September 2019 in Table 4, shows that CBN Securities (OMO bills) outstanding is the largest single item on the Bank's balance sheet. This signals the presence of structural liquidity surfeit in the banking system.

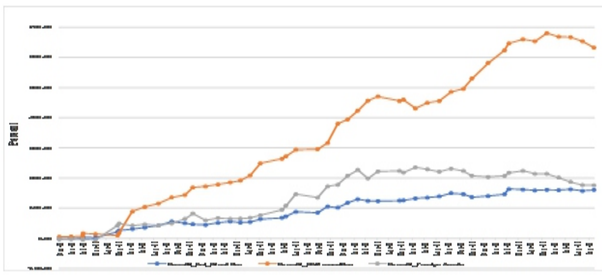


Figure 1: Growth rates of balance sheet size, CBN securities and foreign assets

From figure 1, it is clear, that the issuance of OMO bills started growing rapidly from June 2016. It grew by over 1,000.0 per cent at end-August 2019 compared to foreign assets and balance sheet size which grew by 177.0 and 157.0 per cent, respectively.

The CBN balance sheet has been predominantly liabilities driven resulting in accretion to liquidity surpluses with the banks.

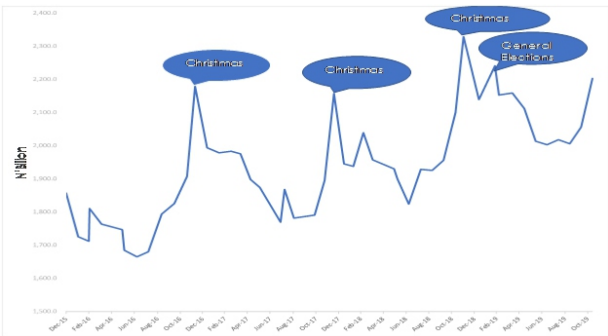
4. Effect of Liquidity Management Operations on the Analytical Balance Sheet

The various functions performed by the CBN impact on the size and composition of the CBN-ABS. This section examines the influence of liquidity management operations on the ABS using the various policy instruments available to the central bank to counter the consequences of changes to the currency in circulation – due to swings in cash preferences of economic agents and Government fiscal operations.

4.1 Currency Issuance/Management

It is the function of the CBN as earlier stated to ensure that at any point in time the right amount of currency notes and coins are in circulation. The injection and withdrawal of currency have implication for the size and composition of the CBN balance sheet. The quantity of currency required by Nigerians is not static throughout the year. There are seasonal factors that determines the amount of cash required by the economy, for instance, Christmas and Eid celebrations as well as general elections (see Figure 1).

Figure 2: Trend in Currency in Circulation



Source: Author's construct

[5] *Figures in parentheses refer to items in Table 2.*

[7] *The window is a lending outlet by the CBN to ODCs experiencing temporary liquidity needs that could not be met on reasonable terms from the interbank money market to realign their liquidity position.*

[8] *Repurchase agreement is the sale of securities, mostly short term, for immediate payment and the promise by the seller to buy back at later date on agreed conditions.*

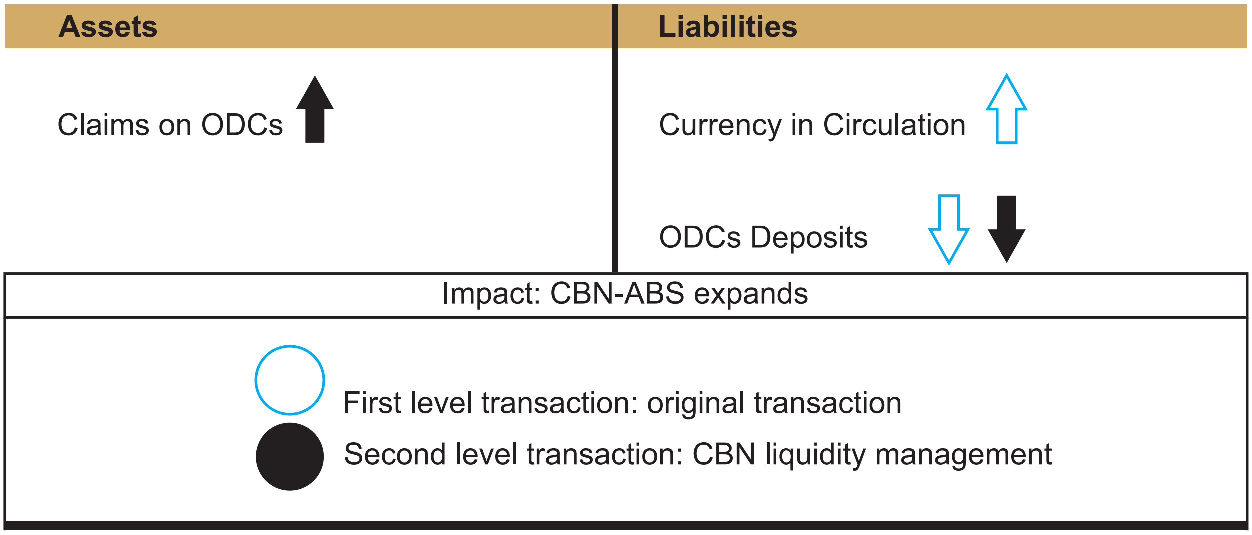
4.1.1 Increase in currency due to festivities and general elections: Injecting through standing lending facility.

The demand to hold cash by bank customers in Nigeria are usually high during festivities and general elections. The preference for cash is usually very conspicuous during Christmas in every December as shown in figure 1. If we consider the increase in CIC over the Christmas period and a Nigerian ODC called 'Alpha Bank'. The account holders of Alpha bank require more cash for Christmas celebration; the bank acquires these currencies by buying them from the CBN. The payment for this transaction is done by the CBN debiting Alpha bank's own transferable (current account) deposits at the CBN.

This transaction reduces Alpha bank's balance and by implication the aggregate ODCs' deposit at the CBN. However, if Alpha bank's position at the CBN would be overdrawn by the transaction, the CBN then lend to the bank through discount window operation via repurchase agreement(repo) to raise ODCs' deposits to the target level. This lending by the CBN is asset creation which raises the assets side of the CBN balance sheet by the same amount and a corresponding increase in currency in circulation on the liabilities side.

First transaction: Currency in circulation rises while ODCs' deposits at the CBN falls both on the liabilities side of the balance sheet.
Second transaction: Claims on ODCs increases on the assets side and ODCs' deposits rises on the liabilities side of the balance sheet.
Overall effect: The CBN analytical balance sheet expands.

Chart 1: Impact of increase in currency in circulation due to festivities: Injecting via repo



Source: Author's construct

The above is also the case for increase in CIC due to Eid celebrations and general elections in Nigeria.

4.1.2 Increase in currency in circulation due to foreign exchange monetization.

The major source of revenue to the Nigerian Government is the sales of crude oil in the international market. The proceeds from these sales are received by the CBN in foreign currencies on behalf of the Federation and recorded as foreign assets on the assets side of the CBN balance sheet. Since it is a third-party transaction, naira liability is created on the liabilities side as Federal Government deposits. This transaction expands the CBN-ABS.

The naira liquidity impact of monetization is like injection via festivities. When funds are allocated to the tiers of Government, the portion that belongs to the FG is kept at the CBN while the sub-national share is moved to their various ODCs' accounts with the CBN. This is simply moving balances from one liability account to the other with no implication on the size of the balance sheet. Therefore, the first level transaction under liquidity injection through monetization is the sub-nationals accessing their balances via their respective ODCs who then purchase currency from the CBN by making payment with their settlement balances at the CBN. The CBN will reduce ODCs settlement balances by the required amount and raise currency in circulation by the exact equivalent.

If ODCs' position at the CBN would be overdrawn by the transaction, the CBN then lends to the ODCs via repo to raise ODCs' deposits back to the target level. This raises the assets side of the CBN balance sheet by the same amount and a corresponding increase in currency in circulation on the liabilities side. This second transaction which is liquidity management operation expands the CBN balance sheet further.

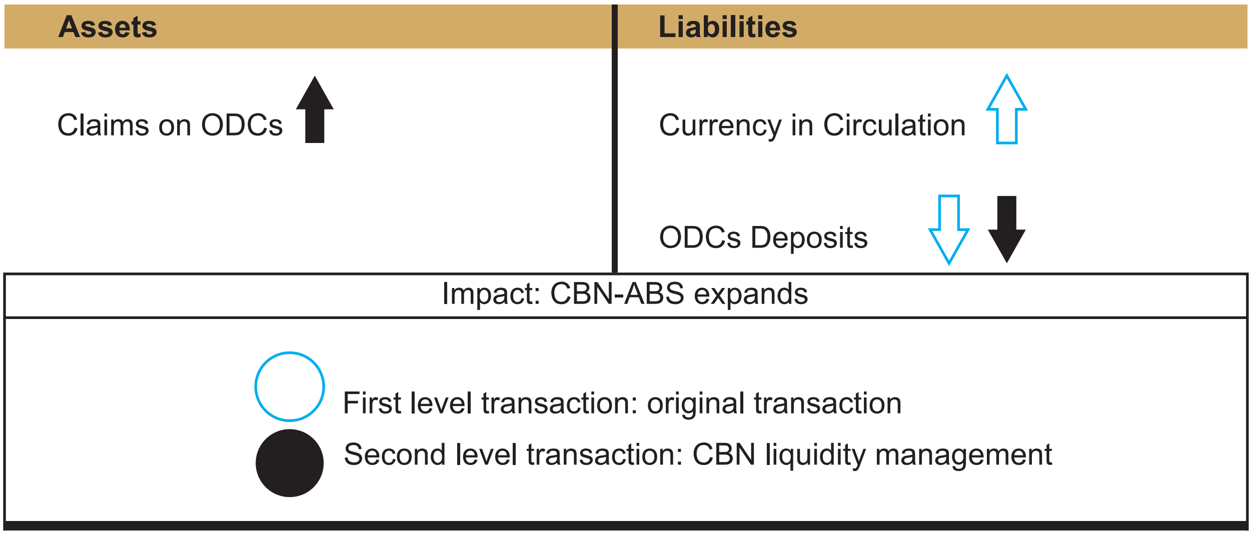
First transaction: Currency in circulation rises while ODCs' deposits at the CBN falls both on the liability side of the balance sheet.

Second transaction: Claims on ODCs rises on the assets side and ODCs' deposits increases by the same amount on the liabilities side of the balance sheet.

Overall effect: The CBN analytical balance sheet expands.

Chart 2: Impact of increase in currency in circulation due to monetization: Injection via repo

Chart 2: Impact of increase in currency in circulation due to monetization: Injecting via repo



4.1.3 Increase in currency in circulation: Intervention via foreign exchange swap

The CBN also use foreign exchange swap as an instrument of liquidity management. To inject liquidity through foreign exchange swap, the CBN buys foreign currencies, usually the US dollars from ODCs and pays naira to the counterparty. This arrangement commits the CBN to resell the US dollars for naira on the maturity date at an earlier agreed price. This deal removes any foreign exchange movement risk as the exchange rate has already been locked at the initial stage of the transaction.

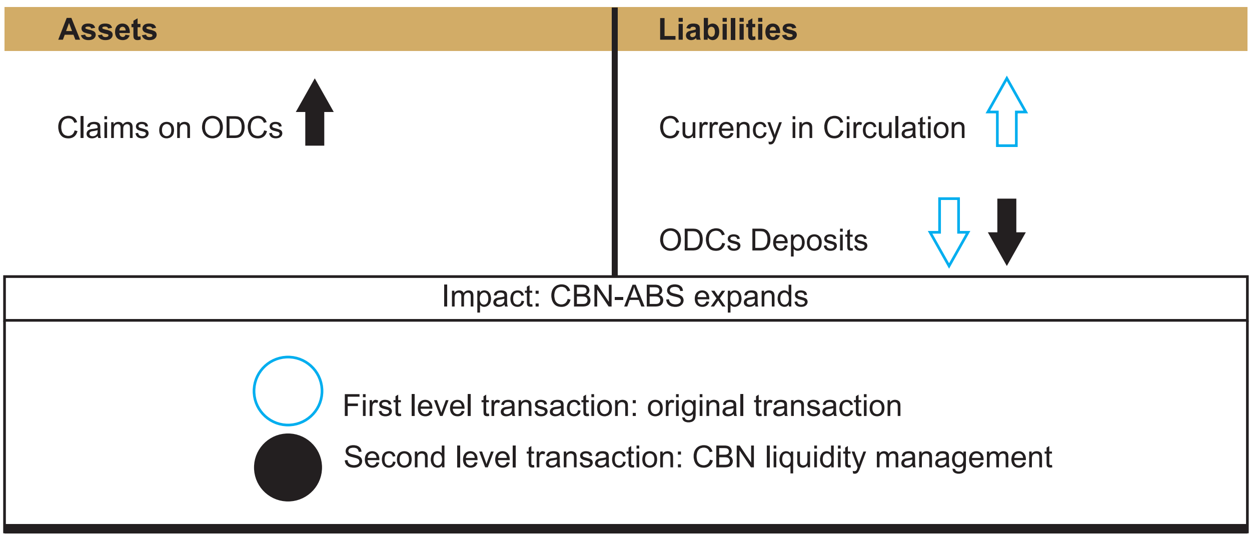
The first level transaction injects liquidity into the system and then withdrawn at the end of the deal. Although the swaps are off-balance sheet transactions, the foreign currency component appears as foreign assets on the CBN-ABS until the swap matures.

First transaction: Currency in circulation increases and ODCs' deposits at the CBN falls.

Second transaction: ODCs' deposits rises, and foreign assets also increases by the amount of foreign currency swapped.

Overall effect: The CBN analytical balance sheet expands.

Chart 3: Impact of increase in currency in circulation via foreign exchange swap: Injecting via repo



Source: Author's construct

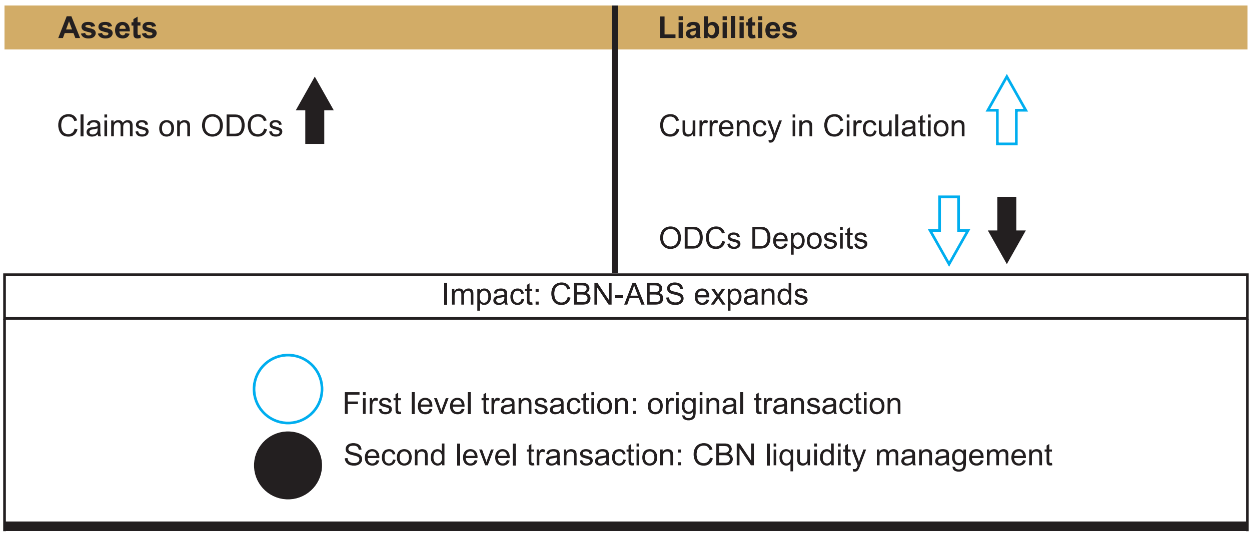
4.2 Government Fiscal Operations

Fiscal operations of Government in Nigeria exerts major influence on the CBN-ABS and liquidity management on a daily basis. These operations range from earnings from oil sales, tax collections and incurrence of expenditures as well as debt management.

4.2.1 Tax revenue collection: Injecting liquidity via standing lending facility
Government tax payments are made into Government accounts with ODCs and then they remit into government deposits accounts at the CBN periodically. When ODCs remit the collections, it reduces their balance with the CBN and will therefore, need to conduct repot to bring it back to the required target level.

First transaction: Government deposits at the CBN rises and ODCs' deposits falls.
Second transaction: CBN claims on ODCs rises and ODCs' deposits increases.
Overall effect: The CBN-ABS expands.

Chart 4: Impact of liquidity injection via repo to offset tax payments

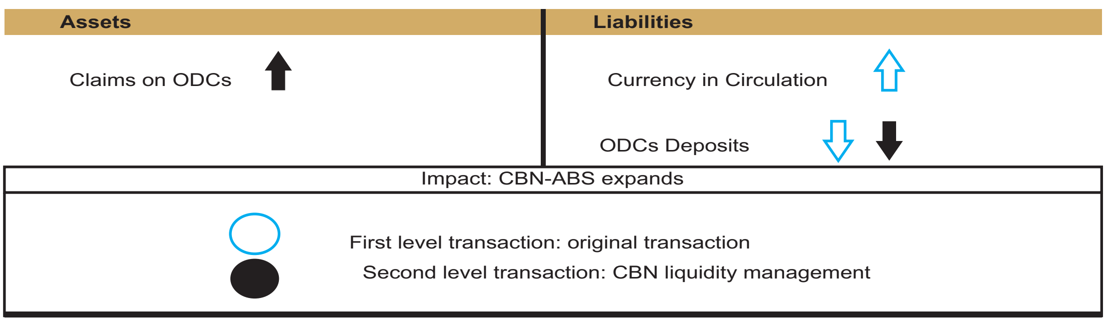


Source: Author's construct

4.2.2 Tax revenue collection: Injecting liquidity through foreign currency swap
Liquidity injection through foreign currency swap to offset tax payments is like preference for cash during festivities and elections.
First transaction: Tax payments by ODCs increases Government deposits at the CBN while ODCs' deposits falls.

Second transaction: The naira purchased by ODCs raises ODCs' deposits back to threshold and CBN foreign assets increases by the amount of foreign currency swapped.
Overall effect: The CBN-ABS expands.

Chart 5: Offsetting tax payments by injecting liquidity via foreign exchange swap



Source: Author's construct

4.2.3 Federation Accounts Allocation Committee payments to sub-national governments: Liquidity withdrawal through issuance of CBN bills

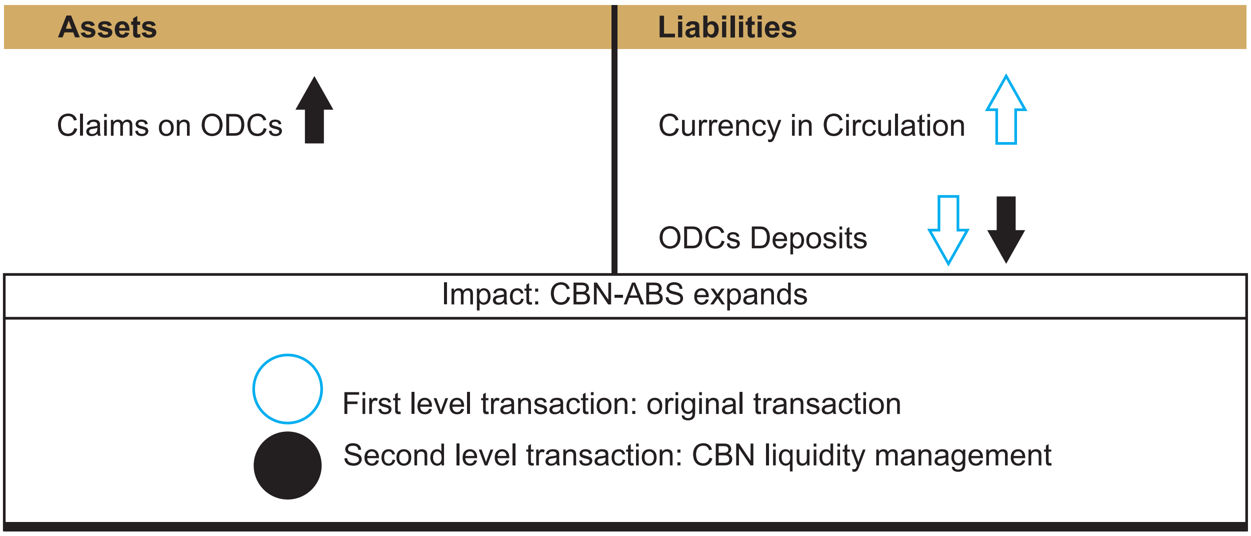
Federation Accounts Allocations Committee payments to sub-nationals are made to ODCs that maintain their accounts. This is done by crediting the ODCs' deposits accounts at the CBN and debiting Federal Government deposits. If this payment raises ODCs' deposits above the target level – the CBN goes to the market to withdrawal the excess. The CBN sell OMO bills to the ODCs to mop the excess in their settlement balances. The OMO bills issuance appears on the CBN-ABS since it owns the instrument.

First transaction: Government deposits at the CBN falls while ODCs' deposits rises.

Second transaction: The issuance of OMO bills increases while ODCs' deposits falls back to target level.

Overall effect: The CBN-ABS remains unchanged.

Chart 6: Liquidity withdrawal via CBN bills to offset FAAC payments to sub-nationals



Source: Author's construct

4.2.4 Liquidity withdrawal via foreign exchange swap to offset FAAC allocation to sub-nationals

The CBN runs down its foreign reserves by exchanging foreign currencies via swap with ODCs for naira. The naira received by the CBN is a withdrawal of excess liquidity in the banking system. The CBN repurchases the foreign currency at maturity at the agreed price. As earlier discussed, the price is locked and therefore, no foreign exchange price movement risk in the deal.

First transaction: Government deposits at the CBN falls while ODCs' deposits rises.

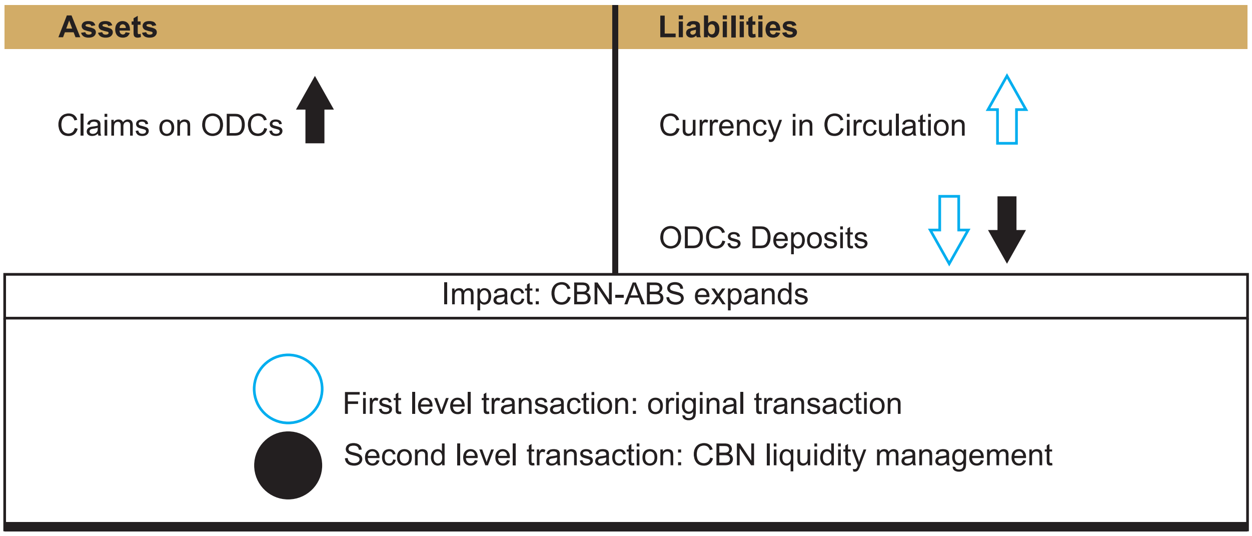
Second transaction: ODCs' deposits falls back to target level by the amount withdrawn. Also, foreign assets of the CBN falls by the same equivalent.

Overall effect: The CBN-ABS contracts.

[9]Nigeria runs a federal system with three tiers of government: Federal, State and Local governments. The three are referred to as "Federation".

[10]Although the proceeds belong to the three tiers of government for monthly allocation, it is recorded as Federal Government deposits pending when it is shared. The basis is that the Federal Government controls the funds until it is allocated.

Chart 7: Liquidity withdrawal via foreign currency swap to offset FAAC payments to sub-nationals



Source: Author's construct

Recently, the CBN have not used foreign exchange swaps for monetary operations. Most central banks have significantly reduced the use of foreign exchange swaps because the portion used for the swap is tied-up until maturity, except those central banks that have huge official reserve assets.

4.2.5 Liquidity withdrawal via repo of CBN holdings of Federal Government securities

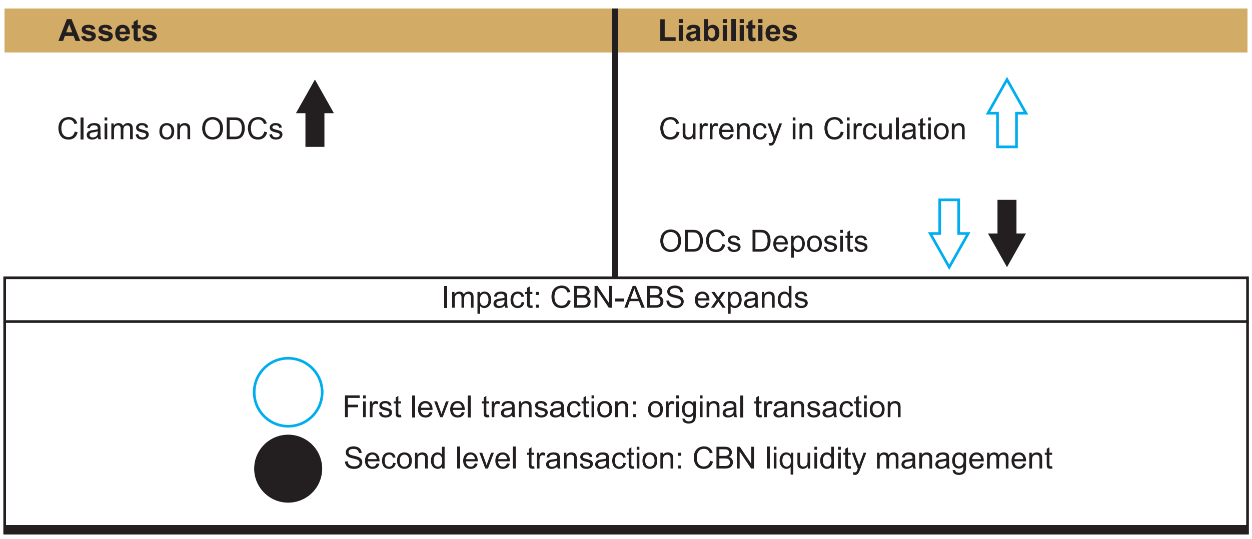
The CBN holds a portfolio of Federal Government securities (treasury bills and bonds). These instruments, particularly, the treasury bills are used to withdraw liquidity in the banking system. Although, since the introduction of CBN bills, Government treasury bills are rarely used for liquidity management.

First transaction: Government deposits at the CBN falls while ODCs' deposits rises.

Second transaction: Claims on Government falls. Payment for the treasury bills in the repo reduces ODCs' deposits at the CBN to target level.

Overall effect: The CBN-ABS contracts.

Chart 8: Withdrawal of liquidity via repo of FG securities to offset FAAC payments to sub-nationals



Source: Author's construct

5.0 The General Perspective

The discussions in the previous section assumes that individual actions are undertaken by the CBN to offset different impacts on liquidity in the banking system. In reality, these different impacts occur simultaneously. The operations by the CBN are targeted at the net effect of changes in the preference for cash, fiscal operations and maturing obligations. This net position influences the level of ODCs' deposits and ultimately, the CBN-ABS.

The periodic OMOs reflect forecasts of the various flows across the CBN accounts. The CBN determines the net effect of changes in CIC, fiscal flows, and maturing obligations. If the net forecast is a net withdrawal of liquidity from the system, actions are taken to inject the exact quantity through repo/or swaps. This is to ensure that the settlement account balances of ODCs do not fall below the set threshold.
CBN forecast of liquidity may not be exact as Government cash flows cannot be predicted precisely due to last minute changes in decisions. Consequently, the outcome may be several billions of naira above or below the forecast.

In a situation that the CBN overestimate the demand for liquidity, the end-of-day settlement balance will exceed the set limit, the ODCs in excess will have SDF, getting an interest rate of 500 basis points below the MPR. If the forecast is an underestimation of currency demanded, the settlement balance will be below the set limit. This will result in SLF being used to bridge the gap since no ODC can be overdrawn. The SLF is at an interest rate of 200 basis points above the MPR. Also, the intra-day facility is available interest free but when converted to overnight facility, SLF, due to inability to pay back the intra-day attracts SLF plus penal rates.
The deployment of these facilities expands the CBN-ABS same way as using foreign currency swaps to inject liquidity. The facilities are at the disposal of ODCs even without forecast errors. Given that the rates on these facilities are anchored on the MPR, the CBN-ABS fluctuations due to the use of these facilities have no consequences for monetary policy.

6. Summary and Conclusion

The essence of the paper is to highlight the interactions between the Central Bank of Nigeria analytical balance sheet and the implementation of monetary policy. This relationship has revealed the critical role played by the analytical balance sheet in the successful implementation of monetary policy. The CBN-ABS is important to the functioning of the Nigerian economy as its key liabilities, currency in circulation and ODCs reserves, provide the ultimate avenues for the settlement of transactions.
Despite the differences in the accounting practices and domestic peculiarities resulting to varying form and presentation of central bank analytical balance sheets, all central bank analytical balance sheets can be summarised to a common form. This abridged form contains a few broad items, each of which plays critical role in the attainment of the mandates of the central bank.

Fiscal operations in Nigeria exerts major influence on the CBN-ABS and liquidity management daily. The resultant surplus liquidity has been a major challenge in the implementation of monetary policy leading to the deployment of series of conventional liquidity management instruments. This is to ensure that short-term interest rates are anchored around the MPR to achieve the wider monetary policy objective of price stability.
Therefore, to guarantee an effective and successful monetary policy regime – the quality of the analytical balance sheet must be of paramount importance to the Management of the Central Bank of Nigeria.

References

Andrea, S. (2001). "Implementation of Monetary Policy and the Central Bank's Balance Sheet", *Working Paper*, WP/01/149, International Monetary Fund.

Brookes, A. (1999). "Monetary Policy and the Reserve Bank Balance Sheet", *Reserve Bank of New Zealand Bulletin*, Vol. 62 No.4.

Bindseil, U. (2004). "Monetary Policy Implementation – Theory, Past and Present, Oxford Press.

ECB (2015). "The Role of the Central Bank Balance Sheet in Monetary Policy", *Economic Bulletin*, June.

Garreth, R. (2015). "Understanding the Central Bank Balance Sheet", *CCBS Handbook* No. 32, Centre for Central Banking Studies, Bank of England.

IMF (2016). *Monetary and Financial Statistics Manual*, Washington DC, USA.

Praggya, D. (2017). "Monetary Policy and the Reserve Bank Balance Sheet – Transiting Through Demonetisation", *Special Proceedings 0f 19th Annual Conference of SSCA* held at SKUAST, Jammu, March 06 – 08, 2017, pp 69-81.

Vasco, C and Micheal, W. (2010). "The Central Bank Balance Sheet as an Instrument of Monetary Policy", *Working Paper* No. 16208, National Bureau of Economic Research.

Zubair, A. (2011). "Liquidity Forecasting: Nigeria's Experience", *CBN Bullion*. Vol.35, No.1, January – March, pp. 35 – 43.