



Structure Of The Nigeria Money Market: Purpose & Structure, Instruments, Interest Rates & Yields

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ABSTRACT

This paper examines the structure of the Nigeria money market, purpose, instruments, interest rates and yields. It provides the foundation principles and conceptual frameworks for financial practices in modern world. The purpose is to deliver the bases with which the Nigeria money market operates, by showing the underlying ethical principles and context in order to fully explore their potentials thereby proffering useable solutions domicile in the Nigeria money market. High interest rates discourages borrowings, increases the cost of doing business. The interest rates in Nigeria increases at an increasing rate due to inflation. Historically, between 2000 and 2017 inflation averaged over 12% (CBN 2017). There is the conservative approach which encourage investors to sell off some bonds or stock investment for cash when anticipating rising interest rates. These cash can be deposited into savings or money market accounts with interest rates that will presumably be rising along with the other rates. Domestic production of consumer and capital goods should be encourage rather than imports, this will position the naira in the global market thereby increasing it's demand. This paper explored both classical, Keynesian, monetarist theory and modern thoughts of money market. It is observed that buying habits of Nigerians set aside smallest denomination of Naira, there is the issue of lack of trust in financial institutions coupled with policy incoherence and policy conflict, structural bottlenecks, information asymmetry from money market operators to investors. The demand for a robust and agile money market is globally popular not only in Nigeria. Implementing interest rate management techniques will go a long way. This paper advocates for adoption of global best money market practice and total compliance on Nigeria, cash holding should be increased, investment in short term instruments should be encouraged, transfer to interest rate hedge securities, investment in variable rate securities, and inverse security funds.

Keywords: Money market, instruments of money market operation, interest rates and yields.

INTRODUCTION

Meaning of Money

Money is a substitute to a barter economy. However, Okereke & Sanni (2005) posits that money could be defined from its legal aspect, functional point of view, from its aggregate/macro definition, or from its policy point of view. Money is anything that is accepted by law and custom for exchange of goods & services or settlement of debts.

From the functional point of view, money is anything that serves as store of value (savings), standard for deferred payment (a claim on goods & services that can be exercised now or in the future) and general purchasing power.

From the aggregate or macro definition, money is anything with unchanging price in terms of unit of account which is generally accepted within a political jurisdiction for the settlement of debts or for the payments of goods & services rendered.

From the policy definition, money is said to be balances held to mainly carry out transaction designated as M1 narrow money (currency, demand deposit, fiat money), M2 broad money (currency, demand deposit, savings deposit, time deposit and other liabilities), or $M2 = M1 + \text{Quasi Money} + \text{Other Liabilities}$, where QM: $SD + TD$, M3 ($M1 + C + DD + TD$), M4 (savings deposit and other monetary instruments).

- M1 = C+DD..... i
- $M1 = M_2 (\text{Total Monetary Assets}) - \text{QM} - \text{OL}$
- $M_2: M1(C+DD) + \text{QM} (SD+TD) + \text{OL} = \text{Total Monetary Assets}$
- $M_2 = M1 + SD + TD$
- $M_2 = \text{DC} (\text{net}) + \text{FA}(\text{net}) - \text{OA}(\text{net})$ ii
- $M_3 = M1 + C + DD + TD$ iii
- $M_3 = M_2 + S + B$
- $M_4 = SD + OL$
- $M_4 = M_3 + BA + CP + CD$
- $M_4 = M_3 + SB + TS + BA + CP + M_3H$
- C=Currency
- DD=Demand Deposit
- SD=Savings Deposit
- TD=Time Deposit
- OL=Other Liabilities
- DC=Domestic Credit (net)
- FA=Foreign Assets (net)
- OA=Other Assets (net)
- S=Shares of credit institutions
- B=Bonds of credit institutions
- CD=Certificate of deposit
- BA=Bankers Acceptance
- CP=Commercial Papers
- SB: Savings Bond
- TS=Short Term Treasury Securities
- M3H=Net of Money Market Mutual Holdings of Assets

Functions of Money

Osiogbu, P. I (1998) list the following functions of money.

- a) Medium of exchange
- b) Store of value
- c) Unit of account
- d) Standard of deferred payments
- e) Measure of value

Kinds of Money

- 1) **Fiat money:** This type of money is valuable because of its purchasing power not because of its precious metal content, it's a legal money that circulates in the economy not by itself but by the fiat which is given by the Government. It has little or no commodity value that is not redeemable in gold, silver or any other commodity whose value equals its legal value, but only by the faith of the bearer. It lacks intrinsic value, it is also called credit money. EX of fiat money is paper money and coins.
- 2) **Full bodied money:** Any unit of money whose face value (purchasing power) and intrinsic value (value of metal coined in it) are equal so that this commodity can move in and out of the monetary system without loss of value. Ex cowry shell, rupee coin.
- 3) **Representative full bodied money:** This is simply a warehouse receipt, it represents in circulation an amount of metal with a commodity value equal to the value of the money i.e it represents the equivalent amount of money stored in the treasury and payable to the holder on

demand. The holder can claim the amount of money at sight, it's unlike cheque because it is full-bodied money. It is also called paper money e.g. bank notes, coins (standard & token).

- 4) **Credit money:** This refers to any money that circulates at a value greater than the commodity value of the metal of which it is made. This is backed by the coercive authority of the law, it is symbol of sovereignty. Hence the name seigniorage which is the total revenue of profit derived from money production or maintenance.
- 5) **Quasi money:** They are monetary instruments like TB, CC, they are near monies used directly or easily converted for exchange process. QM is not a legal tender, but comprises both monetary instruments, SD, DD that have the ability to store value. They include bills of exchange, money orders, promissory notes, postal orders and cheque.
- 6) **Domestic & international money:** This is the kind of money that commands acceptance within the boundaries of the using country or over a limited territorial boundary e.g Naira & Kobo. While international money commands acceptance over a wider geographical area usually beyond boundaries of the using country e.g. US DOLLARS, British Pounds & Euros.

Modern Forms of Money

- 1) Banknotes (fiduciary notes) e.g. N10, N20, N30
- 2) Bank deposits e.g. Cheque.
- 3) Coins e.g. 1k, 2k.
- 4) Bank money e.g. Bank draft, Bankers acceptance.
- 5) Convertible and inconvertible money
- 5) Active and idle money

Principles of Money

- 1) Principle of legality
- 2) Principle of convertibility
- 3) Principle of issuing authority
- 4) Principle of money characteristics
- 5) Principle of political jurisdiction
- 6) Principle of time phase or evolution

Theories of Money

- 1) Classical theory of money
- 2) Keynesian theory of money
- 3) Monetarist theory of money
 - a) Irvin Fisher's theory
 - b) Cambridge theory

Characteristics of Money

- a) Acceptability
- b) Divisibility
- c) Durability
- e) Homogeneity
- f) Scarcity

Market

A market is a system, institution, procedure, whereby parties engage in exchange. It is an actual or nominal place where forces of demand and supply operate, where buyers & sellers interact (directly or through intermediaries) to trade goods, services, or contracts or instruments for money or barter.

Markets include;

- 1) Any mechanism for determining prices of traded items,
- 2) Any means of communicating price information,
- 3) An avenue of Facilitating deals and transactions and
- 4) Effecting distribution.

Market for particular item is made up of existing and potential customers who need it and have the ability and willingness to pay for it.

Purpose and Structure of the Nigeria Money Market

-The Money Markets

Money markets are the trading for short-term financial securities. The markets are created by an intangible relationship between suppliers and demanders of short-term funds. They are not an actual organization housed in a central location.

Regulators of the Money Market

The money market is mainly regulated by the CBN to avoid financial crisis, to ensure orderliness, transparency, fairness in competition, level trading ground, to avoid over-trading, ensure stability. These are achieved through monetary policy rate, Cash Reserve Ratio, Liquidity ratio, Interest rate.

Money Market Instruments

Money market instruments are debt securities with short-term maturities with little default risk and are very liquid (marketable). It involves the trading of short-term negotiable financial instruments. The market exists for new financial claims (primary) and for already issued and existing short-term financial instruments. The agents, organization and intermediaries who get involved in the trading of money market instruments are Deposit Money Banks, Central Bank of Nigeria, State Government, Social security and National Insurance fund, savings association, insurance companies, financial houses- with Deposit money banks dominating. The short-term debt instruments include;

1) Treasury Bills

These are government securities with an initial maturity of under a year, it was first issued in 1960. They are obligations of the treasury issued weekly on an auction basis and sold by competitive bidding. They are with maturity dates of 91days, 182 days, nine months and one year and are sold at discount, from the maturity face value. It is a sound local substitute to short-term external assets.

Government Issue treasury bills to stimulate development of the money market and to raise short-term funds for its programs, it was used in Nigeria to finance the Civil war, and post war reconstruction and rehabilitation exercise.

Treasury bills have low risk variance as CBN absorbs all that could not be taken up by other institutions. It is generally issued in the bearer form so that there is strong secondary (resale) market for it. Yields are also lower than other money market instruments.

The basic objectives for CBN issuing treasury bill are to;

- Develop a local money market in the country
- To stop repatriation of short-term funds into the London Money Markets
- Create domestic outlet for investment of short-term funds in Nigeria
- Provide the atmosphere for efficient regulation of the monetary and banking system
- Provide for banks the financial instruments for effective management of their resources.

2) Treasury Certificates

These are money market instruments which are issued by the Government. They have maturity of one to two years, they carry higher interest yields than treasury bills.

Major holders of Treasury Certificates include the CBN, DIV|B'S and other financial institutions. It was first issued in 1975 because of the oil boom. However, the de- regulation of our financial system and the various reforms of CBN, Government and banks have de-emphasized the use of treasury certificates.

3) Certificate of Deposits

This is an inter-bank instrument designed to attract surplus bank funds, the certificate is evidenced by its being issued to the depositor by name.

The certificate carries the amount deposited, the yield rate and maturity all tailored to the investments with strong secondary market features and maturity that stretch between three months to three years.

It was first issued in 1975, there are non-negotiable certificates of deposit but business and banks are the major holders of certificates of deposits. It can be negotiable or non-negotiable depends on the terms of issue.

4) Banks Unit Trust Fund

The banker's unit fund is a scheme under which bank as well as other financial institutions can invest part of their excess liquidity turned into pool of fund in federal Government development loans stock. Funds of participants are repayable in whole or part on demand provided withdrawals are in multiples of #10,000.00. The bankers unit fund is designed to aid the market for federal Government stocks.

Banks holdings of the stock are accepted as part of their long-term interest rates on short-term investment and CBN uses it to mop up excess liquidity in the banking system. Activity level here is not as active as in treasury bills and certificate of deposits. It was introduced in September 1975.

5) Stabilization Securities

CBN has introduced stabilization securities since 1976 and it was design to mop up idle cash of participating in banks. Participating in the fund is mandatory for banks to invest as fifty percent of the cash lodged with CBN will result to increase in saving deposits over the level in the preceding year.

Commercial Papers

Is a short-term unsecured promissory note issued by a company with a very high credit standing in a system. The name "commercial" came from the fact that the original issuers of the original issuers of the instrument were predominantly commercial firms who used funds to finance stock in trade and trade debtors account.

It is a substitute for short-term bank loans and carries varying maturity dates and yield rates. Banks are purchasers of commercial papers. Banker's acceptance is a commercial paper backed up by guarantee from a specific bank. The bank accepts responsibility to redeem the bill if the customer defaults.

6) Call Money

This fund was established in 1962, it is an inter-bank money arrangement under the CBN call money scheme, DIVIB'S and other participating institutions keep temporary surplus cash with CBN who invest them in short-term money market instruments, usually treasury bills.

The inter-bank call money scheme has been flourishing as an outlet for temporary surplus funds on overnight basis. The participants hold a minimum cash balance with CBN so that the balances in excess of that minimum could be invested in the scheme.

It is an essential investment outlet for idle funds for banks and serve as a cushion which absorbed the shocks of liquidity pressure in the money markets. This is used to effectively manage money resources. '

Others are;

- Federal funds
- Negotiable certificates of deposit
- Eurodollar Time Deposits
- Repurchase agreement
- Municipal notes
- Coupon securities
- Interbank placement (call money, short-term deposit)
- Industrial debenture issues
- Bills payable or receivable financing

Participants in the Money Market

Due to the liquidity of money market, financial instrument traded and their implications on the volume of credit in the economy, monetary policy exert considerable influence on the activities of the market. The regulation of the market is a means of meeting government financial requirements as well as regulating the economy's money supply.

Deposit Money Banks participate actively in money market transactions. This is so because money market instruments qualify as liquid assets and so DIVIB can use them to meet their liquidity requirements. Unlike cash assets which are sterile in terms of earning, money market securities provide DIVIB opportunities for investment as they form part of cash-assets-income bearing mechanism.

The key participants in the money market include individuals, businesses, governments, suppliers or demanders (deficit) units in the economy. Others are non-bank financial institutions like discount houses, issuing house, pension fund custodians and pension fund administrators who use income from them for their survival.

Individuals participate as purchasers or as sellers of money market instruments, their purchase is limited due to large denominations.

Banks and brokerages firm deal on these instruments, break down the securities in types and denominations to make them accessible/available in smaller denominations. Individuals sell money market securities not as issuers but in order to liquidate the securities prior to maturity, because individuals do not issue such securities.

Business firms, governments and financial institutions both buy and sell money market securities either as primary issuers or they may sell securities they have purchased and wish to liquidate prior to maturity. Therefore they may act as primary or secondary sellers of these securities.

A business firm cannot issue TB it can only be issued by the CBN, some financial institutions purchase marketable securities specifically for resale, while others purchase them as short-term investment. Business and government purchase marketable securities solely to earn return on temporarily idle funds.

Interest Rates and Yield

Interest Rate Theory: Money has a price which you must pay for exchanging it, the seller of money or surplus economic unit or supplier of fund or lender must have reward for consumption now and parting with his savings to the buyer of money or deficit economic unit or borrower. This reward or price is the interest and the rate at which he prices his savings is interest rate.

Interest and Interest Rate Defined: Interest is the naira cost of borrowing or the naira returns for lending money. It is governed by three elements namely the principal, rate of interest, and the amount of time.

Mathematically, $I = P \times R \times T$

Where P = Principal Amount

T=Time

R=Rate of Interest

Interest rate is a fraction of two numbers, it is the price or reward established by the interaction of the supply and the demand. It is the price at which future claims exchange hands between borrowers (users) and lenders (savers) of funds. It is the only motivator or inducer in the lending and borrowing process due to higher returns. Interest rate is usually positive. However, if the future claim to resources is exactly the same as the initial amount lend, then interest rate is said to be zero. For any money lend out, there is usually an attached risk called default risk which must be compensated.

Considerations in Interest Rates

Essentially, interest rate is affected by the degree of default risk and the timing of loans. The following must be considered;

- 1) The difference between nominal (normal) and real interest rate.
- 2) Prime and lending rate
- 3) The term structure of interest rate
- 4) The general level of interest rates

1) Nominal (Normal) & Real Rates Of Interest

Normal (nominal) rate of interest is the raw money rate or the actual rate paid by the borrower or received by the lender without regard to variables like inflation.

Real rate of interest is the adjusted nominal rate. The adjustment is perfected using prevailing inflation rate. Thus, given an original (nominal), sum for a particular period, the real rate of interest can be calculated using the following equation.

Real interest Rate = Nominal Interest Rate - Actual Rate of inflation

Investors are always interested in the real interest rate because it gives them a more realistic picture of their return on investment.

2) Prime and leading interest rates

Prime interest rate is the interest rate charged by bank to their most cherished customer (credit worthy or prominent and stable business customer). This rate is almost the same among banks and adjustments (after a long time) to this rate are made by banks at the same time. It is usually negotiated.

Lending rate is the interest rate charged by banks to other customers other than their most credit worthy business customers. It is the general interest rate charge by banks and conventionally displayed in the banking hall.

3. Term Structure of Interest Rate

The term structure of interest rate refers to the spread of interest rate paid on assets of the same type with different terms of maturity, This implies that given fixed interest or fixed term loans, and their years of maturity, they attract different rates of interest which when presented graphically will give what is known as the yield curve show below. Yield on an asset, which is interest income plus/minus not capital appreciated/depreciation, is a commonly used term and regarded as being synonymous with interest rate.

Yield rises as the years to maturity increases but, yield is independent of the maturity period. Risk is attached to lending, the liquidity preference and expectation of interest rate movements, among other factors. Thus, wide variations in interest rate due to the length of time. Other factors may include security of the loan, the nature of the financial institution, the money borrowed from or lent to and the amount of competition among financial institution.

4. General Level of Interest Rates

General level of interest rate is usually difficult to ascertain. This has given rise to divergent approaches to determination of interest rates. Essentially, two opposing but related theories of interest rate can be identified namely the classical or loan able funds theory and Keynesian or Liquidity Preference theory. In between these two extreme theories is the Eclectic theory or compromising view.

Classical Theory

Proponents of the classical theory are the classical economists, who see real interest rate as being determined by the real force of demand (investment) for and supply (savings) of loan able funds.

On the demand side of the classical theory, the business private sector, the government and individuals are always demanding loan able funds for investment purposes. Basically each of this group is influenced by different factors (s). For instance, while the private sector is affected by the profit via prevailing interest rate (cost of funds), the individual is affected by his level of income while the government is mostly affected by the related economic condition. Generally, therefore, we can say that the demand for loan able funds for investment purpose is affected by the level of expected profit related to the prevailing interest rate; the level of income; and the state of the economy.

Thus, the demand for loan able funds depends upon the level of desired investment within the economy, which can only be undertaken if and only if the yield (return on investment) is equal to, or greater than the market rate interest. Market rate interest is the price paid for using other people's savings. According to Ajayi and Ojo (1981), it is the rate that, when used to discount the stream of returns (on investment) equates the supply price of capital to the stream of expected returns.

On the supply side is the schedule of real savings. Thus, the supply of loanable funds is determined by the level of saving in the economy. The level of savings on the other hand is majorly, influenced by the cost of parting with ones savings interest rate. The higher the opportunity cost of consuming goods and services now, the higher the savings level. Other factors influencing savings and consequent supply of loanable funds include.

- (i) Societal Orientation: Some societies have real preference for consumption in the future as opposed to consumption now (Society thriftiness). This type of society tend to save more and have more funds to supply to the deficit economic unit than the opposite society. Here, real interest rate pushes upward because of the increased desire to save by the society. Summarily, the basic proposition of the classical (loanable funds) theory is summarized as follows;
 - a) The desired level of savings rises as the rate of interest rises.
 - b) The desired level of investment falls as the rate of interest rises.
 - c) The rate of interest changes smoothly and rapidly in such a way as to keep the volume of investment always equal to the volume of investment always equal to the volume of savings. Thus, changes in the level of real interest rates will be brought about by changes in the real economic factors underlying the savings and investment behavior within the economy. Other factors are,
 - (i) Level of individual and national income
 - (ii) Institutional framework

- (iii) The degree of risk and inflation
- (iv) Government fiscal operations
- (v) Market expectation.

Classical theory is determined by the forces of the demand for loanable funds for investment and the supply of funds saved by individual to the economy influenced by interest rate and societal orientation.

The demand (investment) and supply (savings) interact to establish an interest rate.

Keynesian (Liquidity Preference) Theory

This theory provides variables for the determination of interest rates. The theory argues that the major determinant of interest rate is the supply of money as a whole instead of the loanable theory that sees money supply as being neutral. Money supply determines the absolute level of prices and therefore has no effect real variables (consumption, savings, and investment).

There is always compensation for one parting with his liquidity. The Keynesian Liquidity Preference theory concluded that, the rate of interest is the price (cost of premium) offered to a stockholder or wealth holder for denying himself of his liquidity. Keynes (1936) stated that "The rate of interest is not the price which brings into equilibrium the demand for resources to invest with the readiness to abstain from present consumption. It is the price which equilibrates the desire to hold wealth in the form of cash with the available quality of cash". However, there are three basic motives of people holding their assets in cash namely, transactions motive, precautionary motive and speculative motive. This theory is efficient only when the demand for money is constant. When supply of money increases, rate of interest reduces. This is to induce stockholders to hold increased money supply in order to maintain a balance between money supplied and money demanded.

If stockholder prefer to hold larger transactions and precautionary balances due to increased nominal income levels, demand for money will increase, causing an increase in interest rate. Naturally, the increased desire for transactions and precautionary needs call for greater need for liquidity, increased demand for money, and the need to sell bond by stock holders in order to meet their liquidity needs raises the yield.

Eclectic Theory of Equilibrium Approach

This theory tries to reconcile the criticisms or short comings of the classical and the Keynesian theories of interest rate determination thereby producing a hybrid called equilibrium approach to interest rate determination.

The eclectic theory or equilibrium approach can best be explained using IS-LM framework developed by Hicks in 1973. IS-LM framework is a combination of two curves (IS curve and LM curve). IS curve is derived from a family of savings schedules (S) at various income levels together with the investment demand schedule (I), while LM is derived from a family of liquidity preference (L) at various income levels together with money supply (M). Therefore, both IS curve and LM curve determine both interest rate and income level when (i) demand for money and money supply are equal (ii) investment and savings are also in equilibrium. By this arrangement, both the Keynesian (LM) and the classicists (IS) are fully considered in this equilibrating approach.

Interest Rate Management in Nigeria

Interest rate management refers to the set of techniques, ways and means designed and applied by the CBN to determine the level of interest rate the ensures the achievement of nominated macroeconomic objectives of price and exchange rate stability, rapid and sustainable employment as well as general growth. It involves the application of monetary tools by CBN to impact positively on financial markets.

Interest Rate Management Techniques

1) Administrative Fiat

This involves a direct approach (controls) of determining interest rate. It involve the administrative fixing of lending and savings rates and bank charges by CBN with periodic adjustment based on policy decisions. Allocation and expansion credit is strictly under the control of monetary authorities. This technique was practiced in Nigeria during the pre-SAP era mainly to stimulate investment,

promote orderly growth of the financial market, reduce inflation and lessen the burden of domestic debt service on government.

Positively, this technique promotes stability and create a high level of credibility.

Negatively, capital input is insufficiently used due to inappropriate pricing of credit and deposits, loanable funds are in very short supply due to banks preference to invest their funds in TB that are lent below their average cost of funds, capital formation is at very low level.

5) Deregulated (Free Market) Interest Rate Determination

This technique came with the SAP in 1986, it involves an indirect approach in determining interest rate. The operation is market-determined. The regulatory authorities only set the rules and allow the operators to play according to and within the rules. Minimum rediscount Rate influences the cost and availability of credit in the economy, this is unlike the administrative technique.

Interest rate is determined using Open Market instruments like CBN certificate, National savings certificate, adjustment of cash reserve ratio, liquidity ratio and rediscount rate.

Whenever CBN reduces its IVIRR banks respond as follows;

- 1) Reduce credit to marginal customers especially small and medium scale enterprises
- 2) Consumer finance is drastically reduced
- 3) Banks concentrate only on short-term lending activities.

Intensify deposit mobilization with higher rates and incentives.

Problems of CBN Interest Rate Management in Nigeria

- 1) Policies are more reactionary to development and also anchored on demand management techniques rather than the supply side.
- 2) Conflicting policy tools between CBN to employ reducing monetary tools and ministry of finance who embarks on fiscal expansion.
- 3) Structural bottlenecks/rigidities in the economy.
- 4) Poor banking habit which has left more funds outside the banking system and lead to high cost of funds.
- 5) The side effects of CBN Open Market Operation in their mop up exercise have been very unfavorable to interest rate.

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