

## **The Impact of Money Market Indicators on Real Estate Finance in Nigeria**

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### **Abstract**

Money supply in an economy is significantly affected by the money market indicators and, by implication, the funds available to the real estate sector. This study examines the relationship between money supply in the economy and some money market indicators with respect to their impacts on finance for real estate development in Nigeria. Secondary data were obtained from the Central Bank of Nigeria covering five-year study period (2006 to 2010). The Pearson product moment correlation and multivariate regression models were adopted for data analysis. The study found that there is statistically significant relationship between broad money supply (M2) and explanatory variables with P-values < 0.05 except inter-bank call rate (0.7085), and prime lending rate (0.7554). Furthermore, the principal component analysis revealed that interbank call rate, inflation, and monetary policy rates are three components with eigenvalues >1.0; they account for 77.01% of variability in M2. Also, stepwise regression of the variables showed that inflation, monetary policy rate, saving deposit rate, and Treasury bill rate have statistically significant impact on broad money supply in Nigeria. The implication is that money supply in the economy from where funds are made available for real estate development is significantly affected by the indicators and consequently the real estate sector by dwindling financial allocation to the real estate sector. It was recommended that real estate investment trust may possibly be the best option to financing the real estate sector of the Nigerian economy, while the Nigerian Institution of Estate Surveyors and Valuers has great role in birthing the investment vehicle.

**Key words:** Real Estate, Monetary Policy, Money Supply, Inflation, Investment Trust, Finance, Property Development

### **Introduction**

The place of real estate development in national transformation cannot be over-emphasized. However, it is capital intensive requiring huge capital outlay usually obtained from the conventional and contemporary sources, and the financing of the real estate development has become more problematic with the inter-play of interest rate, stringent repayment requirements, failure of past housing policies, rising cost of building materials, inadequate access to finance, and general economic situation combining to affect real estate investment in Nigeria.

The Central Bank of Nigeria (CBN) plays significant role in regulating the stock of money through monetary policies to promote the economic and social well being of the country. According to the CBN, money market indicators comprise the Central Bank indicative rate, monetary policy rate (MPR), Treasury bill (NTB: 91-day) and other short term interest rates of the financial market which include inter-bank call rate, savings, and other fixed deposit and lending rates. Narrow Money ( $M_1$ ) and Broad Money ( $M_2$ ) are measures of money supply, and refer to the total value of money in the economy and consist of currency (notes and coins) and deposits within the banking system. The narrow money comprises currency-in-circulation with non-bank public and demand deposits, while broad money comprises savings and time deposits, which are also called quasi money. In addition, the net domestic credit (NDC) is the banking system credit to the economy and consists of loans and advances given by the Central Bank as well as deposit money bonds to the economic agents, and credits to government and private sector.

The regulatory role of the CBN in the money market is anchored on the use of monetary policy that is usually targeted at achieving rapid economic growth, price stability, and external balance. Major policies on inflation targeting and exchange rate have dominated CBN's monetary focus based on assumption that these are essential tools of achieving macro-economic stability. The role of CBN to maintain price stability and healthy balance of payments position includes the use of direct monetary instruments such as credit ceilings, selective credit controls, administered interest and exchange rates, as well as the prescription of cash reserve requirements, special deposits and money stock. In this case, money stock is the total amount of money available in an economy, less liquid and longer term assets such as Certificates of Deposit. Quasi-money or near money includes cash and readily convertible instruments such as bank deposits and money market funds. According to the monetary economics, the more money there is in circulation, the higher the rate of inflation will be; and the supply side will investigate the money market indicators and impacts on finance from which funds are available for real estate development through empirical analysis.

In economics, the money supply or money stock is the total amount of money available in an economy at a specific time. There are several ways to define "money," but standard measures usually include the currency in circulation and demand deposit. Money supply data are usually recorded and published by the Central Bank of each country. The quantity of money in an economy is said to have relationship with prices and there is strong empirical evidence of a direct relation between inflation and money-supply growth, at least for rapid increases in the amount of money in the economy (Friedman, 1987; Brunner, 1987; Johnson, 2005; Deardoff, 2010).

With this background, the aim of the study is to determine the joint and individual impacts of the explanatory variables of money market indicators on money supply from which finance is available for real estate development in Nigeria, while propounding possible policy implications and offering appropriate recommendations. In this study the broad money  $M_2$  is used for analysis of the money supply in the economy since it includes currency and coinage in circulation, depositors' balances in commercial banks, savings and loan, and community banks.

## Literature Review

In this section, earlier studies on the theme of this paper have been reviewed along real estate finance, real estate finance options and investment opportunities, real estate investment trust, and monetary policy and market indicators.

**Real Estate Finance Options and Investment Opportunities:** Bruegeman and Fisher (2002), and Ajibola *et al* (2009) classified sources of real estate finance into conventional and contemporary types. The conventional approach is divided into formal and informal sources; the former being debt-financing through loanable funds, pension funds, insurance companies, and primary mortgage institutions. The informal sources include local money-lenders and “*Ajo*” which is local Nigerian parlance and system of raising finance involving group of people that voluntarily contribute equal amount of money on regular basis and given in turns to members of the group.

On the other hand, the contemporary sources of finance include securitization, unitization, and REIT. Securitization is the process of converting real estate into tradable instrument with the underlying asset as security. It is the creation of tradable paper interests in real estate as alternative to direct ownership of the assets, and involves the collection of large number of illiquid loans or receivables into pools that are used to collateralize securities for eventual sales to the investors. Securitization may be equity or debt securitization; the former involves single or multiple properties being turned into notes or securities that are traded based on their values while the latter arises where mortgages as a form of debt and traded for the purpose of discharging debts. Unitization is a variant of securitization and involves the creation of multiple shares in the ownership of a single property; the shares provide ample opportunity for low-income earners to become co-owners of prime properties through the purchase of shares. It is a good source of raising finance for real estate development and simply the process of converting assets into financial instruments (Sirota, 2004; Kolbe *et al*, 2008).

In terms of investment options, Kolbe *et al* (2008) classified the investors into passive and active categories. The passive investors put money at risk without exerting control over operations, unable to influence the course of events but hope for the best return; while active investors take essential decisions that significantly influence the investment fortune. The study identified variety of real estate investment opportunities and the features of passive and active investors as shown in Table 1 below.

**Table 1: Variety in Real Estate Investment Opportunities**

	<b>Debt</b>	<b>Equity</b>
<b>Active</b>	Mortgage origination: <ul style="list-style-type: none"> <li>• Construction</li> <li>• Take out</li> <li>• Junior lien</li> </ul> Secondary Mortgage Market	Direct Investment: <ul style="list-style-type: none"> <li>• Apartment building</li> <li>• Offices</li> <li>• Warehouses</li> <li>• Shopping centres</li> <li>• Industrial parks</li> <li>• Others</li> </ul>
<b>Passive</b>	Pass-through Securities  Real Estate Investment Trust  Real Estate Mortgage Investment Conduits	Limited Partnerships  Real Estate Investment Trusts  Real Estate Corporations

**Source:** Kolbe *et al* (2008)

According to Kolbe et al (2008)'s model (Table 1), there are four quadrants that encompass the variety of real estate investment opportunities, these are active-debt, active-equity, passive-debt, and passive-equity. The passive-debt quadrant illustrates some of the alternatives available to investors who take passive position in real estate related credit instruments. The investors buy securities that represent a participatory interest in a package of mortgage-secured promissory notes or that represent an ownership interest in a company that makes loans or acquires promissory notes in the secondary mortgage market. The specific assets pass through securities, real estate investment trust shares, and real estate mortgage investment conduits. The active-debt investment in real estate equities is shown in the upper right quadrant with investors either originating mortgage-secured loans or buying mortgage-secured notes in the secondary mortgage market.

On the other hand, the active-equity quadrant depicts the active investment in real estate equities and implies direct ownership of different types of real property with operational control either directly or through hired management. Yields depend not only on how much is paid for assets but also on one's cost of capital and the mix of equity and borrowed funds. In this case, the investment yields are affected by efficiency in management of the property, the market, and the amount of competition. The passive-equity quadrant shows the positions in real estate equities without management control; the investment vehicles include limited partnership shares in real estate syndicates and ownership shares in corporations or real estate investment trust that own real estate equities.

In practice, the investors are not usually confined within each quadrant but constantly interact; like credit instruments are favoured by investors who want predictable, regular cash dividends while at the same time pursue the goal of direct ownership of real estate rented under a long-term net lease by which tenant pays operating expenses. Similarly, the contemporary mortgage lenders often receive debt service payments that vary with index of general interest rates, such as Treasury bill rate or interbank offered rate (Kolbe *et al*, 2008).

A number of studies (notably, Kolbe, *et al* 2008; Chandra, 2008; Ajibola *et al*, 2009; and Kolbe and Greer, 2009) have focused on the importance of real estate investment trust

(REIT) as a vehicle for real estate development finance. According to Kolbe *et al* (2008), Chandra (2008), Kolbe and Greer (2009), REIT has been identified as vehicle for real estate finance, especially in developed nations. REITs operate like closed-end mutual funds and raise funds by issuing shares, bonds, commercial paper, and by borrowing from other financial institutions while also investing in real estate debt and equity; in addition, Ajibola *et al* (2009) identified *Ajo*, *Esusu*, and age-group contributions as other sources of finance real estate development in Nigeria.

Relying on the definition by the US Securities and Exchange Commission 2010, REIT is a security that sells like a stock on the major exchanges and invests in real estate directly, either through properties or mortgages. It may be equity REIT, mortgage REIT, or hybrid. By Equity REIT, the REITs invest in and own properties and become responsible for the equity or value of their real estate assets with revenues derived principally from the rental incomes generated by the properties. On the other hand, mortgage REITs deal in investment and ownership of property mortgages and loan for mortgages to owners of real estate or purchase existing mortgages or mortgage-backed securities, and derive revenues primarily by earning on the mortgage loans; while Hybrid REITs combine the investment strategies of equity REITs and mortgage REITs through investment in both properties and mortgages with individuals either by purchasing their shares directly on an open exchange or by investing in a mutual fund that specializes in public real estate.

In Nigeria, the Investments and Securities Act, 2007 describes the real estate investment companies or trust as a body corporate incorporated for the sole purpose of acquiring intermediate or long term interests in real estate or property development. They are empowered to raise money funds from the capital market through the issuance of securities having the following characteristics: an income certificate giving the investor a right to a share of the income of any property or property development; and an ordinary share in the body corporate giving the investor voting rights in the management of that body corporate.

The Act provides that a trust may be constituted for the sole purpose of acquiring a property on a "trust for sale" for the investors. The trust, in this context, is expected to have the following characteristics, the investors is empowered to acquire units in the trust through which they would be entitled to receive periodic distribution of income and participate in any capital appreciation of the property concerned; while they are also entitled to retain control over their investments by investing directly in a particular property rather than in a portfolio of investments. A real estate investment company or trust may be registered by the Securities and Exchange Commission, if it is a body incorporated under the Companies and Allied Matters Act; has a capital and reserve as prescribed by the Commission from time to time; carries on business as a collective investment scheme solely in properties; and complies with the requirement prescribed by the Commission through its rules and regulations made from time to time. The Investments and Securities Act 2007 recognizes REITS as a type of Collective Investment Scheme (CIS) and the Securities and Exchange Commission (SEC) has set out specific rules concerning how REITS should function. REIT is regulated by the SEC with robust rules and regulations.

**Monetary Policy and Market Indicators:** Monetary policy refers to a combination of measures designed to regulate the value, supply and cost of money in an economy in consonance with the expected level of economic activity. For most economies, the objectives of monetary policy include price stability, maintenance of balance of payments equilibrium,

promotion of employment and output growth, and sustainable development. The economy can be divided into two broad groups, namely, oil and non-oil sectors; the non-oil sector include agriculture, wholesale/retail trade, telecommunications, hotel/restaurants and business/other services including real estate. The real estate sector has two major group ends namely the “high end area” and the “low end area”. The high end area comprises of investments of very high value and development predominantly driven by well established corporate bodies, while the low end area is the reverse which are driven by investments from individuals and few corporate bodies. The sector usually witnesses contraction in activities attributable to low level of investments driven by low level of resources within the operators in this sector.

Plethora of studies has focused on monetary policies and effects on stock prices. For instance, Chong and Goh (2003) examined the effect of macroeconomic variables such as money supply and interest rate on stock prices, premised on the hypothesis that competition among profit-maximizing investors in an efficient market ensures that relevant information currently known about changes in macroeconomic variables were fully reflected in prevailing stock prices. Many other studies indicated strong influence of macroeconomic variables on stock markets in industrialized nations (for example; Hondroyiannis and Papapetrou, 2001; Muradoglu *et al.* 2001; Fifield *et al.* 2000; Lovatt and Parikh, A, 2000; and Nasseh and Strauss, 2000); while similar studies were carried out in developing countries, particularly those in Asia (see Maysami and Sim, 2002; Maysami and Koh, 2000). Specifically, Maysami and Sim (2001a, 2001b, and 2002) employed the Error-Correction Modelling technique to examine the relationship between macroeconomic variables and stock returns in Hong Kong, Singapore, Malaysia, Thailand, Japan and Korea. The studies found the influence of macroeconomic variables on the stock market indices in each of the six nations, though the type and magnitude of impacts differ in terms of the financial structures.

Islam (2003) examined the short-run dynamic adjustment and the long-run equilibrium relationships between four macroeconomic variables; namely, interest rate, inflation rate, exchange rate, and the industrial productivity in Kuala Lumpur. It found statistically significant relationship between the short-run (dynamic) and long-run (equilibrium) macroeconomic variables and the KLSE returns. In the Chong and Koh (2003)’s study in Malaysia, stock prices, economic activities, real interest rates and real money balances were identified as having strong relationship both in the pre- and post- capital control sub-periods in the long run; while Mukherjee and Naka (1995) considered exchange rate, inflation, money supply, real economic activity, long-term government bond rate, and call money rate to determine the relationship between the Japanese Stock Market and the variables. It concluded that co-integrating relation existed between the variables and that stock prices contributed to such relationship. This study was replicated in Singapore by Maysami and Koh (2000) and found that inflation, money supply growth, changes in short- and long-term interest rate and variations in exchange rate formed a cointegrating relationships with changes in Singapore’s stock market levels.

Further studies (for example, Sun and Brannman, 1994; Maghyereh, 2002; Islam and Watanapalachaikul, 2003; Hassan, 2003; Gunasekarage *et al* 2004; Vuyyuri, 2005) on the relationships between share prices and macroeconomic factors in Thailand, Persian Gulf region, Egypt, Jordan, and Sri Lanka found strongly significant long-run relationship and high correlations between stock prices and interest rate, bonds price, foreign exchange rate, price-earning ratio, market capitalization, and consumer price index. However; Jaffe and

Mandelker (1976), Fama and Schwert (1977), Nelson (1976), Geske and Roll (1983), Chen et al (1986), and Mukherjee and Naka (1995) found negative relationship between inflation and stock prices; while Firth (1979) concluded that stock holdings are effective hedge against inflation.

Furthermore, Fama and Gibbons (1982), and Marshall (1992) argued that inflation caused by money-shock lowers the rate of interest and consequently cause investor to shift from holding cash to stocks and bonds to maximize potential capital gains while increase in demand would in turn raise stock prices. Short- and long- term interest rates respectively have significant positive and negative relationships. For instance, Mukherjee and Naka (1995)'s study in Japan; Maysami and Koh (2000) and Maysami *et al* (2004)'s in Singapore found positive relationships between the stock market price and short-term interest rates while the long-term rate was negative. The studies identified that interest rate serves as better proxy for nominal risk-free component used in the discount rate in the stock valuation models and serve as surrogate for the expected inflation in the discount rate. Similarly; Fama (1981), Mukherjee and Naka (1995), Yip (1996), Maysami and Koh (2000), and Panetta (2002) studied the correlation between money supply and stocks prices and found positive correlation attributed to rise in discount rate to the expansionary effect of increase in money supply in the Singapore stock market.

Explaining the relationship between money supply and stock return, earlier theorists Friedman and Schwartz (1963) hypothesized that the growth rate of money supply would affect the aggregate economy and hence the expected stock returns. It was argued that increase in M2 growth would indicate excess liquidity available for buying securities, resulting in higher security prices. Further studies, notably, Hamburger and Kochin (1972), and Kraft and Kraft (1977) found strong relationship between the two variables while Cooper (1974) and Nozar and Taylor (1988) found no relation. However, Fama (1981), Mukherjee and Naka (1995), and Maysami and Koh (2000) argued that the effect of money supply would lead to inflation, and may increase discount rate and reduce stock prices.

### **The Nigerian Economy and Real Estate Sector: An Experiential Overview**

According to Alitheia Capital Investment (2011), Nigeria achieved economic stability and growth in second half of 2010, with increased growth in the oil and non-oil sectors. Growth was attributed to increases in activities of the wholesale and retail trade sector and the Federal Government's amnesty development programme for the Niger Delta, which fostered investment in the oil sector. Gross Domestic Product grew to 7.41% compared to 6.7% in 2009 while inflation remained at an average of 12% throughout the year; and Foreign Direct Investment (FDI) fell by 60% from US\$6 billion in 2009 to \$2.3 billion in 2010.

In 2010, activities on both the demand and the supply side in the real estate sector came to a standstill, overall growth of the sector stood at 10.48% in the second quarter of 2010 compared to 10.46% in the corresponding quarter of 2009 with marginal growth achieved as a result of activities in the low end of the market, characterized by small commercial and residential developments. There was limited bank lending to major developers and investors, thereby stalling large scale high-end commercial and residential developments. For instance, in the high-end residential locations of Lagos (for example, Ikoyi and Banana Island), property values fell by as much as 40% and by up to 20% in the emerging middle income areas of Lekki. Property owners are presently willing to accept advance rent for one to two years compared with three years demanded during the property boom. The value of properties

in the regeneration neighborhoods of the city continued to appreciate and it has increased by almost 10% by end of 2009. In the third quarter of 2010, the Federal Government embarked on several initiatives to encourage economic performance and improve investor confidence through the restructuring of the Nigerian Stock Exchange (NSE), enhancement of the quality financial institutions to restore depositors and investors' confidence in the financial system. Presently, credit flow for real estate developments has remained limited and new construction and infrastructure projects are almost non-existent. At the global stage, high unemployment rates, fiscal tightening and failure to arrive at more coordinated policy responses while activities were forecast to shrink by almost 0.5% from 4.8% in 2010 as advanced economies slash their budgets. In terms of the impact on real estate sector, market analysts in Europe and America projected that major activities in the real estate sector would remain limited. However, as capital markets stabilize, there would be increased liquidity which would present additional drive for investing in emerging market real estate.

In Nigeria, the economic reforms have delivered strong economic fundamentals through prudent macroeconomic policies, strengthening of the financial institutions, and reforms that are in progress for structural transformation of the economy. The reform aided by revenue from high oil prices has led to significantly improved macroeconomic outcomes, including weaker inflation and strong GDP growth. For instance, real GDP growth rose from 7.0% in 2009 to 8.4% in 2010. The sector recorded 8.82 percent growth in real terms in the second quarter of 2011 compared with 8.41 percent at the corresponding period in 2010. The robust growth in 2011, in the aftermath of the global financial and economic crisis, underscored the resilience of the Nigerian economy and to some extent, the prudence of its economic policies. Medium-term prospects are also bright, with real GDP growth projected to remain strong and stable at 6.9% in 2011 and 6.7% in 2012.

Regardless of these positive developments, the Nigerian economy is confronted by many serious challenges, which include structural imbalance and lack of diversification in the economy which excessively depend on oil revenue, high youth unemployment, poor infrastructure and widespread insecurity. Malize (2011) identified other challenges to include those fostered by the global economic meltdown that left capital markets impaired, in addition to crash in oil prices, the Niger Delta conflict, the fall of the exchange rate and stock market, which have all negatively impacted the real estate sector. Apart from these, the crisis in the banking sector in respect of which the Central Bank of Nigeria (CBN) injected N620 billion (USD 4 billion) in loans and support into nine banks and sacked eight executives for the aggregate non performing loans that present further challenges for the real estate sector. The recently concluded audit on the banks revealed the magnitude of banks exposure on non-performing loans and has presented a clear picture on the companies' balance sheets. The nine banks that showed weakness in terms of risk management and corporate governance are Oceanic Bank, Finbank, Afribank, Intercontinental Bank, Union Bank, Equitorial Trust Bank, Bank PHB, Spring Bank, and Wema bank. The banks which provided over 60 percent of total sector borrowing were undercapitalized and had excessive high level of non-performing loans, poor corporate governance practices, tax administration processes, and absence of non adherence to the bank's credit risk management practices. With their exposure to the capital market, the real estate segment was proven to be high risk relative to other sectors in the economy.

For instance, Nigerian banks have over 700 billion Naira (USD 5 billion) trapped in the real estate sector following the boom period of the last few years. The records of Nigerian Stock



Exchange (NSE) indicated that out of the N1 trillion (USD 7.1 billion) margin loans granted by banks, only N300 billion (USD 2.1 billion) were in the hand of stockbrokers, the remaining N700 billion were advanced to real estate investors and speculators. Consequently, Banks could no longer advance more credit to housing speculators to complete their venture, leading to the abandonment of projects. The consequence is that there will be limited bank financing to purchase properties as investors' confidence is eroded.

In recent time, the market is experiencing slump in demand at the high-end and yield is also dropping because investors with loan exposures on real estate investments are being forced to sell. Banks are no longer in the lending mode but in a 'recovery mode' to recover outstanding debt as a result of real estate financing that is being squeezed further due to limited purchasing power. It has now become very difficult for the investors to service their bank loans, and in so doing causing serious liquidity crisis for the banks and instability in the market. Consequently, banks are not eager to finance new projects, leading to excessive appreciations in property valuations in the region of 100 to 300 per cent. However, the demand drive factors at play in the market have become ineffective as liquidity in the market arena dried up, and purchasing power of investors turned on a downward trend with less money in circulation. Banks are no longer lending out money and the ones that are lending are charging upward 19 to 26 per cent.

According to African Economic Outlook (2011), Nigeria is making progress with economic reforms that are delivering strong economic fundamentals through prudent macroeconomic policies, and strengthening of the financial institutions and transformation of the economy structurally, albeit slowly and unevenly. The reform effort, aided by revenue from high oil prices, has led to significantly improved macroeconomic outcomes, including weaker inflation and strong GDP growth. Real GDP growth rose from 7.0% in 2009 to an estimated 8.1% in 2010. The robust growth in 2010, in the aftermath of the global financial and economic crisis, underscored the resilience of the Nigerian economy and to some extent, the prudence of its economic policies. Medium-term prospects are also bright, with real GDP growth projected to remain strong and stable at 6.9% in 2011 and 6.7% in 2012.

The common denominator of these studies is the focus on money supply, stocks and shares, inflation, discount rate, bank lending rate, and relationships amongst them with no consideration given to the impact and implications that such variables have on money available for financing real estate. This study therefore examined the money supply in the economy and the relationship with the money market indicators in Nigeria that have underpinned sustainability of financing the real estate development projects. The questions that have agitated the mind of this researcher are: What is the impact of money market indicators on money supply in the economy and, by implication, financing real estate development in Nigeria? Are there statistically significant relationship between money supply in the economy and the explanatory variables? What is the place of real estate investment trust in real estate development and national transformation?

### **Materials and Methods**

In attempting to proffer answers to these questions, models and hypotheses were formulated by which money supply in the economy was regressed on the explanatory variables. In this case, data on the money market indicators are shown in Table 2 (see APPENDIX 01 at p.35-37). The data were obtained mainly from the secondary sources, particularly the websites and publications of Central Bank of Nigeria (CBN) and National Bureau of Statistics. Broad

money (M2) is the dependent variable while the independent variables are monetary policy rate (MPR), Treasury bill (NTB: 91-day) rate (TBR), and other short term interest rates of the financial market including inter-bank call rate (IBCR), savings deposit rate (SDR), net domestic credit (NDC), credit to private sector (CPS), Reserve (Base) Money (BsM), currency in circulation (CiC), bank reserves (BRs), currency outside banks (CoB), demand deposit (DdD), Quasi money (QuM), inflation (INF), and prime lending rate (PLR). However, in order to reduce the incidence of auto-correlation amongst the independent variables, principal component analysis was carried before IBCR, SDR, INF, MPR, PLR, and TBR were isolated for analysis. Data on inflation were averages for the year-on-year or annualized rate, while econometric approach was used to estimate the relationship between the money market indicators and major growth components to determine their impacts on real estate finance in Nigeria. Models were derived to explain the numerical estimates of the coefficients and determine the impacts of the explanatory variables on real estate finance over the period 2006 to 2010.

In doing so, the multiple regression techniques were employed to analyze the variables with the aid of *Statgraphic* software packages set at 95% confidence level. The dependent variable was regressed on the explanatory variables using the Pearson product moment correlation analysis and multivariate regression models to predict the value of each variable given the values of one or more others. The technique was adopted to find combinations of the variables that are strongly related to each other, while the Pearson's product moment correlations technique was used to determine the strength of linear relationships between the variables. P-values were derived with the implication for deducing the relationships that are statistically significant, while ignoring those with P-values that are above set alpha level (0.05). The outputs are expressed in the form:

$$y = a_0 + V_1a_1 + V_2a_2 + V_3a_3 + \dots + V_na_n + e;$$

where,  
y = dependent variable;  
a<sub>0</sub> = constant; V<sub>1</sub> ... V<sub>n</sub> = independent variables;  
a<sub>1</sub> ... a<sub>n</sub> = coefficients;  
e = stochastic error.

In this case, a<sub>0</sub> represents the constant while a<sub>1</sub>...a<sub>n</sub>; are the estimates for each of the explanatory variables in the regression model.

However, it would be wrong to assume that all the predictor variables with P-value above 0.05 could be ignored in the predictive models as the P-values may change dramatically if one of them is removed. A useful method for simplifying this was to perform a stepwise regression which involves the addition or removal of the variables in turns to obtain a model that contains only significant predictors while not excluding useful variables. In this regard, two stepwise options were considered which are the Forward Selection and Backward Selection. Forward Selection start with the model containing only the constant and bringing variables in one at a time if they improve the fit significantly, while Backward Selection start with a model containing all the variables each of which is removed one at a time until all remaining variables are statistically significant. In both methods, the removed variable is re-entered at a later step when they appear to be useful predictors, or variables earlier entered are removed if they are no longer significant. The backward selection stepwise regression model was used in this study with the Durbin-Watson (DW) statistic tests carried out on the

residuals to determine the occurrence of any significant correlation based on the order in which the variables occur in the data file.

In applying the Pearson product moment correlations (PPMC), the variables were analyzed and the correlation coefficients ranging between -1 and +1 shown in italics derived in the Correlation coefficient Tables. The PPMC measures the strength of linear relationships between the variables; the number of pairs of data values used to compute each coefficient is shown in parentheses, while the third line in each table indicates the P-value (in bold figures) which tests the statistical significance of the estimated correlations.

### Analysis and Discussion

In analyzing the data, models comprising selected combinations of the independent variables and hypotheses were set to determine the relationships between the dependent and independent variables and guide towards attaining the aim of the study.

### Determination of Variability in and Correlation of Data

Attempt is made to determine the relationship between broad money supply in the economy and the explanatory variables, and the percentage of variability in money supply occasioned by interbank call rate, inflation, monetary policy, prime lending, saving deposit, and Treasury bill rates. The summary statistics of the analysis are shown in Table 3.

**Table 3: Summary Statistics of Money Supply and Explanatory Variables**

Parameter	Estimate	Standard Error	T-Statistic	P-Value
CONSTANT	7.65566E6	4.58629E6	1.66925	0.1010
IBCR	-14127.2	37582.1	-0.375902	<b>0.7085</b>
INF	338343.	58240.0	5.80945	0.0000
MPR	253610.	59727.3	4.24612	0.0001
PLR	74704.7	238596.	0.313102	0.7554
SDR	-1.58299E6	357749.	-4.42486	0.0000
TBR	-303401.	115847.	-2.61897	0.0115

**Table 4: Analysis of Variance**

Source	Sum of Squares	Degree of freedom	Mean Square	F-Ratio	P-Value
Model	4.05743E14	6	6.76239E13	38.36	<b>0.0000</b>
Residual	9.34231E13	53	1.7627E12		
Total (Corr.)	4.99166E14	59			

R-squared = **81.2842** percent  
 R-squared (adjusted for d.f.) = **79.1654** percent  
 Standard Error of Est. = **1.32767E6**  
 Mean absolute error = **1.00608E6**  
 Durbin-Watson statistic = 0.651151 (P=**0.0000**)  
 Lag 1 residual autocorrelation = 0.635244

Tables 3 and 4 show the results of fitting a multiple linear regression model to describe the relationship between broad money supply and six independent variables, resulting in Eqn. 1.

$$BM = 7.65566E6 - 14127.2*IBCR + 338343.*INF + 253610.*MPR + 74704.7*PLR - .58299E6*SDR - 303401.*TBR \quad \dots Eqn. 1$$

The P-value is 0.00000, which is less than 0.05 implying that there is a statistically significant relationship broad money supply and interbank call rate, inflation, monetary policy rate, prime lending rate, savings deposit rate, and Treasury bill rate at the 95.0% confidence level. The R-Squared statistic indicates that the model as fitted explains 81.2842% of the variability in broad money supply in the economy. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 79.1654%. The standard error of the estimate shows the standard deviation of the residuals to be 1.32767E6, while the mean absolute error (MAE) of 1.00608E6 is the average value of the residuals. It is indicative that PLR has the highest P-value of 0.7554, and since the P-value is greater than 0.05, the impact of prime lending rate on broad money supply in Nigeria’s economy is not statistically significant at the 95.0% or higher confidence level; consequently, prime lending rate may be removed from the model.

However, it may not be entirely appropriate to assume that the pairs of variables with P-values higher than 0.05 and have no statistically significant relationships could be removed from the model. It is necessary to determine the best model containing only the statistically significant variables. Consequently, forward selection stepwise regression model was used by which broad money supply in the economy was regressed on the remainder of six independent variables, resulting in Tables 5 and 6. The Durbin-Watson (DW) statistic tests was subsequently carried out on the residuals to determine if the significant correlation was based on the order in which the variables occur in the data file.

**Table 5: Summary Statistics of the Variables**

Parameter	Estimate	Standard Error	T-Statistic	P-Value
CONSTANT	9.14484E6	1.36046E6	6.72189	0.0000
INF	330885.	54616.7	6.05831	0.0000
MPR	238745.	48747.0	4.89764	0.0000
SDR	-1.55584E6	297555.	-5.22876	0.0000
TBR	-339490.	73316.9	-4.63045	0.0000

**Table 6: Analysis of Variance**

Source	Sum of Squares	Degree of freedom	Mean Square	F-Ratio	P-Value
Model	4.05329E14	4	1.01332E14	59.39	0.0000
Residual	9.38376E13	55	1.70614E12		
Total (Corr.)	4.99166E14	59			

R-squared = 81.2011 percent  
 R-squared (adjusted for d. f.) = 79.834 percent  
 Standard Error of Est. = 1.30619E6  
 Mean absolute error = 1.00816E6  
 Durbin-Watson statistic = 0.633516 (P=0.0000)  
 Lag 1 residual autocorrelation = 0.64806

**Stepwise regression**

Method: forward selection  
 F-to-enter: 1.0  
 F-to-remove: 1.0

Step 0:

0 variable in the model. 59 d.f. for error.

R-squared = 0.00%    Adjusted R-squared = 0.00%    MSE = 8.46045E12

Step 1:

Adding variable INF with F-to-enter =64.801

1 variable in the model. 58 d.f. for error.

R-squared = 52.77%    Adjusted R-squared = 51.95%    MSE = 4.06484E12

Step 2:

Adding variable TBR with F-to-enter =21.719

2 variables in the model. 57 d.f. for error.

R-squared = 65.80%    Adjusted R-squared = 64.60%    MSE = 2.99496E12

Step 3:

Adding variable SDR with F-to-enter =14.939

3 variables in the model. 56 d.f. for error.

R-squared = 73.00%    Adjusted R-squared = 71.56%    MSE = 2.40647E12

Step 4:

Adding variable MPR with F-to-enter =23.9869

4 variables in the model. 55 d.f. for error.

R-squared = 81.20%    Adjusted R-squared = 79.83%    MSE = 1.70614E12

The output shows the results of fitting a multiple linear regression model to describe the relationship between broad money supply in the economy and the six independent variables. The equation of the fitted model is:

$$BM = 9.14484E6 + 330885.*INF + 238745.*MPR - 1.55584E6*SDR - 339490.*TBR \quad \dots \text{Eqn. 2}$$

Since the P-value in the ANOVA Table (Table 6) is less than 0.05, there is a statistically significant relationship between the variables at the 95.0% confidence level; while the R-Squared statistic indicates that the model as fitted explains 81.2011% of the variability in broad money supply in the economy. The adjusted R-squared statistic, which is more suitable for comparing models with different numbers of independent variables, is 79.834%. The standard error of the estimate shows the standard deviation of the residuals to be 1.30619E6 which can be used to construct prediction limits for new observations, while the mean absolute error (MAE) of 1.00816E6 is the average value of the residuals.

Furthermore, a factor analysis was carried out to obtain a small number of factors which account for most of the variability in broad money supply. In this case, three factors were extracted using the principal components type of factoring with list-wise missing value treatment and standardized data input, while the initial communality estimates were set to assume that all of the variability in the data is due to common factors. The result of factor analysis is shown in Table 7

**Table 7: Factor Analysis**

Variable	Factor Number	Eigenvalue	Percent of Variance	Cumulative Percentage
IBCR	1	1.95297	32.549	32.549
INF	2	1.40255	23.376	55.925
MPR	3	1.2649	21.082	<b>77.007</b>
PLR	4	0.821887	13.698	90.705
SDR	5	0.395521	6.592	97.297
TBR	6	0.162168	2.703	100.000

As shown in Table 7, three factors with eigenvalues greater than or equal to 1.0 were extracted, which are interbank call rate, inflation, monetary policy rate; together they account for 77.0071% of the variability in the original data.

Further analysis was carried out on each pair of variables using the Pearson product moment correlation coefficient is shown in Table 8. These correlation coefficients range between -1 and +1 and measure the strength of the linear relationships between the variables. The number of pairs of data values used to compute each coefficient is shown in parentheses; and the third number in each location of the table is a P-value which tests the statistical significance of the estimated correlations.

**Table 8: Correlations Analysis of the Variables**

Variable	BM	IBCR	INF	MPR	PLR	SDR	TBR
<b>BM</b>							
<b>IBCR</b>	-0.0430 (60) <b>0.7441</b>						
<b>INF</b>	0.7264 (60) <b>0.0000</b>	0.0970 (60) <b>0.4608</b>					
<b>MPR</b>	0.3758 (60) <b>0.0031</b>	0.2482 (60) <b>0.0559</b>	0.0922 (60) <b>0.4835</b>				
<b>PLR</b>	0.1254 (60) <b>0.3397</b>	-0.1665 (60) <b>0.2035</b>	0.1136 (60) <b>0.3875</b>	-0.1871 (60) <b>0.1522</b>			
<b>SDR</b>	-0.5721 (60) <b>0.0000</b>	0.2172 (60) <b>0.0955</b>	-0.4120 (60) <b>0.0011</b>	0.0705 (60) <b>0.5924</b>	0.1874 (60) <b>0.1517</b>		
<b>TBR</b>	-0.6459 (60) <b>0.0000</b>	0.2069 (60) <b>0.1127</b>	-0.4438 (60) <b>0.0004</b>	-0.2104 (60) <b>0.1066</b>	-0.5986 (60) <b>0.0000</b>	0.2553 (60) <b>0.0490</b>	

Correlation  
 (Sample Size)  
 P-Value

From Table 8, the Pearson product moment correlations with P-values below 0.05 indicate statistically significant non-zero correlations at the 95.0% confidence level. The following pairs of variables have P-values below 0.05: BM and INF, BM and MPR, BM and SDR, BM and TBR, INF and SDR, INF and TBR, PLR and TBR, SDR and TBR. Also, there is

negative correlation between broad money supply and interbank call rate (-0.043), savings deposit rate (-0.572), and Treasury bill rate (-0.646); implying that as broad money supply in the economy increases these variables decrease.

### **Research Findings and Policy Implications**

The main explanatory variables that significantly impact broad money supply in the economy are inflation, monetary policy rate, savings deposit rate and Treasury bill rate. Three components, namely interbank call rate, inflation, monetary policy rate; together they account for 77.0071% of the variability in the broad money supply. The implication is that the more the broad money supply in the economy, the higher will be the inflation, monetary policy rate while Treasury bill rate has negative relationship. However, with money supply in the economy, there is high propensity for the multiplier effects on all other sectors, especially the real estate sector, to become enlivened. This in the short- and long- run would enable investors in real estate have access to both equity and debt for real estate development.

However, inflation contributes about 23.4% the impacts of the variables on broad money supply. The implication is that increased money supply in the economy would lead to inflation, and may increase discount rate and return on investment expected by the investor. There will be attraction of more investors into real estate investment opportunities and subsequently increase in demand for finance in the long-run. The growth rate of money supply would affect the aggregate economy and hence the expected returns while increase in broad money ( $M_2$ ) growth would indicate excess liquidity available for credit to the private sector.

The explanatory variables have differing impacts on and correlations with one another and money supply in the economy. In general, interest rate is always linked with the value of real estate. However, there are also many other factors going hand in hand together with interest rate policy. Conceptually, interest rate is a tool adopted by policy makers to manage the monetary or financial system of an economy; while high interest rate ameliorates over-heated economy; improves a currency's value, and cools the effects of inflation. Similarly, low interest rate has the capacity to stimulate business growth by lowering the cost of borrowing and lowering value of currency value and therefore stimulate export. The regime of low interest rate usually create better demand for and increase the value of real estate; and further creates more spending in the macro economy and thereby drive up inflation while more people expected would choose property as a hedging option against inflation. High interest rate will however increase the cost of borrowing, decrease the demand for bank real estate finance in view of expensive nature of the loan repayment terms and may hinder investment in real estate.

### **Recommendation and Conclusion**

The money market impact on money supply in the economy and its consequent effects on the quantity of money available for real estate development has dictated avenue for people to invest in real estate. This is attainable by pooling money together in a form that enables contributors invest in large portfolio or singular project with expected return to each investor in such a way that is commensurate to their respective cash outlays. This could also be in the form of owning a part of the investment as owner-investor. The best option to ensure availability of finance for real estate development with reduced investor's risk and uncertainty is by setting framework for private sector investment in real estate, like Real Estate Investment Trusts (REIT).

The Nigerian Institution of Estate Surveyors and Valuers has great role to play in birthing the investment vehicle by sponsoring bill in the National Assembly for requisite legal framework to be provided for its implementation in Nigeria. The role also includes organizing enlightenment programmes through Mandatory Continuous Professional Development (MCPD) workshops to educate the real estate practitioners and the populace. This will remove the Federal and State Governments from direct provision of finance for real estate while serving as alternative to the Housing Policy that has not effectively met real estate investment expectations in Nigeria. The REITs will encourage the private sector to be encouraged through credit facilities as the sector holds the ace to turn the financing of the real estate sector of the economy alive.

In the essence of transforming the Nigeria's economy, the NIESV has ample opportunity to float a Real Estate Investment Trust Company (REITCO) considering the number and spread of its membership. It is expected that the assets acquired by the REITCO would be insured and managed, while the REIT is expected to file valuation reports every two years. This is expected to generate job opportunities for the Estate Surveyors and Valuers who are recognized by law and possess the competence for the assignment. Apart from this, the NIESV would very well play significant role through members' involvement and active role as trustees. The trustees are vested with the underlying assets of REITs and are expected to protect the interest of the Unit Holders. It is envisaged that REIT would turn the present fragmented property finance market and companies into the largest and more efficient property market with small and large, private and corporate investors would greatly benefit. In assuring the benefits, the steps and hurdles to title exchange caused by the Land Use Act are detrimental to real estate development and must therefore be reviewed for successful implementation of the scheme.

The Asset Management Corporation of Nigeria (AMCON) could collaborate with the NIESV in this regard through the injection of second tranche of funds. This injection would enable the REITCO start off on sound financial footings. It is hoped that the real estate sector and other users of medium to long term funds will benefit, spurring activities in infrastructure and construction. If REITCO is effectively implemented, the initiative will become one of the main catalysts for the rejuvenation and growth of the real estate sector.

Finally, the combined efforts of the government, regulators and other market stakeholders will be required to kick start and achieve some level of growth in the real estate sector. There cannot be economic transformation without political stability; the Federal Government must do all within its power to contain political, civil and ethnic unrests which have remained a challenge for peace and tranquillity required to consolidate achievements from the implementation of these recommendations.

## APPENDIX

**TABLE 2 (Please see page 35-37)**



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## Appendix 01

**Table 2: Details of Money Market Indicators**

Year	NM (M1)	NDC	CPS	BsM	CiC	BRs	CoB	DdD	QuM	IBCR	MPR	TBR	SDR	INF	PLR	BM (M2)
Jan '06	1710638.2	2467448.8	1981707.7	705528.3	572747.4	132780.9	478452.1	1232186.1	1130390	27.06	0	13.68	4.5	10.7	16.69	2841028.2
Feb '06	1673474.7	2506763	1979082.3	720608.4	561626.4	158982	480244.9	1193229.8	1204017.5	5.59	0	11.49	2.96	10.8	16.57	2877492.2
Mar '06	1724531	2392315.5	1946956.6	728888.7	563713	165175.7	479967.2	1244563.8	1278600.9	7.77	0	9.86	2.98	12	16.3	3003131.9
Apr '06	1847722.2	2587352.6	2080525	805514	610130.3	195383.7	530268.2	1317454	1332105.7	1.13	0	8.6	2.98	12.6	16.25	3179827.9
May '06	2029917.5	2358315.6	2351085.9	852357.6	611224.3	241133.3	520662.3	1509255.2	1536608.5	1.57	0	6.65	2.95	10.5	16.97	3566526
Jun '06	2078831.2	2698306.1	2303700.5	797640.4	602829	194811.4	514609.1	1564222.1	1654890.2	8.16	0	8.41	2.96	8.5	17.08	3733721.3
Jul '06	2155149.5	2351526.3	2384795.4	796129.9	606859.5	189270.4	511172.6	1643976.9	1697649.7	3.37	0	9.79	2.96	3	17.08	3852799.2
Aug '06	2041145.4	2468996.2	2542805.4	838151	609346.6	228804.4	504805.6	1536339.8	1774409	3.33	0	8.4	2.91	3.7	16.81	3815554.4
Sep '06	2105360.7	2435622.3	2571678.2	815950.2	615140.9	200809.3	524351.9	1581008.8	1743570	10.45	0	6.98	2.93	6.3	17.19	3848930.7
Oct '06	2286140.4	1745334	2550276.4	771464.2	629511.2	141953.1	538449.8	1747690.6	1751334.3	1.4	0	7.94	3.08	6.1	18.71	4037474.7
Nov '06	2093673.1	933275.4	2577498.7	799978.9	669521	130457.9	578186.5	1515486.6	1750913.7	9.7	0	7	3.1	7.8	18.72	3844586.7
Dec '06	1935005	753808.2	2565830	974903.9	779254.2	195649.8	690841.5	1244163.5	1739636.9	8.98	0	7.75	3.25	8.5	18.66	3674641.9
Jan '07	2040303.4	306914.6	2608922.5	827891.5	705163.8	122727.7	574667.9	1465635.5	1880161.2	7.25	10	7.1	3.36	8	18.7	3920464.6
Feb '07	2038824.8	348698.3	2885505.4	801370.8	704584.8	96786	579072.5	1459752.3	1867629.6	7.21	10	6.9	3.19	7.1	18.64	3906454.4
Mar '07	2028381.6	273599.4	3003782.6	841250.7	727411.2	113839.5	603519.3	1424862.2	1969714.6	7.33	10	6.85	4.3	5.2	18.92	3998096.2
Apr '07	1981987.8	461894.7	3188097.2	896020.1	766011.7	130008.4	620273.5	1361714.3	1978319.2	7.54	10	7.23	3.84	4.2	18.05	3960307
May '07	1962115.7	685025.8	3414414.9	1031500.7	742810.4	288690.3	565808.4	1396307.2	2085251.6	7.99	10	7.2	3.82	4.6	16.94	4047367.2
Jun '07	1947680.2	330867.6	3447827.3	858301.2	714955.6	143345.6	525292.2	1422388.1	2132134.3	8.46	8	6.59	3.78	6.4	16.92	4079814.5
Jul '07	2034908.2	491268.2	3829247.1	923417.8	714343.1	209074.8	519114.3	1515793.9	2116282.8	10.52	8	5.98	3.77	4.8	16.57	4151191.1
Aug '07	2872266.8	1414020.8	3909449.7	942180.6	717704.5	224476.11	523997	2348269.8	2678221.5	6.83	8	6.6	3.71	4.2	16.42	5550488.3
Sep '07	3038607.9	1740308.5	4203169.5	967276.91	722306.91	244970	543386.41	2495221.5	2634014.5	6.24	8	7.1	3.05	4.1	16.46	5672622.4
Oct '07	2938873.1	1789865.7	4415556.4	940779.41	755643.41	185136	571347.81	2367525.4	2646354.6	7.21	9	6.23	3.39	4.6	16.5	5585227.8

<b>Nov '07</b>	2955103.6	2515492.5	4712718.9	1091068.7	790177.1	300891.6	634096.7	2321006.9	2926455.1	8.56	9	6.67	3.15	5.2	16.5	5881558.6
<b>Dec '07</b>	3116272.1	2688236.5	5056720.9	1195271.9	960774.41	234497.5	737867.2	2378404.9	2693554.3	8.99	9.5	7.75	3.19	6.6	16.46	5809826.5
<b>Jan '08</b>	3472107.6	2918850.5	5338434.8	1050304.7	865935	184369.7	667987.7	2804120	3055565.4	11.22	9.5	8.58	2.92	8.6	16.2	6527673
<b>Feb '08</b>	3783352	3282957.9	5739400.7	1065912.7	866677.6	199235.1	687552.1	3095799.9	3233116.5	10.04	9.5	8.63	2.86	8	16.18	7016468.5
<b>Mar '08</b>	4546138.6	3462330.5	5964326.8	1200043	891816.9	308226.1	662789.6	3883349	3452094.2	9.37	9.5	8.5	3.13	7.8	15.78	7998232.8
<b>Apr '08</b>	4055597.1	3599023	6494209.4	1158839.2	898903.7	259935.5	674770.1	3380826.9	3749496.5	10.51	10	8.17	2.9	8.2	15.72	7805093.5
<b>May '08</b>	3993272.6	3693217.7	6787458.9	1242324.9	916902.2	325422.71	660155.2	3333117.4	3553061.1	9.47	10	8.27	2.86	9.7	15.83	7546333.7
<b>Jun '08</b>	4328511.7	4038236.3	6754681.6	1517769.4	918282.91	599486.6	673055.41	3655456.3	3619857.2	11.23	10.25	8.64	3.15	12	16.04	7948368.8
<b>Jul '08</b>	4098962.2	4907125.3	7341118.3	1279228.7	936858.5	342370.21	705084.41	3393877.8	3968629.1	8.61	10.25	9.21	3.15	14	16.09	8067591.2
<b>Aug '08</b>	4264860.6	4438433.7	7425092.4	1273816.5	948262.7	325553.8	727003.6	3537857	4070429.9	14.45	10.25	9.13	3.04	12.4	15.99	8335290.5
<b>Sep '08</b>	4521790.3	4244627.1	7474666.4	1247209.5	976362.3	270847.2	756786	3765004.3	4438497.4	15.42	9.75	9.08	2.99	13	15.84	8960287.7
<b>Oct '08</b>	4235811	4254703.7	7693775.4	1251929.9	966136.9	285793	743153.1	3492657.8	4103304.5	14.09	9.75	7.72	2.98	14.7	16.01	8339115.5
<b>Nov '08</b>	4268983.9	4337279.2	7973271.5	1284518.5	988182.48	296335.98	744343.59	3524640.3	4118172.8	15.77	9.75	6.9	2.96	14.8	16	8387156.7
<b>Dec '08</b>	4857544.5	4951887.5	8059548.9	1549325.3	1155566.8	393758.5	892907.8	3964636.7	4309523.1	12.17	9.75	5.61	3.57	15.1	16.08	9167067.6
<b>Jan '09</b>	4724886.5	5293462.4	8508579.5	1486824.3	1064615.1	422209.2	839198.1	3885688.4	4569149.5	7.91	9.75	3.88	2.82	14	16.12	9294035.9
<b>Feb '09</b>	4659007.8	4493177.5	8467978.1	1355386.3	1024200.6	331185.7	814931.3	3844076.5	4428959.2	17.3	9.75	2	2.78	14.6	17.89	9087967
<b>Mar '09</b>	4666715	4820837.5	8226442.6	1384040.4	1037766.1	346274.2	804073.3	3862641.7	4331102.3	20.6	8	2.53	2.78	14.4	18.23	8997817.3
<b>Apr '09</b>	4569664.6	5273397.8	8379909	1506021.1	1048137.4	457883.7	823772.5	3745892	4431343.5	12.51	8	3.33	2.74	13.3	18.36	9001008.1
<b>May '09</b>	4322456.5	5480085.8	8509346.3	1381358.4	1026915.5	354443	764389.65	3558066.8	4398124.9	13.71	8	3.27	2.76	13.2	19.53	8720581.4
<b>Jun '09</b>	4484615.7	5677163.2	8556944.7	1291493.2	1006598.9	284894.35	746463.82	3738151.9	4592410.8	18.6	6	3.32	2.81	11.2	18.16	9077026.5
<b>Jul '09</b>	4303788.6	5938120.4	9026074.5	1210805.5	1008282.4	202523.1	766880	3536908.6	4585570.2	18.1	6	3.93	2.76	11.1	18.49	8889358.8
<b>Aug '09</b>	4515350	6563419.6	9675017.7	1239508	1019428.2	220079.9	759861.6	3755488.4	4959974.8	10.17	6	4.8	2.77	11	18.31	9475324.9
<b>Sep '09</b>	4333500.1	6991205.6	9811363.3	1261973.6	1031852	230121.6	778724.6	3554775.5	5124990.2	9.7	6	4.8	2.86	10.4	18.33	9458490.2
<b>Oct '09</b>	4390646.4	7203294.8	9853616.2	1794947.1	1020135.1	774812	781323.91	3609322.5	5520905	7.05	6	5.08	3.44	11.6	18.96	9911551.3
<b>Nov '09</b>	4721896.7	7496539	9989981.5	1383510.4	1108617.3	274893.2	851394.4	3870502.2	5517661.7	5.62	6	4.48	3.35	12.4	18.93	10239558

<b>Dec '09</b>	5003866.6	7903792.1	10206087	1653860	1181541.9	472318.1	927236.4	4076630.1	5763511.2	4.68	6	4	3.36	13.9	19.03	10767378
<b>Jan '10</b>	4627669.7	7753820.7	10068749	1647806	1068205.8	579600.2	820528	3807141.6	5805454.9	2.61	6	3.72	3.34	14.4	18.82	10433125
<b>Feb '10</b>	4787467.3	8147345.9	10056212	1738741.4	1049411.2	689330.2	812132.7	3975334.6	5991928.5	2.27	6	2.33	3.31	15.6	18.74	10779396
<b>Mar '10</b>	4953204.5	8387950.7	10037423	1810890	1086457.4	724432.6	833557.4	4119647.1	6056859.1	1.5	6	1.04	3.03	14.8	19.03	11010064
<b>Apr '10</b>	5030039.3	8513781.7	10065976	1516546.6	1072606.3	443940.3	831289.9	4198749.4	5929198.9	1.27	6	1.2	2.94	15	19.05	10959238
<b>May '10</b>	5005020.7	8882624.6	10013720	1534788.5	1056748.4	478040.2	817431.6	4187589	5741044.6	4.94	6	1.63	2.92	12.9	18.77	10746065
<b>Jun '10</b>	4917989.9	8612940	10102818	1535112.3	1063633	471479.3	795412.1	4122577.8	5927508.2	2.73	6	2.29	1.95	14.1	17.65	10845498
<b>Jul '10</b>	4958349.7	8595036.6	9910705.6	1658882.2	1076922.1	581960.1	805680.2	4152669.5	5983085.6	3.59	6	2.94	1.62	13	17.4	10941435
<b>Aug '10</b>	5422502.3	9326102.8	10113201	1752945.8	1094707.8	658237.9	822229.6	4600272.7	6098142.4	1.26	6.25	2.63	1.41	13.7	16.89	11520645
<b>Sep '10</b>	5255890.8	9309837.5	10336115	1344324.6	1125394.9	218929.7	880864.2	4375026.6	5968899	2.66	6.25	6.6	1.42	13.6	16.66	11224790
<b>Oct '10</b>	5332749.8	9460245.2	10534366	1438353.3	1153171.2	285182	874894.1	4457855.7	5891857.5	8.45	6.25	6.75	1.48	13.4	16.16	11224607
<b>Nov '10</b>	5274242.1	9547259.2	10748379	1450823.5	1227639.1	223184.4	892330.1	4381912	5868409.2	8.99	6.25	7.58	1.48	12.8	16.11	11142651
<b>Dec '10</b>	5534454.8	8962973.1	9703701.2	1803914.8	1378024.6	425890.2	1082185.2	4452269.6	5954260.5	8.03	6.25	7.47	1.51	11.8	15.74	11488715
<b>Source: Central Bank of Nigeria</b>																

**Key:**

NM (M1): narrow money, NDC: net domestic credit, CPS: credit to private sector, BsM: reserve (base) money, CiC: currency in circulation, BRs: bank reserves, CoB: currency outside banks, DdD: demand deposit, QuM: quasi money, IBCR: inter-bank call rate (in %), MPR: monetary policy rate (in %), TBR: Treasury bill rate (in %), SDR: savings deposit rate (in %), INF: inflation (in %), PLR: prime lending rate (in %), BM (M2): broad money