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## Monetary Policy and Economic Growth: Theoretical and Conceptual Issues

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# Monetary Policy and Economic Growth: Theoretical and Conceptual Issues

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*D. G. Omotor, Ph. D\**

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## I. Introduction

Interest in the discussion of economic growth and development dates back to the making of economies. There is no doubt about this because growth confers many benefits. A few of the most important ones are; firstly, economic growth raises the general living standard of the population as measured by per capita national income; secondly, economic growth makes many kinds of income distribution easier to achieve; thirdly, economic growth enhances the time frame of accomplishing the basic necessities of man, for example shelter, food, clothing, etc, by a substantial majority of the population. This may even make the society begin to worry about the litter, pollution, etc that come with growth itself; and finally, rapid growth rates are often cited by countries of the might or right of their economic and political systems or even prestige (Lipsey, 1982; 693). Despite these benefits, economic growth in the last decades has been the focus of heated debate. Controversies that trail growth-related issues are energy crisis, environmental pollution, and population explosion among others. More incontrovertibly is the discourse on economic growth and development within the context of macro-behaviour of the economy and how policy goals could be achieved by the available instruments.

The four major goals of macro-policy are: low and stable level of unemployment, satisfactory balance of payments, stable price level and a high rate of output growth. These goals are inter-related and three kinds of variables which are ultimately targeted in achieving these macro-policy goals are the intermediate variables (variables that policies cannot affect directly and whose behaviour, the policy-maker do not have direct interest), the instrument variables (variables whose behaviour,

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central authorities can change) such as the rates of taxes and the level of government expenditure (fiscal policy instruments) and the cash reserves of the commercial banks (monetary policy instruments). Others are the policy variables (variables in which the policy maker is ultimately interested) in the form of balance of payments, unemployment, the price level and the growth rate whose behaviour the central authorities wish to change. In a simple example, a change in the instrument variable such as the minimum rediscount rate (MRR) affects an intermediate variable, investment spending, which ultimately affects the policy variable such as the growth rate of GDP. How then is monetary policy linked to economic growth or economic development? Put succinctly, how does monetary policy relate or influence economic growth and development and by extension the economy? This inference is what this paper will espouse.

The specific objective of this paper is to a large extent answer the question posed above by enunciating the conceptual and theoretical issues that relate to monetary policy and economic growth. From the onset, it is also imperative to state that this paper does not delve into clarifying the difference nor discuss the debates between the concepts of economic growth and economic development. The two concepts are used interchangeably in this paper to relate and espouse the same thing.

The rest of the paper is divided into five sections. Following the introduction in section 1, section 2 discusses the objectives of monetary policy. The monetary transmission mechanisms are schematically explained in section 3. Section 4 reviews the performance assessment of monetary policy and its framework in Nigeria. The constraints of monetary policy management in Nigeria are espoused in section 5. The final section concludes the paper.

## **II Monetary Policy and its Effectiveness**

In general terms, 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 (Nnanna, 2001). Some other theorists refer to monetary policy in terms of the central bank actions to influence and/or target some measures of the money stock. However, the definition of monetary policy often incorporated in theoretical models focus more on the measure of high powered liabilities of the central bank. This definition was the foundation of the monetarist revolution in the 1960s and 1970s (Rasche and Williams, 2007: 447).

In another strand, monetary policy is perceived as the high powered liabilities of the

central bank. Such proponents ordinarily refer to monetary policy as the central bank actions to influence and/or target short-term interest rates or nominal exchange rate. However, Sargent and Wallace (1975) have contended that in a model with “rational expectations”, the price level (and all other nominal variables) could be indeterminate if the central banks set targets for nominal interest rates, because the economy would lack a “nominal anchor”. McCallum (1987) advanced the argument and showed that an appropriately defined interest rate rule which include a “nominal anchor” would avoid such indeterminacy. In the US, in the early years of Greenspan, interest rate rules that include a 'nominal anchor' in the form of a desired or target inflation rate became the basic specification of 'monetary policy' in theoretical discussions. These various definitions of monetary policy is influenced in part by developments in monetary theory and in part by interpretations of monetary history. Thus the changing role by the definition of monetary policy is but something of a moving target. This is presented in some details after the discussion on the effectiveness of monetary policy in the following sub-section.

### **Effectiveness of Monetary Policy**

The 'ineffectiveness' of monetary policy debate is historically anchored on the legacy of the Great Depression in the United States and other industrialized economies. This plank is most prominent in Keynes' General Theory and the writings of “Keynesian economists” in the 1940s through the 1960s. The Radcliffe Committee Report and the first two reports of the Kennedy Council of Advisers in the United Kingdom and the United States, respectively, (presented below) as excerpted in Rasche and Williams (2007:448) are perspective examples on the effectiveness of monetary policy:

*The intermediate object of monetary policy action is to affect the level of total demand... in the theory, monetary action may work upon total demand by changing the interest incentive; we believe that only very limited reliance can be placed on this. More certainly, monetary action works upon total demand by altering the liquidity position of financial institutions and of firms and people desiring to spend on real resources; the supply of money itself is not the critical factor. (Radcliffe, 1959, p 135).*

*Unless the Government acts to make compensating changes in the monetary base, expansion of general economic activity, accompanied by increased demands for liquid balances and for investment funds will tend to tighten interest rates and restrict the availability of credit... Discretionary policy is essential, sometimes to reinforce, sometimes to mitigate or overcome the monetary consequences of short-run fluctuations of economic activity. In addition, discretionary policy must provide the base for expanding liquidity and credit in line with the growing potential of the economy. (Council of Economic Advisers, 1962, p. 85).*

*The past 10 years have been characterized by an average growth rate of aggregate expenditures that is very high by historical standards and that has substantially outstripped the sustainable growth of supply of real goods and services. Contributing significantly to the growth of aggregate demand were rapidly increasing government expenditures along with monetary policies that were appreciably more expansionary than those in earlier post-World War II period. When the inflationary phase has lasted so long that expectations of further inflation are firmly embedded in the cost trend, a shift to policies of restraint first exerts an adverse deceleration effect and materializes only with a lag. Any convincing interpretation of the events during 1970 and 1973-4 must stress this difficulty. (Council of Economic Advisers, 1975, pp. 128-29)*

The least that can be discerned from the above is that monetary policy effectiveness has changed; and that can be viewed as equally important as fiscal policy for affecting both inflation and output fluctuations.

In the last three decades the discourse on the effectiveness and role of monetary policy is still a major debate in macroeconomics. The risk of 'monetarism' subsequent to the works of Friedman and Schwartz (1963); Anderson and Jordon (1968); Meltzer (1976 and 2003) have presented several planks. Firstly, some monetarists contend that sustained inflation was a monetary phenomenon and that central banks should be held accountable for maintaining price stability. The contention here is that central banks should control the stock of money in the economy rather than focus on targeting short-term nominal interest rates as a mechanism to achieve long-run inflation objective. (The reason for this is that, in a fiat money economy, the money stock provided the nominal anchor for the system (Rasche and William, 2007).

There are some other monetarists from the above group who equally believed that

inflation control was not the only concern of the monetary authorities. Anderson and Carlson (1970) viewed monetary policy as having significant effects on short-run fluctuations in real output, though it does not affect long-run output growth. Meltzer (1976, 2003) among others believe that monetary policy was responsible for the historical cyclical fluctuations in real output.

In the 1970s and early 1980s, macroeconomics witnessed the plantation revolution of the “rational ineffectiveness proposition” of the New Classical Macroeconomics. Some common works during this era were Sargent and Wallace (1975); Fischer (1977); Taylor (1980), among others. The initial interpretations of the rational expectations paradigm were that, if expectations are rational, they would render monetary policy ineffective in influencing real output both in the short-run and long-run. Thus, monetary policy has no role in output stabilization.

Further demonstration eventually revealed that it was the interaction of the rational expectations and perfectly flexible wages and/or prices assumptions that generated the “policy ineffectiveness proposition”. This integration of ideology saw an emergence of a new thought known as the “New Keynesians”.

The popularity of the New Keynesian models has eventually eroded the monetarist tenets of how monetary policy affects economic activity. Money in this cycle is less often spoken about especially when included in the discourse on “inflation”. King (2002) equally cited in Rasche and Williams (2007:449) notes that:

***There is a paradox in the role of money in economic policy. It is this: that as price stability has become recognized as the central objective of central banks, the attention actually paid by central banks to money has declined (p. 162).***

The implication of this is that although monetary policy is essential in economic growth and development process of modern economies, its role in macroeconomic policy objective is becoming more passive. This is because its fundamental role has been streamlined to price stability and in recent times inflation targeting.

In contemporary literature and policy discussions, on some economies (New Zealand, Norway, Switzerland, Thailand, UK, Chile, Hungary, Colombia, Canada, etc), more attention is given to the role of an inflation objective in a central bank 'policy rule' as the nominal anchor. This constitutes the basis of the discussion on inflation targeting. Inflation targeting is a framework for policy decisions in which

the central bank makes an explicit commitment to conduct policy to meet a publicly announced numerical inflation target within a particular time frame (Egbon, 2006). As so far reported in the literature on inflation-targeting, a number of inflation-targeting countries as listed above have recorded effectiveness in their monetary policy and that central banks that have announced explicit numeric inflation objectives have been quite effective in achieving the stated inflation stabilization objective (Rasche and Williams, 2007); however, this is not without some problems in the implementation.

### **A Primer on the Role of Monetary Policy**

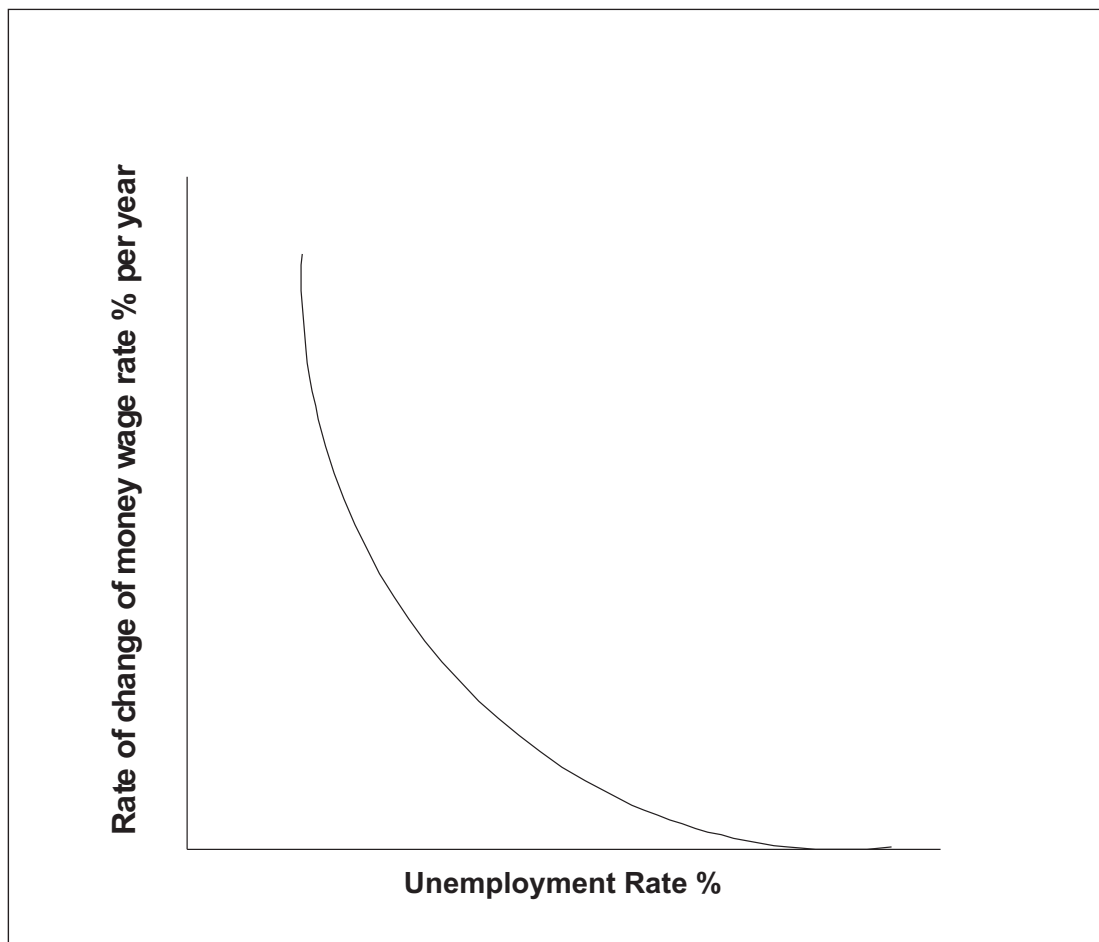
The goals of monetary policy as earlier discussed include price stability, maintenance of balance of payments equilibrium, high employment and output growth and sustainable development. These goals which complement one another emphasize the basic macroeconomic objectives of most economies. There is a wide disagreement about these major goals, however, there is less agreement that these goals are mutually compatible, (Friedman, 1968:1). There is even least agreement about what monetary policy can do and what it cannot do in achieving the several goals. These disagreements have resulted in heated debates that are yet to climax. On the one hand of the debate are solicitors of monetary policy who advocate that monetary policy can and should be targeted at employment and economic growth in addition to price stability. The alternative thought enunciates that monetary policy should be directed solely at price stability.

The apparent conflict between these views according to Fry (2000) is resolved if it can be established that monetary policy can be used to accomplish the goals of high employment and growth only if it maintains stable prices. In such a case, price stability becomes a necessary condition for sustained economic growth and, thus, no conflict between the two objectives, since they imply the same thing.

An attempt to establish a resolution of the difference has a long history and dates back to 1958, when Bill Phillips demonstrated the existence of a stable relationship between unemployment and the rate of change in wages in the United Kingdom. The Phillips' (1958, p.288) analysis is summarized in the popular Phillips curve (Figure 1) to depict an inverse relationship between unemployment and inflation. Another landmark in the literature was the subsequent article by Paul Samuelson and Robert Solow (1960) that inverted Phillips' analysis to suggest that a range of 3% - 4% inflation was the necessary price of bringing unemployment down to 3% in the

United States. Samuelson and Solow represented the Phillips curve as a relationship between price inflation and unemployment rather than between wage-inflation and unemployment.

**Figure 1: The Phillips Curve**





**Figure 2: Transformed Samuelson-Solow-Phillips-Curve**

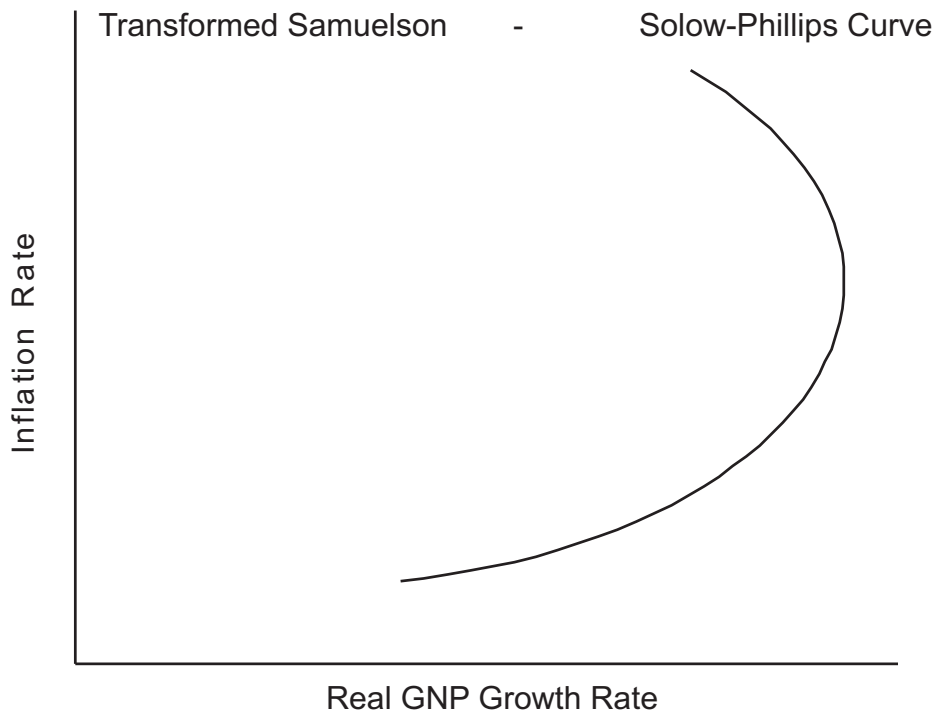


Figure 2 is the transformed Samuelson-Solow-Phillips curve. At present, the pendulum has swung in favour of the second view that stable prices are essential for growth, at least in the short run. The importance of price stability is derived from the harmful consequences of price volatility. Price fluctuation undermines the ability of policy-makers to achieve other macroeconomic objectives. Generally, price volatility dilutes the role of money as a store of value and inhibits investments and growth.

### **Techniques of Monetary Control**

The techniques of monetary control are the monetary policy instruments. These instruments can be divided broadly into two: direct and indirect instruments.

#### **Direct Instruments**

The direct instruments of monetary policy include selective credit control, moral suasion, direct regulation of interest rates, etc.

- (i) Moral suasions refer to situations when the central bank resorts to exhortation and admonition in an attempt to create the expectations and the financial climate it deems desirable and also to influence the lending operations of commercial banking system. It relies on the acceptance of the leadership role of the central bank within the monetary system.
- (ii) Selective credit control involves the imposition of quantitative ceilings on the overall and/or sectoral distribution of credit by the central bank. It could also take the form of imposition of ceilings on deposits in which case, a limit is set on the amount (for instance, foreign currencies) an individual or organization can deposit into a bank account.
- (iii) Direct regulation of interest rates involves fixing of deposit and lending rates ranges within which commercial banks are expected to charge.

#### **Indirect Instruments**

Indirect instruments also called traditional instruments are referred to as market weapons. They include open market operations (OMO), discount rate policy and reserve requirements.

- (i) Open market operations (OMO) entail the sale or purchase of treasury bills or government securities with the aim of controlling the base money or its components which in turn influences deposit money banks' reserve balances.

- (ii) Discount rate is the price paid by the owner of securities to the central bank for converting the securities into cash. It is designed to influence the cost of credit (that is, the cost at which banks can borrow from the central bank). The mechanism influences the availability of credit hence money supply in the economy. The ability of the central bank to use this policy derives from its role as lender of last resort.
- (iii) Reserve requirement is designed originally to protect customers' deposits by ensuring some minimum level of bank liquidity. The reserve requirement is expressed as a percentage of customers' deposits, and it predetermines the maximum amount of credit that can be created by the banking system.

### **What Monetary Policy Can Do**

- (a) Monetary policy can prevent money itself from being a major source of economic disturbance.
- (b) Monetary policy can provide a stable background for an economy. This it does by maintaining a stable price level. A stable price level into the future ensures confidence in the economic system.
- (c) Monetary policy can contribute to offsetting major disturbances in the economic system arising from other sources. For instance, if the fiscal deficits resulting from explosive budget threaten an economy, monetary policy can be used to hold the inflationary dangers in check by a slower rate of monetary growth than would otherwise be desirable.

### **What Monetary Policy Cannot Do**

There are basically two limitations of monetary policy: (a) It cannot peg interest rates for more than very limited periods; (b) It cannot peg the rate of unemployment for more than very limited periods.

### **How Should Monetary Policy be Conducted?**

A monetary authority should guide itself by magnitudes that it can control, not by ones it cannot control. Of the various alternative magnitudes that the monetary authorities can control, the most appealing guides for policy according to Friedman (1968:15) are the price level, as defined by some index, exchange rates, and the quantity of monetary aggregates (M1 and M2). Of the three guides listed, the price level is clearly the most important as most economists have argued. However, Friedman also pointed out that the link between the policy actions of the monetary

authority and the price level is more indirect than the link between the policy actions of the authority and any of the several monetary aggregates (M1 and M2), as monetary actions for instance, take a longer time to affect the price levels. Thus given the time lag and the magnitude of the effect, Friedman suggested monetary aggregates as the best available guide.

Secondly, the conduct of monetary policy should avoid sharp swings in policy- not too late and too much. A monetary authority should be proactive but not too far and too hard. The reason to overreact seems clear: failure of monetary authorities to allow for a delay between their actions (determined by today's conditions) and subsequent effects on the economy (which occurs only six or nine or twelve or fifteen months later). This is why the step on the brake or accelerator as the case may be, may turn out to be too hard.

### III Monetary Transmission Mechanism

One way of understanding how monetary policy affects the economy is through the various channels of monetary transmission mechanisms. These transmission mechanisms include interest rate effects, exchange rate effects, asset price effects and credit channel (Mishkin, 1995). These various effects or channels are explained schematically.

#### The Interest Rate Effect

The interest rate mechanism in the transmission of monetary policy is a key channel in the basic Keynesian textbook model. This channel has also been the mainstay of teaching in macroeconomics. Using a schematic diagram, the traditional Keynesian perception of how a monetary policy (e.g. tightening) is transmitted to the real economy can be displayed as follows:

$$M \quad i \quad I \quad Y$$

Where M? is a contractionary monetary policy which leads to a rise in domestic real interest rates ( $i?$ ), this in turn raises the cost of capital, thereby causing a fall in investment spending ( $I?$ ). The decline in investment spending results to a fall in aggregate demand and a decline in output ( $Y?$ ). While this approach as originally emphasized by Keynes may be viewed as operating through businesses' decisions about investments, the transmission equally applies to consumer spending in which I represents residential housing and consumer durable expenditure.

Some studies that have empirically affirmed the monetary transmission mechanism via the interest rate channel despite the criticisms are Taylor (1993 and 1995) and Romer and Romer (1994). In summary, the theory posits that an increase in real interest rate raises the price of currently purchased goods and thereby reduces aggregate demand and growth.

### **The Exchange Rate Effect**

The importance of exchange rate channel of monetary transmission has also been emphasized in the literature. This has been related to the growing internationalization and globalization of economies given the advent of flexible exchange rate regime. The exchange rate channel of monetary policy transmission operates on net exports and it inherently involves interest rate effects. The schema for the transmission mechanism operating through exchange rate is characterized as follows:

$$M \quad i \quad E \quad NE \quad Y$$

Where  $M?$  indicates a contractionary monetary policy leading to a rise in domestic real interest rates ( $i?$ ). Domestic currency deposits (₦) become more attractive relative to deposits denominated in foreign currencies, thereby leading to a rise in the value of the domestic currency deposits relative to other currency deposits, that is an appreciation of domestic currency (say ₦) denoted by  $E?$ . The higher value of the domestic currency (₦) makes domestic goods more expensive than foreign goods, which results in a decline in net exports ( $NE?$ ) and hence a fall in aggregate output all things being equal.

### **Other Asset Price Effects**

Other than the financial market framework analyzed by Taylor (1995) in explaining the monetary policy transmission mechanisms on the real economy, a key objection to the Keynesian paradigm on the monetary transmission is that it focuses only on one relative asset price (interest rate). However, the use of other asset prices has also been discussed in the economic literature. These other asset prices in the transmission of monetary policy are emphasized through two channels: Tobin's  $q$  theory of investment and the wealth effects on consumption.

Tobin's  $q$  theory in the monetary transmission is through its effects on the valuation of equities and its relative link with investment spending. In Tobin (1969),  $q$  is the market value of firms divided by the replacement cost of capital (Mishkin, 1995). A

high  $q$  implies a high market price of firms relative to the replacement cost of capital and new plant. This makes equipment capital to be cheap relative to market value of business firms and as such, firms can issue equity and since the market value of business firms is high, they can get a high price relative to the cost of the plant and equipment they are buying. This will increase investment spending since they can buy a lot of new investment goods with a small proportion of the issued equity. Here lies the link between Tobin's  $q$  and investment spending.

Assuming  $q$  is low; firms will not purchase new investment goods since their market value is equally low, relative to the cost of capital. Rather, they can acquire another firm cheaply or acquire old capital instead. How then does monetary policy affect equity prices?

In the monetarist paradigm, a fall in the supply of money leads to decreased spending since the public finds it has less money, as he demands. In such situation, the public reduces its spending in the stock exchange and thereby a decline in demand for equities. Lower equity prices ( $Pq$ ) will lead to a lower  $q$  ( $q?$ ), thus a decline in investment spending ( $I?$ ) and hence aggregate output ( $Y?$ ).

$$M \quad Pq \quad q \quad I \quad Y$$

The second approach of the monetary transmission through equity prices is the wealth effects on consumption. Modigliani (1971) is one of the strongest advocates of this approach. According to this channel, lifetime resources of the consumer determine consumption spending. These lifetime resources are real capital, human capital and financial wealth. Common stocks constitute a major component of the financial wealth. A fall in stock prices leads to a decrease in the value of financial wealth, which ultimately decreases the lifetime resources of consumers, and consequently a decline in consumption and output. This alternative transmission mechanism schematically begins with a contractionary monetary policy that lowers investment spending:

$$M \quad Pq \quad W \quad C \quad Y$$

Where  $Pq$  is equity prices,  $W$  is wealth,  $C$  is consumption while  $M$  and  $Y$  are as previously defined.

**Price Level Effect**

An alternative channel of monetary transmission mechanism is the unanticipated

price level effect. Although economists generally disagree on the role of money in stabilizing prices; changes in supply of money and the price level are strongly correlated (Akinlo, 2007). This correlation has its roots in the original formulation of the quantity theory of money.

An unanticipated rise in the general price level due to monetary expansion lowers the value of firms' liabilities in real terms (debts are contractually fixed in nominal terms). This raises the net worth of firms and subsequently, a reduction in adverse selection and moral hazard problems which encourages a rise in investment and output. Schematically, this is displayed as:

$M \uparrow \rightarrow P \uparrow \rightarrow \text{adverse selection} \downarrow \rightarrow \text{moral hazard} \downarrow \rightarrow \text{lending} \uparrow \rightarrow I \uparrow \rightarrow Y \uparrow$

### **Credit Effect**

One new view on the monetary transmission mechanism which emphasizes how asymmetric information and costly enforcement of contracts creates agency problems in financial markets is the credit paradigm. The credit paradigm of monetary transmission is discussed under the ebb of bank lending and balance-sheet channels.

The bank lending channel is based on the view that banks by their peculiar nature are best suited to deal with some categories of borrowers (small firms) where problems of asymmetric information is more pronounced. Under this channel, a contractionary monetary policy ( $M \downarrow$ ) leads to a fall in bank reserves and bank deposits ( $BD \downarrow$ ) and consequently leads to a decline in bank loans ( $BL \downarrow$ ). A fall in bank loans as a result of declining bank deposit affects borrowers which inevitably causes decline in investment spending ( $I \downarrow$ ), thereby leading to a fall in output ( $Y \downarrow$ )

$$M \quad BD \quad BL \quad I \quad Y$$

The balance sheet approach operates through the net worth of business firms. A decrease in business firms' net worth leads to a decrease in lending (investment projects of firms with lower net worth are perceived as riskier) as lenders are not likely to be paid back and hence a decline in investment spending. But how does monetary policy affect firms' balance sheet?

According to Mishkin (1995), a contractionary monetary policy ( $M \downarrow$ ) causes a decline in equity prices ( $Pq \downarrow$ ) as previously demonstrated. A fall in equity prices of

firms lowers their net worth and so results in lower investment spending (I?) and thereby aggregate demand and fall in output (Y?). This is schematically displayed as:

M ↓ P ↑    adverse selection ↓ and moral hazard ↓    lending ↓    I ↓    Y ↓

#### **IV    Evolution and Development of Monetary Policy in Nigeria**

The objectives of monetary policy in Nigeria are much the same as discussed previously (high employment, stable prices, balance of payments equilibrium and rapid growth). With the establishment of the Central of Nigeria (CBN) in July 1957, the stage was set for a new era in which monetary policy could be used as instrument of economic management (Teriba, 1976). The major task of this section is to describe the changing emphasis on these objectives.

##### **The Formative Years, July 1959 - March 1962**

Prior to 1964, it has been argued, that no conscious monetary policies were implemented in Nigeria as the operations of the CBN did not start until July 1959. In March 1962 following the launching of the country's Second National Development Plan (1961-1964), the CBN was brought into limelight of development financing. Monetary issues of concern (since the country was using the currency of the West African Currency Board) were the establishment of a strong financial base and the promotion of domestic financial infrastructures such as the money and capital market institutions and instruments (Gbosi, 1993:266). Notable actions taken during this period included the issuance of the Nigerian currency, introduction of the first Nigerian money market instrument the Treasury Bill, establishment of the Nigerian Stock Exchange, etc. The most active policy instrument during this period was the interest rate. For instance, between April, 1960 and December 1960, the discount rate and treasury rate were raised 10 and 13 times, respectively. The aim of the Treasury bill was to encourage commercial banks to repatriate short-term funds from London.

##### **The Period 1962 - 1975**

The first era of this period witnessed the Amendment Act of 1962 that strengthened the Central Bank for effective monetary policy promotion. Cheap monetary policy was adopted during this first era to enable the government borrow as cheaply as possible for the purpose of financing the Second National Development Plan.

During the period 1964-1966, monetary policy was targeted at defending the balance



of payments given the rapid credit expansion experienced in this period, which encouraged increased demand for imports and subsequent drain on foreign reserves. Monetary policy instruments used during this period included fixing the exchange rate, interest rate, discount rate control, variable liquid assets and moral suasion to reverse the credit expansion.

Owing to the civil war in 1970, the Nigerian economy experienced an inflationary spree. Other factors that fueled inflation were the unrealistic wage increase awarded by the Adebo and Udoji Commissions in 1971 and 1974, respectively. Consequently, inflation became the most serious problem in Nigeria. The Central Bank to this effect embarked on some direct control measures. This included encouragement of commercial banks to channel a greater and increasing percentage of their credit allocation to productive sectors of the economy (Ajayi and Ojo, 1979). Other measures were targeted at reducing the liquidity of commercial banks and issuance of 'stabilization securities'. Under this scheme, the CBN was given powers to sell or allocate these securities to, or repurchase them from any banking institution (Gbosi, 1993).

### **The Period 1975-1992: Direct Control Era**

This period has been abruptly described as the direct control era. The major objective of monetary policy during this period was to promote rapid and sustainable economic growth. To this end, the monetary authority imposed quantitative interest rate and credit ceilings on the deposit money of banks and sustained the sectoral credit allocation policy to 'preferred' sectors (agriculture, manufacturing, and residential housing) and less 'preferred sectors' (imports and general commerce, and "others"). This classification as explained by Nnanna (2001:5) enabled the monetary authorities to direct financial resources at concessionary rates to sectors considered as priority areas. These rates were typically below the CBN minimum rediscount rate (MRR), low and not determined by market forces.

The CBN also compelled banks to deposit with it (special deposit) any shortfall in the allocation of credit to the designated preferred sectors. However, this policy of direct control in the allocation of credit to the priority sectors did not meet the prescribed targets and failed to impact positively on investment, output and domestic prices. As further observed by Nnanna (2002: 9), banks' aggregate loans to the productive sectors between 1972 and 1985 averaged 40.7 percent to total credit, about 8.7 percentage points lower than the stipulated target of 49.4 percent.

The period of the 'Control Regime' equally experienced an impaired effectiveness of monetary policy. One major factor often cited was lack of instrument autonomy of the Central Bank as the Ministry of Finance influenced by short-term political considerations largely dictated monetary policy. Empirical evidence as cited in Nnanna (2002) on the works of Fisher (1994) and Ojo (2000) support the goals of central banks' autonomy. Instrument autonomy of central banks (CBs) is predicated on the strong influence CBs have on monetary management and their ability to achieve monetary policy objectives.

In 1987, the monetary and credit policy measures adopted were designed to facilitate the achievement of the goals of the Structural Adjustment Programme (SAP). The adoption of SAP was as a result of harsh and severe economic difficulties in 1985. The SAP programme was aimed at reforming and dismantling the control regime and the enhancement, promotion and use of indirect instruments of monetary controls. This ushered in the current monetary policy framework.

#### **The Period of Indirect Instrument of Monetary Control (1993-Date)**

The era began with the removal of selective credit ceilings for banks beginning in September, 1993 following the promulgation of the CBN Decree 24 and the Banks and Other Financial Institutions Decree (BOFID) 25 of 1991. In 1998 Decree Numbers 37 and 38 of the CBN (Amendment) and BOFID (Amendment) were promulgated. Overall, the CBN Act was amended and the Bank granted more discretion and autonomy in the conduct of monetary policy.

The monetary policy framework of indirect controls involved the use of market instruments, particularly the Open Market Operations (OMO) introduced at the end of June 1993 and is conducted wholly on Nigerian Treasury Bills (TBs), including Repurchase Agreements (REPOS). The OMO is complemented with the use of reserve requirements, the Cash Reserve Ratio (CRR) and the Liquidity Ratio (LR). The CRR has been progressively increased from 6 percent in 1995 to 12.5 percent in April, 2001. In 2005 there was an upward adjustment of the CRR by a total of 150 basis points and subsequent reduction.

The Minimum Rediscount Rate (MRR) was also used by the CBN as a nominal anchor to influence the level and direction of other interest rates. The changes in the rate indicated whether the monetary authorities wished to adopt a policy of monetary tightening or otherwise. The rate was 16.5 in December 2002, 15 percent in June 2004, 13 percent in December 2005 and 10 percent in December 2006.

In recent times, the CBN has been committed to ensuring price and exchange rate stability through restrictive monetary policy stance. This it has done with the introduction of the Wholesale Dutch Auction System (WDAS) and non-discountable Special Nigerian Treasury Bills (NTBs). In 2006, the CBN also introduced a new monetary policy implementation framework which establishes an interest-rate corridor of three percentage points above and below a short-term Monetary Policy Rate (MPR). The MPR fixed at 10 percent in 2006 was reduced and retained at 8.0 percent in August 2007. Consequently, the annual headline inflation rate which averaged 17.9 percent in 2005 stood at 8.4 percent in 2006. Inflation stayed within single-digit of 6.4 percent in the first half of 2007. The exchange rate on the other hand has also fared well relatively. Apart from a drop in the market premium in the first week of June 2006 from ₦24 to ₦9.00, the naira exchange rate appreciated from US\$1/₦151 in March 2006 to US\$1/ ₦126.88 at end-March 2007 and to US\$1/ ₦126.05 at end-June, 2007 (Central Bank of Nigeria Communiqué of the Monetary Policy Committee: various issues).

### **Assessment of Effects: An Alternative Consideration**

This sub-section is a performance assessment of the current monetary policy in Nigeria (1995-2006). Following the lead by Nnanna, (2001), Tables 2 and 3 provide data on the extent to which actual growth in monetary aggregates, GDP growth rate and inflation, approximate the ex-ante policy targets.

### **Money and Credit**

The post-reform period under review witnessed a substantial growth in money supply. Money supply ( $M_1$ ) grew rapidly from 16.3 percent in 1995 to 62.2 percent in 2000, while  $M_2$  grew from 19.4 percent in 1995 to 48.1 percent in 2000. These growth rates during this period were due to the rapid monetization of oil flows and financing of government fiscal deficits through the banking system. For instance, aggregate credit (net) increased from 7.4 percent to 64.6 percent in 2002, although negative growths were recorded in some of the intervening years in between.

Between 2001 and 2006, the growth of  $M_1$  consistently over-shot its target except in 2004 when the outcome of 8.5 percent growth was below the 10.8 percent target. Base money, the Central Bank's operating target for monetary policy, at ₦918.9 billion, was far in excess of the end-December 2006 Policy Support Instrument (PSI) target ceiling of ₦820.0 billion.

The provisional data also indicated that broad money ( $M_2$ ) grew by 30.6 percent, compared with the maximum target of 27.8 percent for fiscal 2006. The rise in money stock was attributable wholly to the significant increase in the foreign assets (net) of the banking system arising from the sustained increase in crude oil prices in the international oil market. Aggregate credit to the domestic economy according to the 2006 Annual Report of the CBN, fell by 65.0 percent. This also reflected wholly the substantial fall in credit to the Federal Government by 676.2 percent, compared with a programmed decline of 40.0 percent in fiscal 2006.

Credit to the private sector rose by 26.6 percent as against the programmed target of 22.0 percent in 2004, while a similar feat was also achieved in 2005 as credit to this same sector (private) increased by 29.3 percent as against the set target of 22.0 percent. Credit to the private sector rose by 28.2 percent, comparing favourably with the target of 30.0 percent.

Generally, fiscal dominance has relatively been on the decline since 1998, but the decline has not been consistent. For example, while a 4.3 percent, 5.5 percent and 2.8 percent declines were recorded in 2001, 2002 and 2003, respectively, increased spending was once again recorded in 2004 and 2006. This undermines the efficacy of monetary policy.

### **Domestic Output**

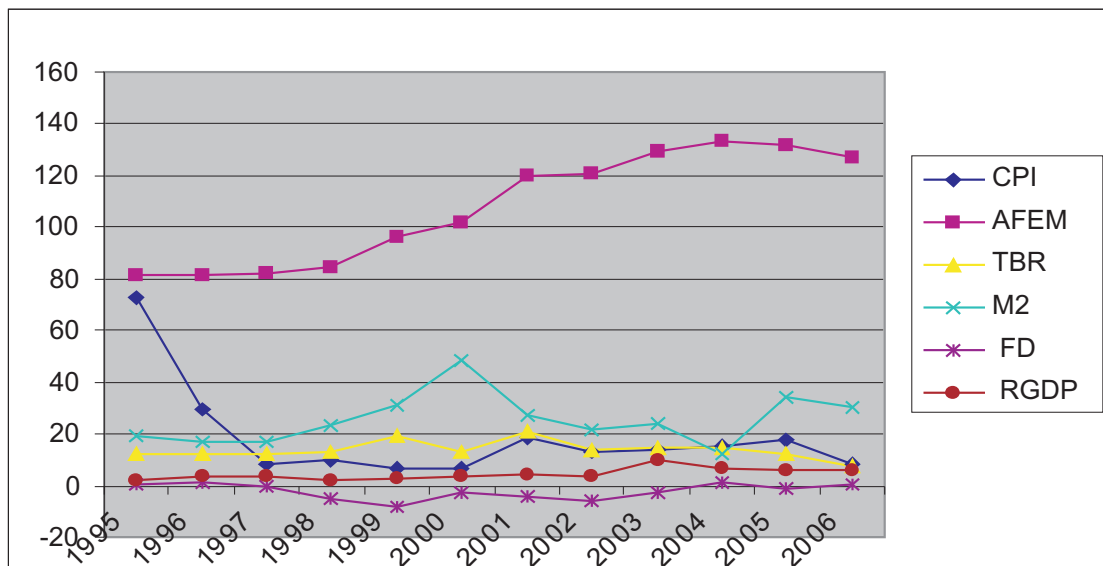
Generally speaking, output performance has been impressive. Growth outcome on the average compared favourably with the set targets. Unprecedentedly, in the post-reform period, an outcome of real growth at 10.2 percent was achieved as compared with a programmed target of 5.0 percent in 2003. Furthermore, the period between 2004 and 2005 witnessed outcomes of growth in real GDP over their set targets. However, real growth GDP of 5.6 percent in 2006 lagged behind a projected target rate of 7.0 percent during the same period.

### **Price**

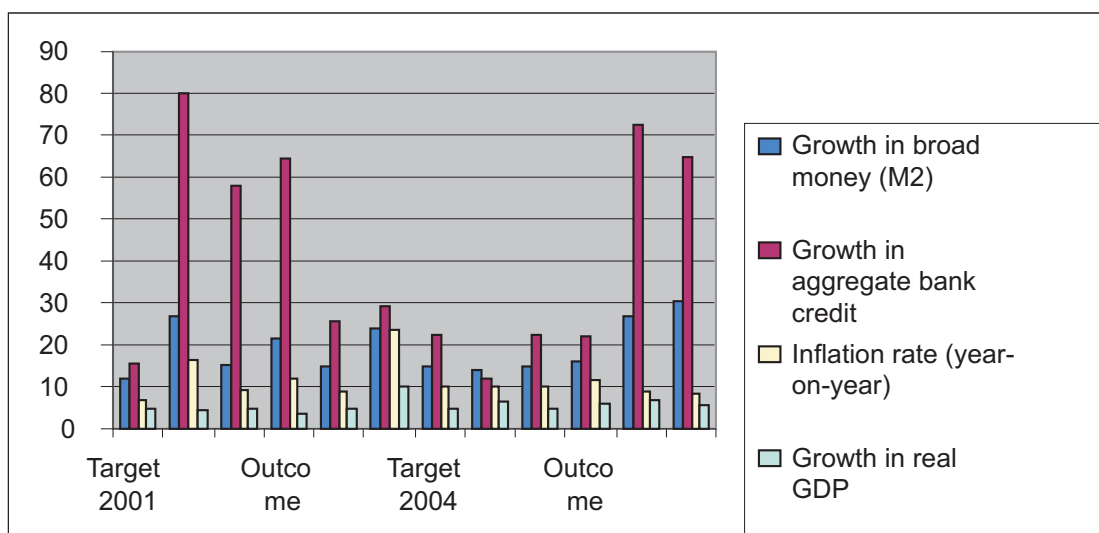
As rightly noted by Nnanna (2001), the major objective of monetary policy in Nigeria is the maintenance of macroeconomic and price stability. A single-digit low and stable inflation rate (also one of the conditions for the establishment of the second West African Monetary Zone) constitutes the price stability objective as perceived in the Nigerian context. Persistent single-digit inflation has not been sustainably achieved in Nigeria. For instance, for the 12 year period (1995 to 2006), a single-

digit inflation rate, was achieved only 4 times, though recent years experience (that is since 2004) has been relatively satisfactory. The year-on-year data revealed that the outcome of actual inflation rate has been favourable compared with the programmed targets. This may imply a relative success of monetary policy since 2004. These latter periods of favourable comparison between outcome and target can also be adduced to time-lag effect of the efficacy of monetary policy.

Figure 3: Selected Macroeconomic Variables



**Figure 4: Outcome and Targets of Monetary Aggregates, Inflation and Real GDP (%)**



**Constraints of Monetary Policy in Nigeria**

Monetary policy framework in Nigeria has been targeted at the enhancement of output and a sustainable price level. Despite the efforts and determination especially on the part of the CBN, some constraining factors still inhibit the efficiency of monetary policy in Nigeria. These include:

**Fiscal dominance:** Fiscal expansion results in fiscal deficits. In Nigeria, such deficits in recent years were financed mostly by banking sector credit. This does not only result in crowding-out of the private sector, it also fuels inflation. It is thus difficult to explain a situation where monetary policy was targeted at combating inflation and at the same time, government embarks on budget deficits (via extra budgetary expenditures). In a situation like this, monetary policy becomes impotent.

**Liquidity overhang,** which is also related to fiscal dominance. Liquidity overhang in Nigeria results from the monetization of oil receipts including the

excess crude proceeds especially since 2000, the population census in 2006 and pre-election spending in early and mid-2007. Other sources are the fiscal operations of the states and local governments whose 'loose' expenditures seriously inhibit the ability of the CBN to control the money supply.

The lack of timely and accurate data needed for effective monetary policy formulation. Although, some improvements are already being recorded in the form of large scale computerization of the financial system and the collaborative efforts of the CBN as well as the rebirth of the National Bureau of Statistics (formerly Federal Office of Statistics), improvement in collection, collation and publication of high frequency, reliable, and micro-level data is still needed.

The large informal sector in Nigeria also implies the existence of a large informal credit market. This has some implications for the transmission mechanism of monetary policy. For instance, the money creation ability of the informal credit market is a constraint on the CBN ability to control money supply in the economy.

The preferred payment instrument (cash) in Nigeria. The literature has shown that a system that is driven by cash payments is inefficient and as such distorts the transmission mechanism of monetary policy (Nnanna, 1999).

Inconsistency in monetary policy announcements. Most recent is the suspension of the proposed currency re-denomination programme. Complementary to this is the increasing involvement of the Nigerian government in setting the goals, while the Central Bank manages the instrument to achieve the goals. What this implies is that the Central Bank of Nigeria possesses instrument independence (which is still weak) but not goal independence.

## V Conclusion

The paper has attempted to address some of the conceptual and theoretical issues of monetary policy in a broad and wide setting manner. In the course of its preparation, the need to domesticate the framework of monetary policy issues was not undermined. Consequently, some of the broad conclusions from the paper can be summarized as follows:

Monetary policy is one of the economic policies available to nations aimed at achieving macroeconomic objectives.

Monetary policy cannot peg interest rates and rate of unemployment for more than very limited periods.

Directing monetary policy solely at achieving stable prices is essential for economic growth and development.

Monetary policy should guide itself by the magnitudes it can control and should avoid sharp swings.

The various channels of monetary transmission mechanisms are interest rates, exchange rate, asset price etc.

Fiscal dominance inhibits monetary policy effectiveness.

In conclusion, the paper posits that the current CBN Act (Amended) be further amended to provide adequate independence. Moreover, the Nigerian experience has also shown that the effectiveness of monetary policy in the economic development process of an economy must be anchored beyond it and be complemented to some extent, by other economic policies. This notwithstanding, it permits the following unconventional style in concluding this paper on price stability and maximum sustainable economic growth.

*“I find computers a bit mysterious, and I know that many think that monetary policy is even more mysterious. Federal Reserve officials used to delight in adding to the mystery, ...macroeconomic theory has made clear the importance of central bank... to an effective monetary policy”. William Poole (2006:155).*



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## Appendix

Table 1: Data on Aggregate Credit to Priority Sectors 1980 - 1992

Year	Agric, Forestry and Fishery	Manufacturing	Total Credit to Priority Sectors	Total Credit
1980	462.2	1956.8	2419	6349.1
1981	590.6	2659.8	3250.4	8582.9
1982	786.6	3037.6	3824.2	10275.3
1983	940.4	3053.1	3993.5	11093.9
1984	1052.1	3083.5	4135.6	11503.6
1985	1310.2	3232.2	4542.4	12170.2
1986	1830.3	4475.2	6305.5	15701.6
1987	2427.1	4961.2	7388.3	17531.9
1988	3066.7	6078	9144.7	19561.2
1989	3470.5	6671.7	10142.2	22008
1990	4221.4	7883.7	12105.1	26000.1
1991	5012.7	10911.3	15924	31306.2
1992	6978.9	15403.9	22382.8	42736.8

*Source: Central Bank of Nigeria (1998) Statistical Bulletin Vol. 9 No. 1*

Table 2: Selected Monetary Indicators

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
(1) Domestic Prices (%)	72.8	29.3	8.5	10.0	6.6	6.9	18.9	12.9	14.0	15.1	17.8	8.3
i) Inflation Rate (CPI) Moving Averages												
ii) AFEM Exchange Rates (Averages) NUS (1 \$)	81.2	81.2	82.0	84.4	96.1	101.7	119.9	121.0	129.4	133.5	131.7	127a
iii) Interest Rates (Averages)	20.5	12.5	18.2	15.02	16.1	12.18	12.7	12.7	21.11	12.14	7.00	8.98
(a) Call rates (Intebank)												
(b) CBN Treasury Bill Discount Rate	12.5	12	12	13	19	13	20.5	13.8	14.5	14.4	12.5	7.3
(c) CBN MRR	13.5	13.5	13.5	13.5	18	14	20.5	16.5	15.0	15.0	13.0	10.0
(d) Savings Deposit Rates (CBs)	12.6	10.1	6.12	5.22	5.3	4.9	5.0	3.7	3.2	4.4	3.3	3.3
(e) Prime Lending Rates (CBs)	20.2	19.1	18.4	18.26	21.3	21.25	26	20.6	19.6	18.9	17.8	17.3
(f) Maximum lending Rates (CBs)	20.8	20.8	20.9	21.84	27.2	26.6	31.20	25.7	21.6	20.4	19.5	18.7
(2) Money and Credit (%)	19.4	16.8(16.8)	16.9(15.0)	23.3(15.6)	31.0(10.0)	48.1(14.6)	27.0	21.55	24097	12.28	34.61	30.56
i) Money supply (M <sub>1</sub> )	(10.1)											
ii) Money supply (M <sub>2</sub> )	16.3(9.4)	14.5(14.5)	18.2(13.1)	20.5(10.2)	18.0(4.1)	62.2(9.8)	28.06	15.86	29.52	8.6	29.7	12.25
iii) Credit	7.4(11.3)	-	-2.8(24.8)	46.8(24.5)	30.1(18.3)	-23.1(27.8)	79.87	64.60	35.7	120	14.5	67.42
(a) Aggregate Credit (net)		23.8(24.8)										
(b) Credit (net) to govt.	-9.5(5.6)	-55.6(0.0)	-53.5(0.0)	144.9(0.0)	32.0(10.2)	-	95.16	6320.6	58.43	-17.9	-37.0	-626.10
(c) Credit to the private sector	48.0(21.7)	23.9(29.5)	23.9(45.4)	27.4(33.9)	29.2(19.9)	30.9(21.9)	43.46	19.74	26.81	26.6	30.8	27.82
(iv) Fiscal Deficit (% GDP)	0.1	1.3	-0.2	-4.7	-8.4	-2.9	-4.3	-5.5	-2.8	1.5	-1.1	0.6
(v) Average OMO sales	0.16	0.23	1.9	1.5	7.92	7.73		49,332.4	66,220.6	91,620.5	82,486.7	150,701.7
(vi) Average OMO Bids	0.18	0.25	2	1.6	7.92	7.55		54,696.5	77,046.3	94,678.3	103,943.3	189,183.3
(3) Domestic Output (%)	2.2(4.2)	3.3(5.0)	3.2(5.5)	2.4(4.0)	2.8(3.0)	3.8(3.0)	4.6	3.5	10.2	6.5	6.2	5.6
a) Real GDP Growth												
b) Agriculture	3.38	3.69	4.1	3.5	3.3	3.1		4.22	6.64	6.50	7.06	7.17
c) Industrial production	-0.31	2.87	0.8	1.6	1.4	-0.8		-3.75	21.26	4.15	1.71	-2.61
d) Capacity utilization	29.3	36.8	34	34.9	36	34.5	39.6	54.9	56.5	55.7	54.8	

Source: Central Bank of Nigeria Annual Report and Statement of Accounts (Various Years).

Table 3: Key Policy Targets and Outcomes (in per cent)

Monetary Aggregates	2001		2002		2003		2004		2005		2004	
	Target	Outcome	Target	Outcome	Target	Outcome	Target	Outcome	Target	Outcome	Target	Outcome
Growth in base money	***	34.9	15.3	14.0	19.6	19.8	12.8	5.2	6.5	10.2	7.5	20.5
Growth in broad money (M2)	12.2	27.0	15.3	21.6	15.0	24.1	15.0	14.0	15.0	16.2	27.0	30.6
Growth in narrow money (M1)	4.3	28.1	12.4	15.9	13.8	29.5	10.8	8.6	11.4	15.9	7.9	20.3
Growth in aggregate bank credit	15.8	79.9	57.9	64.6	25.7	29.1	22.5	12.0	22.5	21.9	72.3	65.0
Growth in bank credit to government	2.6	95.2	96.6	6320.6	150.3	58.4	29.9	-17.9			40	-670.2
Growth in bank credit to private sector	22.8	43.5	34.9	19.7	32.3	27.1	22.0	26.6	22.0	29.3	30.0	28.2
Inflation rate (year-on-year)	7.0	16.5	9.3	12.2	9.0	23.8	10.0	10.0	10.0	11.6	9.0	8.5
Growth in real GDP	5.0	4.6	5.0	3.5	5.0	10.2	5.0	6.5	5.0	6.2	7.0	5.6

Source: Central Bank of Nigeria Annual Report and Statement of Accounts (Various Years).