ISSUES IN EXCHANGE RATE POLICY DESIGN AND MANAGEMENT

BY

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ABSTRACT

The paper focused on the major issues and highlighted the factors which are crucial in the design of exchange rate policy. It also reviewed exchange rate policy in Nigeria since independence. After a brief review of models of exchange rate determination and exchange rate mechanisms, it concluded that exchange rate adjustment is required to correct flow balance of payments deficit, while reserves draw down, in addition to demand management, could prove efficacious in reversing a temporary or stock balance of payments deficit. The links between the monetary, fiscal and external accounts were provided in order to properly guide policy makers on the options to settle for in designing exchange rate policy. This is because the exchange rate affects all sectors of the economy, since it influences resource allocation, through its ability to stimulate movements in other prices. The paper was concluded on the note that the current exchange rate policy should be sustained and complemented with the application of accommodating fiscal and monetary policy measures.

I. INTRODUCTION

The exchange rate is a relative price that measures the worth of a domestic currency in terms of another currency. It relates the purchasing power of a domestic currency, in terms of the goods and services it can purchase, vis-a-vis a foreign or trading partner's currency, over a given period of time. Thus, the exchange rate reduces the relative strengths of relating economies to measurable aggregates through a number of conceptual frameworks. The exchange rate is useful for macroeconomic management since it reflects the performance of both the domestic and external sectors of the economy. The design and implementation of exchange rate policy is, to the extent that the exchange rate trails developments in the economy, a crucial and important policy issue, and invariably an important adjunct and pivot of adjustment policy framework.

Exchange rate policy is the sum total of the institutional framework and measures put in place to gravitate relative prices towards desired levels in order to stimulate the productive sectors, curtail inflation, ensure internal balance, improve the level of exports, attract direct foreign investment and other capital flows. In a more simplified form, exchange rate policy can be defined as the framework, rules and

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other measures for determining and influencing the level of the exchange rate at a given point in time. The institutions and rules would, and do, change as situations demand. Exchange rate policy also determines the mechanism for channeling foreign exchange to end-users and therefore, reflects the institutional framework, system of exchange rate determination and allocation of foreign exchange as well as the policy options for managing the exchange rate. The objectives of exchange rate policy include: the attainment of a stable and realistic exchange rate that would lead to allocative efficiency in the Foreign Exchange market, increase domestic productivity, reduce the inflationary spiral and guarantee the attainment of internal balance; and the encouragement of export activities leading to improved foreign exchange earnings, attraction of foreign direct investment, the return of flight capital and other capital inflow, that would invariably result in external balance. Thus exchange rate policy seeks to gravitate the economy towards internal balance in the short term and external balance in the medium to long term, when appropriate complementary policies are pursued.

The design of exchange rate policy involves the conceptualization of a comprehensive framework for determining the exchange rate and the measures that could be applied to smoothen the path of exchange rate movement in order to achieve set goal and targets in both qualitative and quantitative terms. Such goals and targets are usually directed at macroeconomic stability and adjustment. The implementation of policy may and in fact in some cases, deviate substantially from the programme established in the design. The design of exchange rate policy would take into account, the extent of misalignment of the exchange rate, the state of the macroeconomy, especially the external sector and the policy thrust which those in the authority elect to pursue. Since the exchange rate should reflect the international competitiveness of a domestic economy or the international net worth of a domestic economy, and given that a misalignment in the exchange rate could occur due to movements in macroeconomic aggregates, an appropriate exchange rate policy would be required to correct such misalignment and return the economy to the path of international competitiveness. Exchange rates are primarily determined in the Foreign Exchange Market, thus exchange rate and foreign exchange policy measures are intricately linked

and to a large extent inseparable.

Exchange rate management is the operationalization of the designed policy in collaboration with other complementary measures like fiscal and monetary policies, as well as the appraisal of the system continuously to determine developments that should elicit mild policy responses such as fine-tuning, discontinuation or movement towards a new policy direction. The basic object of exchange rate management is the attainment of the goals of exchange rate policy.

This paper aims at elucidating further on these issues, highlighting exchange rate policy measures in Nigeria. The rest of the paper is divided into four parts. The theoretical foundations of exchange rate policy are highlighted in Part II, while issues of concern in the design of Exchange Rate Policy are examined in Part III. Exchange Rate Policy Measures in Nigeria from 1970 - 2001 are analyzed in Part IV, while concluding remarks are contained in Part V.

II. THEORETICAL FOUNDATIONS OF EXCHANGE RATE POLICY

The theoretical foundations of exchange rate policy are important in discussing the design of exchange rate policy since they throw more light on the issues of importance in exchange rate analysis. We shall proceed by examining the various views held by the prominent schools of thought on the subject of exchange rate determination. In this way, we would gradually build up a comprehensive body of thought, that may be eclectic, which approximate the ideal that countries should strive to attain, depending on their peculiarities and the problems confronting them. All the models of exchange rate determination are basically hinged on the familiar national income identify and the quantity theory of money and its reformulations. The classical, Keynesian, neo-Keynesian and Monetarists arguments, including the structuralist counter arguments, are central to the view expressed by the proponents of the subsisting models of exchange rate determination.

(a) Models of Exchange Rate Determination

Models of exchange rate determination are simply the different frameworks built on competing school of thought under which the exchange rate of a currency can be determined. The models are based on a body of economic theories on the relationship between the exchange rate of a domestic currency vis-a-vis that of trading partners and the factors responsible for variations in their equilibrium values. The main models of exchange rate determination are the traditional flow model, the portfolio balance model and the monetary model.

The traditional flow model relies on equilibrium in the foreign exchange market as the determining factor of the appropriate exchange rate. The intersection between the demand for and supply of foreign exchange or the market clearing equilibrium rate is regarded as the pure or market exchange rate. The point of intersection is derived from the so called "Marshallian Scissors" which are the demand and supply schedules. The traditional flow model does not relegate the importance of money but it concentrates on forces behind the demand and supply schedules of foreign exchange. It posited that the exchange rate or the strength of a nation's currency is influenced by relative prices, interest rates and real income.

The portfolio balance model relies heavily on the asset or portfolio market. It holds that the portfolio equilibrium position of wealth holders in each country simultaneously determines the exchange and interest rates. The shift in the allocation of wealth between the domestic money base, domestic public bonds and net foreign bonds denominated in foreign currency influences the equilibrium exchange rate. Movements in domestic interest rates and fiscal operations of government to the extent that they induce movements in net foreign assets holding, influence movement in the equilibrium exchange rate. Accurate forecasts based on this model are therefore difficult because domestic and foreign assets are not perfect substitutes as their rates of returns differ significantly. Furthermore, while some countries are net foreign debtors, others are net foreign creditors. The most disturbing omission of this model is the treatment of wealth holders in isolation of the environment in which they operate. The environment influences the decision of wealth holders. The wealth that is

being distributed between the various assets would have been earned as a result of certain investment decisions and prevailing economic conditions. The model would therefore, be inadequate for explaining the entire variation in the exchange rate of a currency.

The monetary approach to exchange rate determination is the most elegant and perhaps the most complete of all the models of exchange rate. The monetary approach is complete because it did not only emphasize the primary role of money but recognised the role of the real sector as a contributory factor in exchange rate determination. The monetary model is based on three legs or a tripod. In the first instance, it asserts that the equilibrium exchange rate depends on the stock equilibrium conditions in each country's money market. The monetary equilibrium conditions state that the price level adjusts instantaneously to equate the value of the nominal money stock to the desired or real demand for money. The demand for money itself is a function of real income and nominal interest rates. The movement in the monetary equilibrium is comparatively analyzed with that of a trading partner. An increase in the money stock would induce the depreciation of the domestic exchange rate vis-a-vis trading partners' currencies while a decrease will lead to the opposite response, all things being equal. The rate of growth of domestic income is also adduced as a factor influencing the exchange rate. An increase in the growth rate of domestic income in comparison with those of trading partners would cause the exchange rate to appreciate. This is because the resulting excess demand for money would lead to a fall in the domestic price level. The third leg on which the monetary model stands is the covered interest parity which holds that interest rates are equalized on a global basis. If interest rate in the domestic economy rise, the demand for money would fall, prices would rise and the exchange rate would depreciate. Thus, the exchange rate of a domestic currency is influenced by relative shifts in money stocks, real incomes and interest rates or inflation rates. The reduced form equation of the monetary model can be expressed as follow:-

$$LE = \%_0 + \%_1 (LM - LM^*) + \%_2 (LY - LY^*) + \%_3 (Li - Li^*) + U_t$$

Where E is the exchange rate, M, Y and I are money stock, domestic output and inflation rate, or its proxy such as interest rate, L is log while U_t is the error term with

zero variance, and assumed to be uncorrelated with the explanatory variables. The conditions for the monetary model are restrictive and may not necessarily hold in all their ramifications in developing economies. In most cases, the simplest version of the monetary model and in fact one of the relevant equations of the model, the purchasing power parity (PPP), is applied in the calculation of the equilibrium exchange rate. The PPP represents the long-run equilibrium exchange rate.

The PPP measures the purchasing power of a unit of a domestic currency vis-a vis that of a foreign currency with reference to a given base year at which relative equilibrium was assumed to have obtained. The PPP assumed that deviations of the exchange rate from its PPP value are in the long-run self correcting. The PPP has two versions, the absolute and the relative PPP. The absolute PPP between two countries is the ratio of the domestic price level to the foreign or trading partner's price level (P^d/ P^f), where P_d is measured in terms of consumer prices (CPI) and P_f is measured in terms of wholesale prices (WPI). The relative PPP is the product of the base period exchange rate, and the ratio of the price indices of the countries. In other words, the relative PPP is the product of the base period exchange rate and relative changes in inflation rates. It can be represented by eo P_d/ P_f where eo is the base period exchange rate, and P_d and P_f are as earlier defined. If relative PPP holds, the spot exchange rate would approximate the long run equilibrium exchange rate; also, if exchange rates are defined in foreign currency terms, the ratio of prices take the reverse order in PPP calculations. The extent of alignment or misalignment of the actual relative PPP vis-a vis the long-run equilibrium level can be measured through the following:

representing the relative PPP by,

1. eo. P_d /P_f and index of the real exchange rate by

2. $Et = \underline{Et}$, Where E_t is the spot exchange rate
   ppp
   substituting equation 2 into 1 yields,

3. $E_t = \frac{E_t}{E_0} \cdot \frac{P_t}{P_d}$ where E_0 is the base period exchange rate

Equation (2) measures the extent of deviation of the actual exchange rate from the base period PPP, while equation (3) is the index of the real exchange rate and it measures the extent of over or under valuation of the nominal exchange rate. If $E_t > 1$, the domestic currency is undervalued, while $E_t < 1$ indicates overvaluation. Major criticisms of the PPP are the choice of a base period, the implied immutability of the PPP and the argument that it may not be the only important variable determining the equilibrium exchange rate. Other factors adduced as accounting for movement in the exchange rate include capital flows, price and interest rate expectations, technological changes, taste, and quantitative and qualitative restrictions on trade. However, these factors, may overtime reflect in change in relative prices, an indication that the PPP could as well be an important measure for determining the long-run equilibrium exchange rate.

Critiques of the PPP have advanced the equilibrium real exchange rate (RER) as a better measure. The RER is expressed as the product of the spot exchange rate (E) and the ratio of tradeables to non-tradeables. For ease of computation; tradeables are often represented by their world price (Pw), while non-tradeables are represented by their domestic prices (P_d).

Thus, $RER = E.Pw/P_d$

The RER also fails to produce a unique value. There exists divergence between the actual and equilibrium RER, due to monetary disturbances. The equilibrium RER is solely determined by shifts in real variables. In the long run, the PPP and the RER would depend solely on price movements since other factors would eventually show up in the level of prices. The differences between them are in terms of definition of terms, variables and the focus. However, they are relevant indicators of the equilibrium exchange rate and are measures of the over or undervaluation of the nominal exchange rate. While the equilibrium exchange rate should follow a random walk, the actual or calculated equilibrium exchange rate exhibits traces of market imperfection by diverging from the theoretic position due to policy actions and other developments that are not market-related.

The quantity theory of money and the national income identity provide the foundation of the basic tools for analyzing the appropriateness and impact of exchange

rate policy. The monetary model of exchange rate determination was largely influenced by the Cambridge reformulation of the quantity theory of money. Our analysis in this paper will, however, concentrate on the national income identity, which is the basis of adjustment programme for economic restructuring.

We can manipulate the national income identity to establish the linkages between the domestic and external sectors of the economy.

Starting from the familiar national income identity .

1. $Y = C + I + G + X - M$, and representing expenditure items C, I and G by A (absorption), the identity becomes
2. $Y = A + X - M$, moving A to the left hand side yield
3. $Y - A = X - M$, denoting X - M as current account balance, (CA) yields
4. $Y - A = CA$, the popular absorption approach to the balance of payments and exchange rate analysis. By re-arranging the terms in equation 1 as follows:
5. $Y - C - I - G = X-M$ and defining Y-C as savings, S, results in
6. $S - I = X-M$ or
   $S - I = CA$, the fiscal approach to balance of payments and exchange rate analysis.

To link the monetary sector to the external sector, the monetary survey is taken as the starting point. The change in money stock, ^{a}M is taken as change in reserves (foreign assets) (net) ^{a}R, and change in credit (domestic assets), ^{a}C. In symbolic form, the following equation results.

$$^{a}R + {}^{a}C = {}^{a}M, \text{ a re-arrangement results in}$$

$$^{a}M - {}^{a}C = {}^{a}R$$

When change in net foreign assets is represented by X - M or CA, the following results

$$^{a}M - {}^{a}C = X - M$$

$^{a}M - {}^{a}C = CA$. This is the monetary approach to balance of payments and exchange rate analysis. A combination of the three approaches defined above

form the major blocks of the monetary approach to exchange rate determination that we have advanced as the most important framework for deriving an appropriate exchange rate. Issues of policy relevance can only be successfully focused when directed at the main linkages stated above.

(a) Mechanisms of Exchange Rate Determination

Exchange rate mechanisms or regimes are different systems of determining the exchange rate of a nation's currency in term of other currencies. The various regimes or systems of exchange rate determination permeate the two extremes of freely floating and rigidly fixed exchange rate mechanisms. Since there are strictly no freely floating and rigidly fixed systems in the real sense, there abound in real life variants of the two extremes. The systems in real life are the flexible and the fixed system within some indicative target zones. These variants otherwise referred to as hybrid systems combine elements of the two extremes. Thus, we have the manage float, crawling and adjustable pegs, among other systems of exchange rate determination and management. The exchange rate system adopted at any point in time reflects the stance of exchange rate policy which the authorities intend to execute and operationalise. Thus when authorities intend to deregulate economic management, exchange rate policy usually tends towards flexibility and when controls are desired as viable options for managing the economy, especially the external sector, attention shifts towards exchange rate fixity. However, the use of exchange controls or exchange rate fixity, is a matter for contention. What is not in contention is that exchange controls and exchange rate administration are mutually reinforcing.

We shall now briefly review the relevant theoretical underpinnings of the subject matter and attempt, even if not very conclusive, to provide some measures of the relative importance and efficacies of the various exchange rate systems, even though some of them may be contentious. Before delving into the main issues, it is important to remind ourselves that there is no perfect system. In general, the optimal management of the exchange rate depends on the policy makers' economic objectives, the sources of shocks to the economy and movement in the major macroeconomic

aggregates. As a result, it will not be very helpful to attempt to rigidly define systems that would be effective and optional at all time. When economic conditions change the suitability of the existing system may be called to question.

The comparison of fixed and flexible exchange rate systems often starts from the premise that while the former guarantees stability and precision in decision making, the latter results in instability and unpredictability of future course of economic trends while impairing the decision making process. However, evidence from real life situations has shown that more than anything else, a stable system of exchange rates would be more dependent on stable macroeconomic policies than on the form of exchange rate regime in place (IMF, 1984:11). The system of exchange rate whether fixed or flexible could be destabilising and unstable when macroeconomic policies are not coordinated and geared towards the attainment of stability. Even when exchange rates are floating, stabilizing speculation would act to smoothen exchange rate movements so that the greater freedom of exchange rates would not necessarily lead to abrupt variability (IMF, 1984:5). However, in real life, speculations are not often stabilizing and the floating system has often been volatile, especially with complementary monetary and fiscal policies that are not in line with the maintenance of exchange rate stability. The elegance of floating exchange rates is that they insulate the floating economy against foreign shocks, hence fixed exchange rates would be a mechanism for propagating and dissipating shocks across borders beside disciplining monetary policy (Miller, 1989:208). This view that was well promoted in the familiar Mundell-Fleming model of a small open economy tried to relate the relative abilities of the floating and fixed exchange rate mechanisms to the prevention of external shocks from transmitting into the domestic economy.

While it is true that a system of fixed exchange rates is potentially susceptible to absorption of external shocks, floating rates do not on their own guarantee the prevention of external shocks from impacting on the domestic economy. While flexible exchange rates would better protect the domestic economy from external shocks, inappropriate fiscal and monetary arrangements would result in less than optimal results. The argument that floating exchange rates are self-equilibrating and as such would automatically adjust to distortions without the need for reserves deployment

does not appear to be borne out from recent experiences. For instance, countries that have adopted the floating mechanisms have often deployed reserves massively to fund the foreign exchange market. Thus, in terms of reserves deployment, the difference between the floating and fixed exchange rate mechanisms is not very clear. One crucial argument against the floating mechanism is that the purchasing power parity (PPP) does not hold under it. This is because the PPP is a long run equilibrium target that may fail to materialize in the short to medium term. Thus, the law of one price that would eventually equalize purchasing power across trading countries may not lead to exchange rate stability under a floating system as floating rates may overshoot the equilibrium rate on a consistent basis. Overshooting of the equilibrium may not also be ruled out under a fixed exchange rate mechanism.

By and large, the macroeconomic objectives of government, the problems confronting the economy, the structure of the economy, the impact of instruments of economic policy on targets under various exchange rate arrangements, would determine a particular mix of policies. Thus, the exchange rate arrangement that guarantees optimal attainment of set objectives and the most desirable impact on targets of policy would be selected. As a result of the problem associated with the fixed and flexible exchange rate regimes, countries usually adopt an amalgam of the two.

Theoretical explanations of exchange rate determination have shifted emphasis overtime from expenditure to market asset approaches that rely on the efficient market hypothesis. The efficient market hypothesis assumes that market players are rational and they apply all available information in their pricing decisions. Thus, markets are efficient when prices always fully reflect available information. Consequently, the forward exchange rate becomes an unbiased predictor of the future spot rate. If this holds, the regression of the observed spot rate on the lagged forward rate should yield an estimated constant not significantly different from one, an estimated coefficient of the lagged forward rate not significantly different from one and serially uncorrelated errors (Ott. M and T.W.M. Veugelers: 1986:7). However, the intercept may be significantly different from 0 in real life as a result of risk premium, shifts in monetary policy and changes in expectation. Koedijk, and Mack Ott

(1987:5) argued that the failure of the forward exchange rate to be unbiased predictor of the future spot exchange rate is a stubborn paradox in the empirical exchange rate literature. Under rational expectation, the future spot rate should be equal to the actual observed value in addition to the risk premium and a random error. The assumptions of market efficiency and no risk in the foreign exchange market have been rejected on empirical basis. Thus, the covered interest parity (CIP) which relates the interest rate differentials at home and abroad with the forward premium (difference between the forward and spot rates) holds most of the time. The uncovered interest parity (UIP) which is the same as the assumptions of market efficiency without risk premium has been roundly rejected. The UIP relates the expected change in the spot rate and the risk premium to the forward premium. Changes in monetary regime alter the risk premia that market participants require on contracts and affect the direction of error implied by nominal and real news, that is, unforseen events occurring between the time of contract and its maturity (Ott. and Veugelers, 1996:14).

For the effectiveness of foreign exchange market operations, especially when reserves are low and scarcity of foreign exchange persists , demand management has to be relied upon, while supply increasing policies are put in place in the short to medium term to boost supply of foreign exchange. In this context, monetary and fiscal policies must be tight and consistent with the achievement of a non-inflationary rate of economic growth. When liquidity cannot be controlled, foreign exchange market intervention is meaningless as desired results often prove elusive. This is why it is canvassed that the allocative mechanism for exchange rate and foreign exchange management must be supported by complementary monetary and fiscal policy measures in order to achieve desired goals.

III. EXCHANGE RATE POLICY IN NIGERIA

Exchange rate policy in Nigeria has moved in a circle, starting from a fixed exchange rate system from 1960-1986, a flexible exchange rate system from 1986 -1993, a temporary halt to deregulation in 1994 when the official exchange rate

was pegged and the reversal of policy in 1995 with the "guided deregulation" of the Foreign Exchange Market, through exchange rate liberalization and the institution of a dual exchange rate mechanism. The policy thrust of 1995 was retained in 1996. The dual exchange rate system was retained in 1997 and 1998. However, all official transactions, except those approved by the Head of State were undertaken in the Autonomous Foreign Exchange Market (AFEM). Thus, transactions at the pegged official exchange rate were relatively slimmer. Owing to market imperfections and to sustained instability in the exchange rate of the naira, the AFEM was replaced with an inter-bank foreign exchange market (IFEM) in October 1999 after an initial period of co-existence. In the IFEM a two way quote system is expected to prevail while the market was conducted daily in dispensation, oil companies were allowed to keep their Foreign Exchange in banks of their choice, against the previous practice where they were mandated to keep such funds with the Central Bank of Nigeria (CBN)

The CBN has continued to fine tune the IFEM to make it more effective and efficient. Early in 2002, Thomas Cook was granted permission to transact foreign exchange business on travellers cheques in Nigeria. This is intended to deepen the foreign exchange market and reduce the undesirable impact of the parallel market.

1. *The Exchange Control Era*

Various measures were adopted to operate the fixed exchange rate system that was in place in the exchange control era. Between 1960 and 1972, the Nigerian currency was pegged to the British pound sterling. One Nigeria pound exchanged for one British pound sterling between 1960 and 1967. Although the parity between the Nigerian and British currencies was maintained, the Nigerian authorities operated an independent exchange rate system from 1967, when the pound sterling ceased to serve as a direct external anchor for the Nigerian currency. While the pound was devalued, the Nigerian currency was implicitly revalued since it maintained its former parities. From this period, the monetary authorities introduced the US dollar as one of the reference currencies for the purpose of determining the exchange rate of the Nigerian pound.

As the nation continued to lose reserves due to excessive importation and rapid outflow of foreign exchange, a policy reversal occurred in 1981 to arrest the deteriorating external sector position . The overvaluation of the naira was recognised by the authorities and the naira was gradually depreciated to stem the outflow of foreign exchange through the curtailment of import demand. This policy was sustained up to 1986, but it could not reverse the deterioration of the sector. The situation became even worse with the continuous accumulation of payments arrears and the erosion of the nation's credit-worthiness. The Central Bank applied the basket of currencies approach from 1978 as a guide in determining the direction of exchange rate movement.

2. *The Era of Flexible Exchange Rates*

A major reversal of policy was effected in September 1986 when the fixed exchange rate mechanism for determining the naira exchange rate was discarded and replaced with a flexible exchange rate mechanism. The system was propelled by market force, as the naira was allowed to find its level according to the strengths of demand and supply of foreign exchange. However, the monetary authorities retained the discretion to intervene in the foreign exchange market to influence the course of exchange rate movement in order to achieve the aim of policy.

Within the main framework of market exchange rate determination, various methods have been applied in the search for a realistic exchange rate of the naira. On September 26, 1986, the naira was floated in the second-tier Foreign Exchange Market (SFEM) where market forces held sway. A dual exchange rate mechanism was in operation during this period since a First-tier rate was in existence. The first tier rate was a carry over from the fixed exchange rate system. The rate was less depreciated since it was administratively determined. The dual exchange rate system was meant to accommodate transitional transactions and prevent destabilising effects of a full scale adoption of the market mechanism. Pre-SFEM transactions, debt service payments,

contributions to international organisations and expenses of embassies were excluded from SFEM and settled at the First-tier rate. The Second-tier rate was determined through auction at the SFEM. Various pricing methods that were used to determine the naira exchange rate included in the following order, average of successful bids, marginal rate pricing and the Dutch Auction System (DAS) in April 1987.

The first and second-tier markets were merged into a single Foreign Exchange Market (FEM) in July 1987. The autonomous market for foreign exchange which was created in 1988 was highly destabilising due to its speculative tendencies. The autonomous market was merged with the FEM in January 1989 when the Inter-Bank Foreign Exchange Market (IFEM) was created. The exchange rate under the IFEM was determined through one or more of the following, marginal rate pricing, average rate pricing, highest and lowest bid, weighted average pricing, average of successful bids. In addition, the CBN could monitor developments in the exchange rate of the major international currencies as a guide in ascertaining the desirable level of the naira exchange rate. The IFEM was modified in December 1990 when the DAS was re-introduced. In August 1991, the modal weighted average method was introduced in order to stem the rapid depreciation of the naira. The rates tending towards the mode were applied to determine the naira exchange rate under the system.

The persistent instability in the IFEM even after the introduction of the modal weighted average method resulted in the complete floating of the naira from March 5, 1992. The instability reflected in the widening parallel market premium. To eliminate the premium at the time, the CBN adjusted the official exchange rate to correspond with the parallel market exchange rate. Under the new system, the CBN undertook to meet all demand for foreign exchange that were fully backed by naira cover. The CBN continued to satisfy all demand made on it until reserve became drastically depleted, necessitating the suspension of sales of foreign exchange by the CBN on December 15, 1992.

Sales resumed on January 12, 1993, but the next auction on February 18, 1993 was based on the DAS. The naira depreciated successively and the DAS auction of February 24, 1993 represented a sharp depreciation. The results of the session had to be cancelled. The CBN thereafter adopted the pro-rata system of foreign exchange allocation, thus ensuring that all demand for foreign exchange were at least partly satisfied. The naira exchange rate was successively appreciated in the next two biddings and from April 15, 1993 the rate stabilized at ₦21.8860 = $1.00 on an average basis. The de-facto pegging of the official exchange rate in the last three quarters of 1993 and the persistent depreciation of the parallel market exchange rate resulted in the widening of the parallel market premium beyond 100 per cent.

3. *Re-Regulation of Exchange Rates*

The de-facto pegging of the official exchange rate was sanctioned when the naira was officially pegged at ₦21.9960 = $1.00 in the 1994 Budget. The parallel market was declared illegal with indication that relevant laws would be made to outlaw it. Although, some import control measure were introduced like the banning of the use of open accounts and bills for collection, the completion of Form'M' for all imports and pre-shipment inspection for imports worth over $1,000, no attempt was made to stringently control current account transactions. To that extent, the exchange controls introduced under the 1994 Budget were not as stringent as the exchange control under the 1962 Act. Mandatory, quantitative and volume restrictions on the demand side were absent. The allocation of foreign exchange was on pro-rata basis like the system in operation up to December, 1993, while the exchange rate was at the same level. The only difference was the announcement of a reversal of policy to a fixed exchange rate regime. However, the fact that the exchange rate was passive under the dispensation qualified the system as an exchange control system. Trade controls may not be as extensive as in a formalized system of trade and exchange controls. The review of the exchange rate system was informed by the desire of government to stabilize the naira exchange rate in the

short term while appropriate measures were put in place to strengthen the naira in the medium to long term. Apart from fixing the exchange rate, interest rates were also pegged in the 1994 Budget. The rationale for this was given as the need to reduce the cost of production and moderate the rate of inflation. Under the fixed exchange rate system, allocation of foreign exchange was determined by the demand made by end-users and the supply of foreign exchange by the CBN. Given that supply is low and somewhat fixed, the demand for foreign exchange was the most crucial variable determining the share of supply going to individual end-user under the pro-rata system of allocation.

4. *Return of Flexible Exchange Rates Under Guided Deregulation" of the Foreign Exchange Market*

The re-regulation of exchange rates in 1994 left the economy worse off than in the previous year. The policy objectives could not be realized as the naira depreciated sharply in the parallel market, widening the parallel market premium, while stability in the exchange rate and the Foreign Exchange Market proved elusive, the balance of payments remained under intense pressure, non-oil receipts declined, demand for foreign exchange assumed an upward pressure and became unsustainable in the face of relatively low level of supply of foreign exchange, inflationary spiral exacerbated and domestic output performed poorly. In fact, all macroeconomic variables performed dismally. This informed the policy reversal in 1995 from regulation to a liberalised framework of "guided deregulation" of the Foreign Exchange Market. Under the new policy, the centralization of all foreign exchange receipts in the CBN was jettisoned. Bureaux de Change were once more allowed to buy and sell foreign exchange as the 1994 policy which restricted them to buying agents of the CBN was discontinued. The major element of the deregulation was the re-introduction of the Autonomous Market for Foreign Exchange (AFEM) for disbursing foreign exchange to end-users through selected banks. A subsidized and pegged official exchange rate of $1.00 = ₦22.00 was reserved for public sector transactions of non-commercialized agencies, including debt services

payments and National Priority Projects. Transactions that are eligible for financing through the concessionary official exchange rate were verified by the Federal Minister of Finance. The distinguishing features of the new AFEM vis-a-vis the one that was abolished in 1989 are the enlarged institutional scope of the new AFEM and the prohibition of inter-bank dealings with official intervention funds in the market. In the pre-1989 dispensation, the autonomous market was mainly an inter-bank market and official foreign exchange was eligible for transactions in the market.

The goal of foreign exchange and exchange rate policy for 1995 were the deliberate build-up of external reserves to improve the credit worthiness of the Nigerian economy and its competitiveness, strengthening of the naira to gradually move the currency towards convertibility. The CBN's foreign exchange holdings were deployed to build-up reserves, finance priority public sector transactions including debt services payments and for intervention in the foreign exchange market to ensure reasonable stability in exchange rates.

The AFEM was expected to reduce the parallel market premium and eventually ensure the convergence of the various exchange rates in a single and enlarged foreign exchange market. It was, therefore, expected to stabilize the naira exchange rate, induce increases in non-oil export receipts and reduce excessive demand pressures in the foreign exchange market. To address the supply problems in the AFEM and prevent exchange rate volatility, the CBN intervened in the market as it deems fit, selling foreign exchange to end-users through selected authorized dealers. The CBN could also buy foreign exchange from the AFEM to stabilize exchange rates as situations demand.

Other measures introduced in 1995 to ensure the smooth functioning of the AFEM were the abrogation of the Exchange Control Act of 1962 and the Enterprises Promotion Decree of 1989, and the permission granted to exporters to sell their export proceeds at autonomous rates to banks other than those in which they maintained domiciliary accounts. The thrust of exchange rate policy was maintained in

1996. The dual exchange rate system was retained, while the Central Bank's discretionary intervention in the AFEM was regulated through the directive that the Bank should intervene monthly in the AFEM in 1996. As at October 1999, the Central Bank intervened weekly in the AFEM.

The dual exchange rate system was retained in 1997 and 1998, but its operation was modified in 1998. Unlike in the past, all Ministries and Parastatals sourced their foreign exchange needs from the AFEM. Thus, most of the foreign exchange transactions were conducted at the AFEM. The pegged official exchange rate was applicable to only a small proportion of foreign exchange transactions. Thus, the m unification of exchange rates could be accomplished provided such a willingness is exercised through prudent fiscal operations and elimination of sharp practices by market operators.

Although, some macroeconomic aggregates showed improvement in 1995 vis-a-vis their performance in 1994, the inflation rate continued to trend upwards, while the external sector remained under considerable pressure. However, the exchange rate stabilized at the AFEM with the exchange rate hovering around ₦80 = $1.00 and ₦85 - $1.00. The divergence between the AFEM and parallel market exchange rates was below the tolerable limit of 5 per cent in 1995, an indication of convergence. The situation improved further in 1996 and 1997. Monetary stability was maintained, while the fiscal operations of government resulted in an enlarged surplus. The divergence between the AFEM and parallel market exchange rate fell below 5.0 per cent on the average in 1997. This would have been sustained through the continuous applications of accommodating monetary and fiscal policy measures. Although, some stability was attained in the AFEM at the end of 1997, the naira was over-valued going by the PPP rate of a little above N88 = $1.00. Thus, the exchange rate of the naira since the introduction of the AFEM was largely realistic and has been within the limits of the long-run equilibrium exchange rate depicted by the PPP. However current trends in the IFEM and developments in domestic prices indicate that the naira is overvalued. The initial undervaluation of the naira and stability achieved when IFEM was introduced in October 1999 reflected by the narrowing of the parallel market premium have been reversed owing to a number of factors. The imperfection in the IFEM which the CBN

has been addressing is one factor. For instance, the IFEM was designed as a 2 - way quote system where the CBN can sell and buy foreign exchange. In practice the CBN has been the major seller with little foreign exchange to buy from the market. The sharp practises by market operators in the form of inflated demand and round tripping have not helped the situation. The recent upward trends in domestics prices has led to a situation where the PPP rate has virtually coincided with the parallel market exchange rate as at end January 2002, thus indicating an overvaluation of the IFEM exchange rate. The rapid injection of high powered money into the economy through government fiscal operations exacerbated inflation. Rather than devaluation, what is required is curtailment of fiscal dominance by limiting government expenditure to earned revenue.

IV. ISSUES OF POLICY RELEVANCE IN THE DESIGN OF EXCHANGE RATE POLICY

The problems confronting the economy would determine the appropriate exchange rate policy to pursue. The main thrust of an efficient exchange rate policy is the re-allocation of resources through relative price effects that would induce the competitiveness of exports and the domestic economy, enhance productive activities in the economy, while temporarily containing imports until such a time when exports and capital inflows are high enough to reduce the need for official intervention, other than preventing market failures. The clear identification of exchange rate objectives would influence the policy design. When there is macroeconomic instability, the exchange rate mechanism should be supportive of a regime of restrictive demand management. If a stock balance of payments deficit, which is reversible, occurs and enough reserves are available, the deficit could be financed, and a fixed exchange rate mechanism supported by exchange and trade controls may be viable, if sharp practices can be controlled. On the other hand, if the deficit is irreversible (flow deficit) then reserves depletion would not be effective. The continuous application of trade and exchange controls and foreign exchange allocation through a fixed exchange rate regime would result in resource misallocation and other sharp practices that would

encourage the development of a parallel market for foreign exchange. The best policy option would be to adopt a flexible exchange rate system to ensure a more efficient allocation of foreign exchange under a comprehensive structural adjustment framework. It must be noted however, that there is usually a conflict when internal and external balance are pursued simultaneously through demand management policies. Assuming there is internal balance and demand management policies are applied to adjust the external sector, if the current account deficit cannot be financed, demand would be dampened and a recession may become imminent. To prevent this scenario, the exchange rate would have to be adjusted to autonomously induce changes in relative prices. When the economy is not fully employed, exchange rate variations, especially devaluation, would have positive effects on the economy.

The appropriate level of the exchange rate is also a crucial factor in the design of exchange rate policy. When the domestic currency is over-or undervalued, a disequilibrium exists, which when not corrected could precipitate a phenomenon of persistent macroeconomic instability. The external sector would be in persistent deficit/surplus, resulting in deterioration in domestic macroeconomic aggregates for deficit countries and possible retaliatory measures by trading partners to offset their resultant deficits, which are counterparts to the persistent surpluses run by trading partner economies. An appropriate exchange rate that would guarantee external sector equilibrium is, therefore, called for. Such an exchange rate can be determined through rational approaches like the PPP or other market related measures. The system of managed float is also preferred to a fixed and freely floating exchange rates in adjustment programmes in order to allow some level of discretion for the authorities to correct possible market failures and provide appropriate social safety nets.

The efficacy of a multiple exchange rate system vis-a-vis a unified exchange rate system is another issue that needs special attention in the design of an exchange rate policy. While a multiple exchange rate system may be consistent with a controlled regime, it is incompatible with a flexible exchange rate regime and structural adjustment, which is largely market driven. A multiple exchange rate system introduces distortions into the system as the implied subsidy encourages rent-seeking behaviours that ultimately result in speculation. Exchange rate unification is, therefore

advocated as the best way of enhancing allocative efficiency and reducing speculative tendencies. Such a unified rate can be prevented from diverging in future from market rates through the application of accommodating fiscal and monetary policy measures. Where multiple exchange rates are applied there is usually a problem with the items that should be subsidized and those that should be prohibitively priced (taxed). In some cases, essential imports are subsidized through relatively low exchange rates in domestic currency terms, while non-essential items are transacted at high (more depreciated) exchange rates. A floating rate could be applied to current account transactions and a fixed and subsidized rate to capital account transactions. Alternatively, a floating rate could be applied to capital account transactions and a fixed and managed rate applied to current account transactions. A variant of this would be when essential imports attract a floating rate while exports and capital account transactions are effected through a subsidised exchange rate. The dual exchange rate system, the simplest form of a multiple exchange rate system is also applied in various forms. Although, the dual exchange rate system may be devised to correct temporary problems, it becomes counter-productive when used for a long period of time. Whatever the arguments for a multiple exchange rate system, it is ultimately counter productive and as such the unification of the rates is a preferred option.

The level of interest rate, monetary and fiscal operations of government and inflation are relevant issues in the design of an exchange rate policy. The exchange rate policy should target a positive real interest rates regime, through the stimulation of domestic production, that would shift supply, moderate inflation, increase savings, and make more resources available for future production and lead to increased capital inflow. However, the monetary and fiscal policy regime could pose policy dilemma for the achievement of positive real interest rates. Expansionary fiscal and monetary policy exacerbates inflation. The raising of nominal interest rates to target positive real interest rates would induce further inflation, while demand management measures to stem inflation could be counter-productive, if a recession sets in. In this situation, supply side measures would be more appropriate. The relationship between exchange rates and tariffs is another important issue in exchange rate policy design. In some instances, high tariffs and high exchange rates exist side by side. The desired relation-

ship should in fact be inverse.

The growth in domestic productivity, the level of current account deficit that can be sustained and the extent to which the current and capital accounts can be liberalized are also crucial in exchange rate policy design. The desired exchange rate should be consistent with the achievement of a certain rate of economic growth over a time frame. In addition, the extent to which the current and the capital accounts of the balance of payments can be liberalized are important in the context of exchange rate policy. When the current account deficit is sustainable, when the deficit/GDP ratio is of the order of 1-10 per cent, there is assurance of permanent capital inflow and reserves can finance up to four months of imports, the current account can be liberalized. However, the achievement of a sustainable surplus in the current account should be followed by restricted or partial liberalization of capital account transactions. Above all, the achievement of a high and sustainable rate of economic growth is the most important factor in the design of exchange rate policy. In the short to medium term, demand management would be supportive to exchange rate policy, but in the long run, domestic productivity holds the key to exchange rate viability.

The exchange rate policy should be designed to bridge the savings investment gap, enhance government revenue and reduce the fiscal gap through curtailment of deficits, and guarantee external balance in the long run. In other words, domestic productivity and exports should be enhanced in the medium to long term, while aggregate demand should be curtailed in the short run. Thus, the design of an appropriate exchange rate policy should consider projections for Gross Domestic Product (GDP) growth rate, inflation, money stock growth, fiscal deficit/surplus, movement in interest rates, and current account balance, external reserves/total demand liabilities in CBN Balance sheet, number of months of imports reserve can finance, capital flows and comparable data for trading partners economies. Above all the relationships among the macroeconomic accounts must be understood and applied in the design of exchange rate policy. Whatever the system of exchange rate determination in place, fiscal and monetary restraint are essential for the overall goal of exchange rate stability and macroeconomic balance. However elegant an exchange rate policy framework, fiscal dominance would make it impracticable and ineffective.

In addition, the interest rate system should be supportive of the exchange rate regime.

The problem of liquidity overhang attributed to excessive spending by government should be curtailed through prudent fiscal operations and the constitutional provision for instrument independence for the Central Bank.

V. SUMMARY AND CONCLUSION

The exchange rate has been defined as a relative price, reflecting the worth of a domestic currency in terms of the goods and services it can purchase in relation to another currency. It is determined in a foreign exchange market, either administratively or through the forces of demand and supply.

The models of exchange rate determination have been identified as the traditional flow model, the portfolio balance and the monetary models. The Purchasing Power Parity (PPP), a component of the monetary model, is very popular and important for exchange rate analysis because of its elegance and simplicity. Although, it has been criticized on a number of grounds, especially its usefulness as a guide for short-run analysis, it remains the most useful tool for guiding the exchange rate towards its long-run equilibrium path.

There are two extreme regimes of exchange rate determination, the fixed and floating exchange rate regimes. These regimes derive from the various schools of thought that also influenced the models of exchange rate determination. These extreme systems are hardly applied. Instead, hybrid systems are usually formulated, depending on economic circumstances confronting a nation and the objectives policy makers intend to pursue. Such hybrid systems are the adjustable peg, the crawling peg and the managed float.

It has been established that the major factors influencing the exchange rate are relative shifts in money supply, real output and inflation rates between trading partners. Thus, policy measures should be directed at moving these aggregates towards the desired levels. A realistic exchange rate should be stable, prevent short term volatility in capital flows and overtime, move towards its equilibrium level and stabilize the

balance of payments.

The exchange rate policy should be designed to shift relative prices in such a manner that domestic productivity is enhanced in the medium to long term, while aggregate demand is curtailed in the short run. As a result, the design of an appropriate exchange rate policy should consider projections for GDP growth, inflation, money stock, fiscal deficit/surplus, movement in interest rates, current account balance, external reserves, total demand liabilities in CBN balance sheet, number of months of imports reserves can finance and comparable data for trading partners.

Exchange rate policy in Nigeria has moved in a circle, from a fixed exchange rate system between 1960 and 1986, a flexible rate system from 1986 - 1993, temporary halt of deregulation in 1994 when the official exchange rate was pegged and the reversal of policy in 1995 that re-introduced deregulation as a major policy thrust. The system has been fine-tuned by the CBN over the years culminating in the introduction of the IFEM for daily transactions in foreign exchange in October 1999. To achieve a realistic exchange rate for the naira, the current exchange rate policy should be sustained with the enforcement of two - way quote system in the IFEM, money supply should be moderated to reduce destabilising and speculative demand for foreign exchange and stem the rapid growth in domestic prices. This would be achieved through supportive fiscal operations, in order to prevent naira over-valuation and thus ensure that the domestic currency does not lose international competitiveness. The current expenditure profile of government is inflation prone and perpetuates the phenomenon of excess liquidity in the economy, thus inhibiting the ability of the CBN to maintain monetary stability. When the oil windfalls revenue were earned by Nigeria, the CBN highly advised that the excess funds should not be shared by the three tiers of government but sterilised to prevent inflationary spiral. This wise counsel was ignored and the ripple effects are being felt at the moment. This would ensure that the volatility of the global oil market does not adversely affect government investment expenditure profile. All tiers of government should be aware of the damage their quest for sharing all monies in the federation account does to the macroeconomy. The moment, the ides of March which were thought to be far away are indeed here with us as predicted. As a matter of priority, government should establish a crude oil stabilisation fund. The

purpose would be to keep excess funds from oil exports which could be used when oil revenues are low. Furthermore, appropriate supply side measure to increase the level of domestic productivity and exports should be adopted.

The long run objective of exchange rate policy should be to achieve an equilibrium exchange rate that would guarantee both internal and external balance without undue dependence on equilibrating short term capital flows, acquisition of long-term external loans and abrupt monetary policy interventions. However, the extensive liberalization of foreign exchange dealings needed to guarantee a realistic exchange rate could be supported by monetary intervention when the nominal exchange rate deviates widely from a predicted or assumed equilibrium exchange rate and when available foreign exchange resources are not enough for effective intervention in the Foreign Exchange Market. For example, the mopping of excess liquidity from the banking system by the Central Bank of Nigeria and the caution on fiscal deficits are all meant to reduce excess demand pressures in the foreign exchange market in order to ensure stability in the short term, while supply side measures are put in place in the medium to long term in the quest for external sector equilibrium.

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