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ECONOMICS OF EXCHANGE RATE MANAGEMENT

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I. INTRODUCTION

Exchange rate policy plays an important role in national economic development management. If well managed, it could facilitate the achievement of macroeconomic objectives of rapid economic growth, low rate of inflation, high employment generation, buoyant balance of payment condition, and progressive income distribution. Of all economic policies, it is the most suitable policy for ensuring internal and external balances.

In specific terms, most countries focus attention on exchange rate policy for many reasons. Whatever exchange rate regime adopted has some implications on the prices of goods and services in any economy. This is particularly so for imported commodities and those produced within the economy whose intermediate inputs and raw materials depend heavily on importation. As a tool of correcting internal and external imbalances as well as an instrument of improving the efficiency of resource allocation, governments in many developing countries use exchange rate as the linchpin of any stabilization policy. From all intent and purposes, exchange rate plays an important role in the management of any economy not only in terms of facilitating the achievement of macroeconomic objectives at the domestic end but also in terms of its importance on international trade and investments. The primary objective of foreign exchange policy (FOREX) has therefore become the main motivation for the choice of any exchange rate regime.

The starting point of examining the economics of exchange rate management is therefore to have a better understanding of the specific objectives of exchange rate. This can be grouped into two broad categories: traditional and non-traditional objectives. Traditionally, foreign exchange management in Nigeria is aimed at the following three mutually exclusive objectives:

- Conservation of available foreign exchange resources so as to check expenditure and undue depletion of external reserves;
- Ensuring adequacy of reserves consistent with current and future international commitment; and
- Preserving the value of external reserves through appropriate portfolio diversification and optimal deployment into strong currencies.

The non-traditional objectives include:

- Reduction of excessive demand for foreign exchange;
- Removal of distortions in the economy;
- Stimulation of non-oil exports; and
- Promotion of efficient allocation of foreign exchange resources through: reduction of dependence on imports and oil exports, elimination of unfavourable capital flight and stimulation of inflows of capital, and reduction and possibly elimination of exchange rate misalignment and exchange rate premium. In recent times, achieving exchange rate convergence has therefore become one of the intermediate objectives of central banks in many countries.

The main objective of this paper therefore is to examine the economics of exchange rate management. To address the main focus of this paper therefore, it is structured into five main parts. Following the introduction is section two which examines the conceptual issues in exchange rate management. In the third section, types of exchange rate regimes are examined while section four contains the significance of exchange rate management. Exchange rate management questions are reviewed in section five. Section six draws relevant lessons and concludes the paper.

II. CONCEPTUAL ISSUES

This section addresses key concepts that facilitate the appreciation of the economics of exchange rate management. It serves as the frameworks for contextualizing the focus of the paper.

What is a Foreign Exchange?

#Generically, foreign exchange can be defined as foreign currency or any other financial instruments acceptable as a means of payment or exchange for international transactions. Foreign exchange is made up of convertible currencies that are accepted for the settlement of international transactions - trade and other external obligations.

Specifically, the International Monetary Fund (as cited in Odusola 2002) defines it as the monetary authorities' claims on foreigners in the form of bank deposits, treasury bills, short-term and long term government securities and other claims usable in the events of balance of payments deficits, including non-marketable claims arising from inter central banks and inter-government arrangements, without regard to whether the claim is denominated in the currency of the debtor or creditor.

The Central Bank of Nigeria also defines it as any currency other than the Nigerian currency and includes coins or notes which are, or have at any time been legal tender in any territory outside Nigeria: poster orders, money orders, bills of exchange, promissory notes, drafts, letters of credit and travellers' cheques payable or expressed in a non-Nigerian currency.

What are Foreign Exchange Rates?

Exchange rates are the prices at which currencies trade for each other: spot and forward rates. It is simply the value of a foreign currency expressed in terms of domestic or other currencies. This can further be classified into nominal and real exchange rates. They are often expressed in terms of two currencies: domestic and foreign. Exchange rate can be expressed either in nominal or real terms.

Nominal exchange rate, for instance, can be viewed from two angles: domestic-currency terms and foreign-currency terms. Nominal exchange rate from the domestic-currency term (E_d) is defined as units of domestic currency per unit of foreign currency. From foreign-currency term (E_f), it is the units of foreign exchange per unit of domestic currency. The domestic-currency measure is the reciprocal of the foreign currency term.

Real Exchange Rate (RER): While nominal exchange rate measures the relative price of two moneys, the real exchange rate measures the relative price of two goods.

Real Exchange rate can be defined from both external and internal perspectives:

- External RER is the nominal exchange rate adjusted for price level differences between countries. It is the ratio of the aggregate foreign price level or cost level to the home country's aggregate price level or cost measured in a common currency.
- Internal RER: Measures the relative prices of two broad categories of goods tradable and non-tradable goods: ratio of the domestic price of tradable to non-tradable goods within a single country. The main objective is to capture the internal relative price incentive in a particular economy for producing or consuming tradable as opposed to non-tradable goods.

(i) Bilateral RER (BRER): It comprises the price of a representative consumption or production basket in the home country with similar representative price in a foreign country measured in the same currency. The choice of this simple index RER is usually informed by the existence of a major trading partner, or an association to such currency blocks as the dollar, the franc, the yen, the DM or the euro zones.

(Ii) Effective Real Exchange Rate ($ERER_d$): The use of the term "effective" in describing exchange rate in the literature portends two different meanings. First, it connotes "weighted average". It is synonymous to multilateral RER (MRER). Second, it connotes incorporation of all forms of taxes charged on imports and exports.

(iii) Multilateral RER (MRER): This is a weighted average of the external real exchange rate index with respect to using multiple trading partners. On the other hand, NMER is nominal multilateral exchange rate in domestic currency term and $NEER_d$ stands for nominal effective exchange rate in domestic currency term between the home country and the major trading partners.

Fundamental Equilibrium Exchange Rate (FEER): As defined by Williamson (1997), it is the real effective exchange rate compatible with simultaneous achievement of internal and external balances in the medium term. By internal balance we mean the highest level of economic activity that is consistent with a desirably controlled level of inflation, based on the existing factor endowments including technology. The concept of external balance refers to determining the level of current account deficit that is consistent with development objectives ensuring sustainable medium term target for the current account. This also connotes improvement of balance of payments position and maintenance of a level of reserve consistent with macroeconomic stability.

What is an efficient foreign exchange market?

This refers to a situation where the prevailing exchange rates fully reflect available information. That is the actual profit in any given period from any arbitrage or speculation activity equals, on the average, the equilibrium expected profits for the time period the actual exchange rate equals the equilibrium exchange rate. Because the current exchange rate adjusts fully to all the information available in the previous period and also adjusts instantaneously to any new information, any positive or negative profit opportunities are easily eliminated.

III. TYPES OF EXCHANGE RATE REGIMES

The literature is replete with many

forms of exchange rate regimes. They are often grouped into the following: fixed, flexible and multiple exchange rate regimes. The salient features of each of these regimes are examined below.

Fixed Regimes: Pegged Exchange Rates

For this regime to achieve the overall objectives of exchange rate management, it must fulfill the following conditions:

- The monetary authorities have the discipline, honesty, and capacity to allocate resources efficiently in line with economic growth objective.
- The economy's capacity to earn foreign exchange can easily support the fixed rate without putting undue pressure on the balance of payment condition.
- The economy has reasonably open capital account to provide necessary incentives for accommodating repatriation of income without causing serious stress to the BOP.
- The relevant authorities have the capacity to effectively check smuggling and control the activities of parallel exchange market operators.

Fixed exchange regimes can take several forms. Some of these are highlighted below:

(i) Domestic currency fixed to a single foreign currency.
(ii) Domestic currency fixed to a basket of currencies, for instance, main trading partners or standardized currency composites such as the European Currency Union (ECU) or the Special Drawing Right (SDR).
(iii) Domestic currency fixed to within pre-established margins.
(iv) Fixed but adjustable peg.

Most countries moved out of pegged exchange rate regime because they were no longer able to meet their convertibility commitment, i.e., when they have run out of reserves. As a matter of fact, countries tend to adopt fixed exchange rate regime when they are relatively buoyant. However, its main drawback is its inability to provide for adequate and systematic reserve growth thereby precipitating balance of payment deficit.

Flexible Regimes: This otherwise called adjustable Exchange Rates regime and can be grouped into three, namely,

(i) Making domestic currency adjustable to selected indicators that are mostly economic fundamentals.
(ii) Adopting managed floating system, which allows exchange rate movements to reflect developments in variables such as reserves and the payments positions.
(Iii) Independently floating system, which reflects the dynamics of market forces.

The adoption of flexible exchange rate tends to coincides with severe economic turmoil. A variant of flexible exchange rate is the ***crawling pegged regime***. This occurs when government allows the value of exchange rate to be determined by market forces, but the adjustment to the appropriate rate is slow and smooth as opposed to quick, abrupt and disruptive. This is particularly a good recipe to countries experiencing hyperinflation. The difference between the foreign and domestic inflation is used to calculate the annual rate of crawl.

Adjustable peg system: Governments having realised that fixed exchange rate is very rigid to manage while floating regime is equally disadvantageous have charted a middle course of action between the two regimes. This regime allows a currency to be fixed, but because the domestic country and its trading partners have different inflation rates, periodic official parities are allowed in order to bring exchange rate to its appropriate level (Dernburg, 1989).

Multiple Exchange Rate Regimes (MERS)

A multiple exchange rate regime is any exchange rate regime that applies two or more exchange rates to the same currency:

- ❖ a system involving one or more fixed exchange rates for current account transactions; and
- ❖ one or more floating or market driven for capital transactions.
- Primary motivations for adopting MERS are to:
- Insulate domestic prices and economic activities from exchange rate fluctuations deriving from transitory shocks in the financial market.
- Protect international reserves and avoid substantial devaluation in the face of severe balance of payment difficulties.

This regime is, however, saddled with some problems:

- Because parallel exchange rate is often more depreciated than the official one, there is the temptation of not adjusting the official exchange rate when it needs to be adjusted, allowing it to become increasingly overvalued and the economy decreases in competitiveness.
- It is difficult to prevent leakages from one market into the other round tripping effects. This is often the source of multiple system breakdowns.
- It creates incentives for cheating and can blur the line between legal and illegal activities.

Over the past four decades, Nigeria has experimented with different forms of exchange rate regimes. In the 1960s, fixed regime was experimented before shifting to pegged arrangement in the 1970s up till June 1986 when the structural adjustment programme (SAP) was introduced. Since this time, however, different forms of floating approaches (freely, dirty and stinking) have been experimented with. During this period there was no commitment to defending the parity of naira to any currency.

Generally, the primary objectives of adopting fixed or pegged regimes are to ensure a low rate of inflation in the economy, reduce transaction costs of international trade, promote exchange rate stability and reduce domestic economy's exposure to external shocks. . To achieve this, exchange rate regulation was

promoted and enforced. The experience had however shown that exchange rate control engendered substantial distortions in the economy. Apart from promoting rent seeking activities that culminated into sharp prices in the foreign exchange market, it changed the consumption pattern of Nigerians with predilection for foreign goods. Consequently, this led to massive importation of finished goods with its impact on current account deficits, de-industrialization of the economy through closure of local industries as a result of weak demand for locally produced goods. In addition to this, naira became unduly overvalued particularly during the oil boom era and there was massive exchange rate misalignment. In the process of defending the exchange rate parity, the monetary authorities lose its monetary policy discretion and to large extent the foreign reserves were depleted.

The need to avoid the foregoing limitations coupled with the need to promote foreign direct investment in the country, reduce heavy dependence on imported goods, and diversify the economy, a floating exchange regime was adopted at the outset of SAP in 1986. During this regime, monetary policy discretion in maintaining effective exchange rate system was achieved, achievement of appreciable monetary policy independence, building up of external reserves, among others. The major shortcomings of the adoption of this regime in Nigeria include persistent exchange rate volatility, high inflation and high transaction costs on international trade.

It is important to note that in spite of the experimentation with the various exchange rate regimes, the productivity of the domestic economy is yet to be achieved. The real sector of the economy remains un-rejuvenated, the diversification of the economy away from the oil sector remains highly elusive and achieving international competitiveness remains daunting challenge. The main challenge however is that exchange rate volatility and instability is not congenial to promoting domestic investment, foreign inflows of capital and transformation of the real sector of the economy.

IV. ECONOMIC SIGNIFICANCE OF EXCHANGE RATE AND MANAGEMENT

The economic significance of exchange rate and its management is anchored on the goals of exchange rate policy in any economy. In specific terms, the critical ones are as highlighted below.

❖ ***Special price for resource allocation:*** As a relative price, it plays an important role by performing resource allocation function within an economy. It also serves as a major direct link with other sectors of the economy, as well as link the general price level within the economy with prices in the rest of the world.

❖ ***Lower commercial and currency transaction costs***: Effective management of exchange rate particularly among countries of strong trade links offers opportunities for seamless trade through lower commercial and currency transaction costs. If a particular currency regime leads to an economic upswing in countries where the currency is predominantly used, it could boost that region's output and demand for imports. In turn, this could benefit the economies of countries' trading partners.

❖ ***Facilitate access to investors and financial market***: Predictable and credible exchange rate management also offers distinct advantages of "more commercial outlets". This creates one of the conditions to attract more investors and access to financial market of the hard currency origins. In fact, there is a close linkage between the implementation of 'sound and convergent economic and financial policies' and access to foreign investors and financial markets. This is however contingent on institutional investors' (such as pension fund and insurance companies) eagerness to diversify their portfolios by moving some of their funds to the affected country. Traditionally, borrowers from countries maintaining good exchange rate management would find that they could raise funds more easily and at cheaper rates in the deeper, more competitive financial markets where their currency is tied. Experience has however shown that this is dependent on pursuit of sound macroeconomic policies and the ability to strengthen the domestic financial systems.

❖ ***It is a tool of macroeconomic management***: As a major tool of economic stabilization, exchange rate policy and its management affect an economy through three main channels:

- Expenditure-reducing effects: As a way of reducing deficit from current account balance, exchange rate is used to discourage imports especially those goods that can be sourced locally.

- Expenditure-switching effects: Exchange rate is often used to discourage spending on goods and services that serve as drains on the balance of payment position while at the same time encourage those that add to foreign exchange earnings. Specifically, it facilitates switch in domestic demand from tradable to non-tradable, i.e., goods that are produced and consumed at home. In Many countries, it is used as a tool of industrialization by encouraging value added exports.

- Domestic currency price of imported intermediate inputs: As a major source of imported inflation, exchange rate management brings stability into domestic prices which are mostly import dependent due to heavy reliance on imported raw materials and intermediate inputs. In this regard, it reduces the fluctuations associated to variability of exchange rates.

❖ ***Other specific importance***

of exchange rate include:
It is very useful for determining the status of any currency; whether it is overvalued or undervalued. Besides, it also serves as an economic management signal where continuous appreciation suggests devaluation of the nominal exchange rate while depreciation provides signals for potential competitiveness.
It is a veritable tool of effecting external adjustment by ensuring competitiveness and avoiding real exchange rate misalignments. The strength of a country's competitive position in international trade is determined by its real exchange rate. This occur when the domestic currency depreciates or foreign inflation rises or domestic inflation falls or a combination of two or more of the above scenarios. As earlier mentioned, it is equally a tool of resource allocation. Through this, it influences the pattern of domestic production and expenditure. It switches domestic consumption from imported goods to those produced at home and encourages local producers to produce goods for exports that are relatively cheaper than what it used to be prior to deregulated exchange rate regimes.

V THE EXCHANGE RATE MANAGEMENT QUESTIONS

In examining the economics of exchange rate management in any country, some key issues need to be understood: the choice of the exchange rate regime and its level. Since the adoption of the Structural Adjustment Programme (SAP) in Nigeria in 1986, the choice of exchange rate regimes has been questioned by many analysts without any recourse to the economics of it. As a starting point, therefore, it is important to ask why the government chooses some exchange rate regimes over others? Second, what is the motivation behind the targeting of certain exchange rate levels? To complement the foregoing questions, the third question becomes imperative: why in spite of serious unfavourable and undesirable effects, governments refused to abandon the prevailing exchange rate regime? These constitute the exchange rate issues or questions. Answers to these questions, to a large extent, provide explanation to the economics of exchange rate management in any economy.

Choice of Exchange Rate: The choice of the exchange rate regime is often polarized between the obvious extreme alternatives of *fixed* and *pure floating*. There are several intermediate categories between these two extremes like fixed with discrete realignments, crawling pegs, bands, and dirty floating. By choosing one exchange rate regime, simultaneously other underlying objectives are also being selected. In practice, the most common trade off is between *volatility* and *flexibility*. In countries with moderate inflation, a fixed exchange rate is assumed to reduce volatility in the real exchange rate (RER) to the extent that prices are one order of magnitude less volatile. This however, limits government's ability to counteract non-anticipated real shocks.

A flexible exchange rate, on the other hand, allows countries to implement discretionary policy to react to real shocks but it is usually associated with a higher degree of RER volatility. However, in countries that have experienced high and chronic inflation, the relationship between real and nominal exchange rate volatility apparently breaks up: an increase in the volatility in the nominal exchange rate does not necessarily imply an increase in volatility of the real exchange rate.

Hence, the volatility-flexibility trade off is no longer valid to explain the selection of a particular exchange rate regime and other factors needs to be taken into account to explain such choice. Furthermore, to the extent that inflation does not converge to international levels, the choice is not primarily between volatility and discretion, but between *competitiveness* and *inflation*. A fixed exchange rate provides a nominal anchor that can help to build the credibility necessary to fight inflation. But at the same time a pegged rate results in real appreciation that can jeopardize the viability of external accounts.

Motivation for targeting a particular exchange rate level: There are different motivations for targeting a particular level of exchange rate. Countries often target a more depreciated exchange rate in order to increase competitiveness or to solve a balance of payments crisis. It is often used as a tool of economic stabilization via *demand contraction* and *expenditure switching* frameworks. Exchange rate depreciation, to a large extent is primarily based on the need to address deviations from productivity adjusted purchasing power parity (PPP). It is usually aimed at enhancing domestic productivity towards value added exports, i.e., to increase the scope of tradable in the economy.

Exchange rate policy has been at the service of multiple and often-contradictory purposes, namely:

- ❖ sometimes as a nominal anchor to fight inflation
- ❖ sometimes as an instrument to promote international competitiveness
- ❖ as an important relative price within a set of policies aimed to industrialize an economy
- ❖ an instrument for creating an outward -oriented economy.

Experiences from many countries have however shown that exchange rate targeting is often done at the expense of higher inflation.

VI ISSUES, LESSONS AND CONCLUSION

One of the critical issues in the management of foreign exchange is to know the main determinants of exchange rate management in the country. Many factors come to mind on this issue. In addition to

pressure from international financial institutions that often exert pressure on developing countries to adopt sound macroeconomic policies, external shocks also impose some serious constraints on monetary authorities. Critical among these external shocks are *deteriorating terms of trade* and change in *international interest rates*.

Another factor is to maintain a *good orientation with the overall policy framework*. This is about ensuring an internal consistency on development policy management. Other factors include non-policy induced openness, measure of productivity, and long term capital flows. An obvious issue in the emerging literature is that targeting a more depreciated exchange rate to increase competitiveness or to solve a balance of payments crisis is usually done at the expense of higher inflation. Consequently, most countries often immersed in inflation-devaluation/depreciation spiral.

The main objectives of foreign exchange management can only be achieved if exchange rate is stable; devoid of undue volatility and oscillations. The term stability does not connote static condition but a situation that permits variability in response to changes in the market fundamentals, e.g., changes in relative prices, international terms of trade and other factors that impinge on the price competitiveness of the domestic market agents and products. It also connotes variability within a range that does not distort the planning process of market agents. Exchange rate volatility can lead to de-capitalisation of the economy and possibly de-industrialisation.

The sustainability of the current exchange rate stability and the convergence of the official and parallel markets need to be taken very seriously. What seems to be a stable issue now may turn out to be something else when the oil boom era is over. As such there is need for the main goal of exchange rate policy to be synchronised with other macroeconomic objectives of government. For the current exchange rate policy to be sustainable there is need for proactive programme of economic diversification. The economy should be moved away from depending solely on oil oriented-foreign earnings to non-oil. The current diversification index with an annual average of about 1.3 is abysmally low when compared with countries such as Algeria (5.5), Egypt (about 20 in recent times), Morocco (36) and Tunisia (28).

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