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A COMPARATIVE STUDY OF FOREIGN EXCHANGE POLICY MANAGEMENT IN GHANA, NIGERIA AND UGANDA

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AFRICAN ECONOMIC RESEARCH CONSORTIUM

CONSORTIUM POUR LA RECHERCHE ECONOMIQUE EN AFRIQUE

A comparative study of foreign exchange policy management in Ghana, Nigeria and Uganda

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A comparative study of foreign exchange policy management in Ghana, Nigeria and Uganda

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Abstract

Until the early 1980s, foreign exchange rate controls were the dominant policy in Ghana, Nigeria and Uganda. However, because of the huge fiscal deficits and expansionary monetary policies, coupled with chronic terms of trade shocks and policy errors/ inadequacies, the foreign exchange rates in all three countries were heavily over-valued resulting in the development of parallel markets, trade deficits and rapid decline in real GDP growth. The move to flexible exchange regimes was to improve the internal and external competitiveness of these economies, as well as to achieve convergence of the parallel and official exchange rates. Over the reform period 1984-1993, Ghana and Uganda achieved convergence due to fiscal discipline and the credibility and transparency of the reform process. Nigeria reversed its policy in 1993. The evidence is that convergence is feasible but its sustainability is uncertain, especially in Ghana and Uganda where the exchange rate has started to appreciate in response to temporary external inflows. The "right" prices seem to be necessary but do not appear to be sufficient to address structural change and development. Equal attention has to be given to institutional considerations, investment in productivity, quality improvement and macroeconomic stability, which are essential for diversification of the export base to increase the stream of foreign exchange earnings.

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Executive summary

This paper reviews the theoretical and empirical literature on foreign exchange in general with particular focus on Ghana, Nigeria and Uganda and specific emphasis on the choice between fixed and flexible exchange regimes, the management of the transition, the possibility of convergence, and the sustainability of the unified exchange rates in both the official and the parallel sub-markets. The exchange rate regime/policy is a part of the overall macroeconomic policy and the nature of macroeconomic policy, in turn, has bearing on the effectiveness of exchange rate policy. Thus, fiscal deficits, expansionary monetary policy, trade deficits and a high debt service ratio have adverse consequences on exchange rate stability irrespective of the choice of the exchange rate regime.

The theoretical literature focuses on two major mechanisms: government and market. The government may dominate the market and fix the rate of exchange; this is more likely to be the case in control regimes. Where the government allows the market institution free reign, the exchange rate is market-determined. Exchange rate controls were the dominant policy pursued in all three countries on the argument that exchange control ensures the stability fo the currency. The proponents of flexible exchange rates deny the propositions that fixed regimes generate exchange rate stability and economy-wide benefits. They argue that a fixed exchange rate regime cannot guarantee stability since the rates must be adjusted from time to time. Others assert that pegged currencies often float against other currencies and that the cost of controls and the rules governing foreign exchange allocations generate very high inefficiencies in the foreign exchange market and, hence, the economy.

The exchange-rate regime debate suggests that it does not matter which regime is adopted provided it is consistent with the economy-wide macroeconomic policy. However, where (due to both internal and external shocks, or expansionary fiscal and monetary policies, etc.) the domestic currency is over-valued, it is more appropriate to adopt a flexible regime that will respond to the fundamentals of the economy. The shift from a fixed to a flexible regime is, therefore, a response to these realities. Indeed, the shift in exchange rate policy from controls to deregulation has made the market mechanism dominant in the management of foreign exchange in two of the three countries; the third, Nigeria, reversed its policy in 1993. The over-valuations, which exhibited a huge divergence between the official and the parallel or black market rates prior to the reform, were gradually reduced by the use of auctioning of foreign exchange as a transition measure in Ghana and Uganda.

The reform of exchange policy sought to bring about a competitive exchange rate for the domestic currencies. The desirability of a competitive exchange rate rested on the

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theoretical prediction that it would lead to a more efficient allocation and use of economic resources within economies and, as a result, improve their external competitiveness. Consequently, the desire to improve the internal and international competitiveness of the economy as well as the convergence of the official and the parallel markets is the key justification for exchange rate reform. It may be argued that the concept of convergence does not insist on equality of all the rates in the various exchange rate markets. There may be a divergence of more or less 6% as was the case in Ghana and more or less 12% as in Uganda. It is crucial to note that cognizance must be taken of all isntitutional and transactions costs, the influence of macroeconomic policies (including fiscal and monetary), the balance of payments on unification, and the credibility of exchange rate policy.

The exchange rates in all the markets would converge to the parallel market rate if all institutional and other costs were zero. Therefore, the size and trend of institutional costs is a major influence on exchange rate convergence in an economy. An equally fundamental issue is that the *difference between the official and parallel market rates is not a precise indicator of the extent of over-valuation.* This implies that the difference or gap — what is commonly referred to as the premium — must be adjusted for the sum of institutional costs to generate a precise value for currency over-valuation. It is for this adjustment that the estimate of over-valuation was about 50% of the rate differential between the official and parallel markets in Nigeria. However, it has been noted that the lower the transactions costs (and the premium), the more efficient the market; hence the use of the theoretical conditions of 6% degree of divergence.

The convergence is possible under three major conditions. First, the institutional barriers must be uniform and hence non-discriminatory. In the alternative, the costs generated from these barriers should approach zero over time. Second, exchange rate policy should be more informed and more stable. Third, the macroeconomic policy environment should lead to a rise in foreign exchange supply and decline in its demand. Increase in export earnings, better accountability and decline in debt service would lead to an increased supply, while fiscal and monetary restraint and increased stability in the exchange market would reduce demand. A combination of these factors would lead to an efficient and a sustainable exchange rate policy in an economy. To a large extent, these have eluded Nigeria.

Unlike the feasibility consideration, which has to do mainly with the stabilization phase of the reform process and the achievement of static efficiency, the sustainability of convergence relates to more fundamental structural changes that will lead to growth and development so that the economy is able to strengthen and expand its capacity to increase export earnings and support debt servicing as well as to finance current imports of goods and services. The issue of sustainability remains worrisome in all three countries, even though Ghana and Uganda have achieved convergence. The explanation may lie in the "policy incredibility" behaviour inherent in the policy regime and whether there were other exogenous circumstances beyond the control of policy makers particularly in Nigeria.

The country cases show that Ghana and Uganda achieved convergence because of harmony among fiscal, monetary and exchange rate policies as well as the credibility and transaprency of the reform process. Nigeria could not achieve convergence because

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of the absence of credibility and transparency, in particular because of fiscal indiscipline, macroeconomic policy incredibility and inconsistency, rampant interfence in the foreign exchange market, and too many sub-markets and institutional barriers. Indeed, the convergence attained on 5 March 1992 was forced by the political (and monetary) authorities. Sooner rather than later the gap widened again. It is, therefore, doubful that it was wise for Nigeria to abandon the process.

Whether the unification is sustainable also compels us to investigate the main sources of foreign exchange and whether they are induced or autonomous. The main sources identified are export earnings, capital inflows such as loans and unrequited transfers (private and official), and direct foreign investment (DFI). The legitimate question is whether capital inflows, unrequited transfers and DFI are autonomous or induced. If they are autonomous then developing countries may not suffer much set-back should they dry up and the IMF and World Bank pull out, provided that people's expectations during the period of exchange rate unification are changed to regard the new exchange rate regime as credible; that is, the unified system and its continued existence for capital inflow and DFI must be expected to continue. But if the capital inflows are induced, then as soon as the inducing factors (such as the presence of the IMF and the World Bank that provide the credibility cover) come to an end, the countries may be in serious trouble The difficulty will be particularly serious if the process of unification and stability of the foreign exchange market has not been able to change people's expectations. From the country cases it could be inferred that the greater part of the inflows are from exports as well as from both multilateral and bilateral sources. It is doubtful whether convergence can be sustained in Ghana and Uganda unless the current inflows lead to expansion and diversification of the export base.

An appreciation of the exchange rate especially in Uganda has resulted in the "Uganda disease syndrome"; this is also happening in Ghana to some extent. The primary objective of exchange rate policy is to achieve a stable real excahgne rate. The recent rapid appreciation in the external value of the Uganda shilling (and the Ghanaian cedi) is a threat to the programme of export development and the promotion of balance of payments viability. A number of export products are no longer as competitive as they should be. The alternative of depreciating the exchange rate has associated costs relating to domestic price stability that make it unattractive.

These developments particularly in the context of Uganda (and Ghana) call into question the sustainability of the unified marked-based exchange rate, unless accompanied by development policy measures as well as going beyond static efficiency. We need to strive for dynamic efficiency that will propel the development of our economies. The key issue here is for the country to identify temporary causes in exchange rate movements that must be ironed out by intervention to prevent the exchange rate from taxing exports and subsidizing imports over the long term. In Ghana and Uganda where convergence has been attained, diversification of sources of foreign exchange has proceeded very slowly since the adoption of the market-based exchange rate policy. The move towards a market-based exchange rate, while necessary, does not appear sufficient to address this structural problem. In addition to these "price" factors, there is the need to focus on "non'price" factors as well as insitutitonal considerations. Investments in productivity,

quality improvements, market information and infrastructure have been identified as essential to diversification of the export base in all three countries in order to ensure an increasing stream of foreign earnings.

I. Introduction

This comparative study outlines the economic circumstances leading to the adoption of floating exchange rate systems. In particular we address the causes, context and timing of exchange rate policy reform in Ghana, Uganda and Nigeria with emphasis on the characteristics, similarities and differences. From the onset it is important to point out that it was not only these countries that opted for the market related floating system; by the end of 1989 most less developed countries had resorted to the flexible exchange rate regime with the exception of those in the CFA franc zone in Africa.

The foreign exchange markets in the three countries under study, like those of other developing countries prior to foreign exchange reform, were characterized by three main features: an excessively over-valued official exchange rate; a thriving black foreign exchange market; and an allocation of official foreign exchange based on import licensing arrangements mandated by government. In order to rationalize the official exchange rate, absorb the parallel sub-market into the legal market, allow the forces of demand and supply to determine the rate and allocation of foreign exchange, and achieve a convergence of the official and parallel rates, the governments of these countries adopted a series of exchange rate reform measures as part of the World Bank and IMF economic reform programmes.

The over-riding objectives of the shift in the foreign exchange regime were to correct fundamental distortions in the economy, achieve international competitiveness and ensure viable balance of payments. Besides, a more realistic exchange rate policy can help establish credibility of government economic policies in general.

Three fundamental issues confronted the three reforming countries under consideration:

- the choice between fixed and flexible exchange regimes and the management of the transition,
- the possibility of convergence, and
- sustainability of the unified exchange rates in both the official and the parallel sub-markets.

The first highlights the question of general efficiency in the economy and the welfare benefits of each exchange rate regime with regard to operational efficiency of government on the one hand and the market system on the other. In all three countries the choice was in favour of a market system; however, in the course of the reform process Nigeria shifted her policy back to a fixed, government controlled regime. This raises an interesting

question and the need for a comparative analysis. Why did Ghana and Uganda stick to the reform process and why did Nigeria reverse her policy despite the fact that all three countries faced similar initial conditions: excessive over-valuation, large parallel markets and extensive exchange controls under disequilibrium conditions.

Table 1: African members of IMF operating market-related floating exchange initiatives: Summary characteristics

Country	Form of arrangment	Rate detemination	Role of central bank's intervention
Gambia, The	Inter-bank (daily)	Negotiation between banks and their clients	No intervention to influence exchange rate
Ghana	Auction (weekly)	Dutch auction	Possibly by adjusting supply
Guinea	Auction (weekly)	Marginal pricing	Possibly by adjusting supply within constraints of external debt obligations
Nigeria	Inter-bank and auction (daily)	Negotiaion between banks and clients and marginal pricing	None in inter-bank but variation in supply to auction market
Sierra Leone	Inter-bank	Negotiation between banks and clients	None
Uganda	Auction (weekly)	Marginal pricing	Adjusting supply to auction market
Zaire	Inter-bank (daily)	Negotiation between banks and clients	Some intervention in inter-bank market
Zambia	Auction (weekly)	Dutch auction	By adjusting supply to auction within external debt servicing constraints

Source: J.P. Quirk et al. (1987).

The second issue of interest to us is the feasibility of convergence, which depends a lot on the consistency and timing of macroeconomic policies such as fiscal, monetary and trade to be in tune with the exchange rate policies. The empirical evidence seems to affirm the possibility of convergence of the parallel and the official exchange rates. Both Ghana and Uganda achieved convergence; Nigeria did not. We intend to examine very critically the key country circumstances responsible for the various policy developments

and the conditions for unification.

The last issue, the sustainability of convergence, remains worrisome in all three countries. The emphasis will be on the "policy (in)credibility" behaviour inherent in the policy regime and whether there were other exogenous circumstances beyond policy makers in Nigeria. The implications of unification sustainability are of great concern to all less developed countries. If sustainability is not attainable, is it wise to pursue convergence? Might Nigeria have been wiser to avoid unification altogether? Or is the timing of the policy reform and its reversal wrong? These are important policy questions for reflection by all economists with neoclassical conviction.

With regard to timing of the foreign exchange reform in the three countries, some major similarities and differences may be addressed. Each of the countries had a prolonged period of fixed exchange rate regime: Ghana 1957-1986, Uganda 1962-1987 (with a brief floating period 1981-1983) and Nigeria 1959-1986. Each of the regime shifts was preceded by the adoption of an economic reform programme of which the exchange rate policy was an integral part. It is crucial to note that timing is not necessarily a matter of counting the number of years fixed exchange regimes lasted. It may also refer to the very circumstances of developing countries and whether the effects of the over-valued official market co-existing with the parallel market are more conducive to long-term growth and development.

It bears repeating that prior to reform both the exchange rate and allocation of foreign exchange in all three countries were government determined. With the reform, they joined a club of adjusting economies (see Table 1). The reform of exchange rate policy sought to bring about a competitive exchange rate for the domestic currencies. The desirability of a competitive exchange rate rested on the theoretical prediction that it would lead to a more efficient allocation and use of economic resources within economies and, as a result, improve their external competitiveness. Consequently, the desire to improve the internal competitiveness of the economy and its competitiveness in international markets is the key justification for exchange rate reform.

The rest of the paper unfolds in the following order: Section 2 addresses the theoretical framework with emphasis on the basis for exchange rate reform, auction as a transition mechanism for managing exchange rate reform, and the concept, feasibility and sustainability of exchange rates. The country cases are the subject matter for Sections 3 (Ghana), 4 (Nigeria) and 5 (Uganda). In Section 6 we undertake a summary of the conclusions and advance policy lessons.

II. Theoretical framework

Four major principles will be addressed in this section: (1) the theoretical basis for the reform of exchange rate regimes; (2) auction theory as both a guide to and mechanism for the management of the transition; (3) exchange rate convergence (concept and feasibility); and (4) the sustainability of convergence.

Theoretical basis for foreign exchange rate reform

The exchange rate is the price of a domestic currency in terms of a foreign currency.[1] This price can be rigidly fixed or, alternatively, allowed to be market-determined. In the former case and with reference to African countries, local currencies were fixed in terms of the British pound or French franc or a basket of foreign currencies including the US dollar. In the latter case, the exchange rate is determined by forces of demand for and supply of foreign currencies. The demand for foreign currency (say, the dollar) takes place when residents in a country buy non-domestic goods, services and assets, or lend to non-residents. The supply of foreign exchange takes place when non-residents buy the country's goods, services and assets and use foreign currency to effect payment. The main sources of supply, therefore, are the country's exports, short-term and long-term capital flows (influenced mainly by the interest rate prevailing in, and expected future prospects of, the country), and foreigners' holdings of local currency.

Therefore, the demander of foreign exchange is a supplier of local currency, while a demander of local currency is simultaneously a supplier of foreign exchange to the foreign exchange market. The local and foreign currencies trade for each other at an exchange rate in the framework of different foreign exchange arrangements. The two extreme forms of determination of the exchange rate (fixed or flexible) have different types of exchange rate policies. Between the extremes are, among others, quasi-fixed market arrangements such as the dirty or managed float.

It is important to point out that the exchange rate regime (of whichever type adopted) is part of the macroeconomic policy. The nature of macroeconomic policy has bearing on the effectiveness of exchange rate policy. For instance, fiscal deficits, expansionary monetary policy, trade deficits and a high debt service ratio have adverse consequences on exchange rate stability irrespective of the choice of exchange rate regime. The fiscal deficit and expansionary monetary policy are likely to increase domestic demand for foreign exchange, while trade deficits and high debt service tend to reduce availability of foreign currency to satisfy domestic demand. Consequently, as demand rises while supply

falls, other things being equal, the domestic price of foreign exchange rises.

Second, a foreign exchange regime is a means not an end. Therefore, foreign exchange policies must be evaluated by their general efficiency and welfare effects. A complication arises from the features of macroeconomic policy, i.e., multiplicity of and conflicts among policy objectives. The multiplicity of macroeconomic policy goals and the possibilities of conflicts among them suggest that a partial analysis is unlikely to provide a sufficient ground on which to anchor the choice of an exchange rate regime.

The third issue is the choice of exchange rate regime; this is the subject of most of the exchange rate literature. It is important to note that since an exchange rate is a price, it assumes relevance only because of international trade in commodities and financial and capital assets. Therefore, national exchange rate policies have international implications. Since exchange rate is a price, the important issue in exchange rate theory is the mechanism for price determination. The mechanism through which the exchange rate is determined constitutes the exchange rate policy of the nation.

The theoretical literature is dominated by discussion of two major mechanisms: government and market. Government mechanisms may dominate markets and fix the rate of exchange. This is more likely to be the case in control regimes. Where the government allows the market institution free reign, the exchange rate is market-determined. Arguably, each regime reflects the dominant philosophy of the state. Fixed exchange rate regimes are more associated with controlled economies while flexible exchange rate regimes are more associated with liberal economies. This is why to a large extent, a shift in policy, e.g., from fixed to floating, occurs when there is a shift in economic philosophy.

There is an intense controversy about the effectiveness of the two regimes that determine the exchange rate. The controversy centres around the extent to which each regime facilitates domestic and external economic balances. The exchange rate is conceptualized as a link between the price structures of nations and, as a result, is important to patterns of international commodity flows and the international mobility of capital resources (Bogunjoko, 1992).

Before the arguments supporting each exchange rate determination mechanism are highlighted, it may be useful to distinguish between the real and the nominal exchange rates. The real exchange rate expresses the value of the domestic currency in terms of its real purchasing power. The ratio of the domestic prices of two economies measures the real exchange rate. The nominal exchange rate expresses the quantity of one currency in terms of another.

The real exchange rate is perceived to send signals to domestic and external absorption and production. It is important that these signals be correct, otherwise, responses would be distorted leading to adverse internal and external balances (see Lewich, 1985; Oyejide, 1986). Given this premise, the key issue is the deviation of the nominal exchange rate which is directly determined (in any exchange rate regime), from the equilibrium rate. If the deviation is non-zero, the implication is that the mechanism for determining the exchange rate is distortionary. Ojo (1990) emphasized this when he insisted that "an inappropriate exchange rate ... tends to create instability in the forex market and to perpetuate widespread distortions in international economic transactions".

Some of the theoretical literature argues that the fixed exchange rate regime is distortionary. The distortions are believed to be manifested as either over-valuation or under-valuation of national currencies. Distortions in exchange rates have different impacts on import demand and export supply. Over-valuation has negative effects on export supply, while encouraging imports and inflows; under-valuation has the opposite effects. Either way, distortions lead to disequilibrium in the foreign exchange market and in trade balances. Thus, as is usual with price control, a broader set of controls is necessitated by the resultant disequilibrium. In other words, economic theory predicts that countries characterized by extended periods of over-valuation of their domestic currencies suffer from severe balance of payments problems. The over-valued rate subsidizes imports, which become cheaper since consumers pay less per unit of foreign currency. At the same time, over-valuation imposes an implicit tax on exports as exporters receive less when they convert their foreign exchange earnings into local currency at the over-valued rate. The combined increase in demand for imports and reduction in the supply of exports leads to a widening gap in the trade account. Since those who have access to the cheap foreign exchange through official channels enjoy excess profits, while an implicit tax is imposed on those who surrender foreign exchange at the low official rate, parallel markets in foreign exchange and smuggling of exports inevitably develop, thus further worsening the shortage of foreign exchange available through official channels.

Exchange rate controls were the dominant policy pursued in Ghana, Uganda and Nigeria before the reform. This policy seems to have been adopted on the basis of arguments that exchange control ensures the stability of the currency. Ward (1965) and Towers and Willet (1976) emphasized this attribute of a fixed exchange rate regime. Even more fundamentally, Johnson (1970) and Todaro (1977) argued that given the structure of less developed countries' economies, the optimal exchange rate policy is a fixed rather than a flexible exchange rate regime. Todaro (1977) made the point thus: "flexible exchange rates are not thought to be desirable especially in the third world ... because they are unpredictable, ... are susceptible to foreign and domestic currency speculation. Such unpredictable fluctuations can wreak havoc with both short and long range development plans".

The proponents of flexible exchange rate deny the propositions that fixed regimes generate exchange rate stability and economy-wide benefits. Quirk (1989), Odozi (1986) and Dibua (1990) argue that a fixed exchange rate regime cannot guarantee stability since, as Quirk puts it, the rates must be adjusted from time to time. Odozi argues that pegged currencies often float against other currencies. He and Dibua (1990) assert that the cost of controls and the rules governing forex allocation generate very high inefficiencies in the forex market and hence, the economy. Generally, a flexible regime, the antithesis of controls, is seen to generate efficient resource allocation.

The historical experience of countries shows that some economies have at given points adopted more than one exchange rate regime or have adopted an eclectic regime that taps the advantages of the two extremes. A dual exchange rate regime is an example of the former and an adjustable peg that of the latter. These notwithstanding, the two institutional frameworks, namely, the government and the market, are the mechanisms for determining exchange rates. An efficient exchange rate regime may among other

things depend on the character of the institutions, particularly their operational efficiency and credibility.

The shift in exchange rate policy from controls to deregulation has made the market mechanism dominant in the management of forex in two of the three countries under study; the third, Nigeria, reversed its policy in 1993. The extent to which the exchange rate regime approximates a competitive market becomes critical to achieving an efficient allocation of forex. Economic theory suggests that exchange rate convergence and the realization of the economic and welfare benefits of a market directed exchange rate depend on the possession by the regime of the essential characteristics of a competitive market (i.e., free entry and exit, perfect information and perfect mobility - or at least approximations of these attributes). These issues provide a general guide to the analysis of the exchange rate regimes undertaken later in this study.

The concept of over-valuation or under-valuation may be shown as a deviation of the nominal exchange rate (NER) from its equilibrium (ENER). By definition the ENER represents the true opportunity cost of a currency, i.e., the value that would prevail in a free market unhindered by official controls. It is thus a theoretical concept, and least subject to unambiguous measurement. The rate prevailing in the parallel market is frequently used as a proxy for the equilibrium exchange rate, at least in the medium term (Duesenberry, Gray, Lewis, McPherson and Younger, 1994).

Just as in the case of the trade account, over-valuation of the domestic currency imposes an effective constraint on revenue generation by government. The gains in budgetary support from the purchase of cheap foreign exchange are offset by declining explicit taxes from shrinking exports and lower budgetary support from selling donor resources cheaply at the over-valued rate. Governments resort to borrowing from the central bank to finance fiscal deficits. This printing of money fuels inflation; the resulting excess demand, without an expansion in domestic production, spills into imports and further worsens the trade deficit.

If such countries are unfortunate enough to face a decline in the price of a major export as well, the over-valuation, by taxing exports, discourages investment in cost-reducing technologies and in production efficiency, which are required for effective competition in the world market. Countries can only finance such high levels of imports by decumulating their foreign exchange reserves and/or relying on external finance. In other words, over-valuation of the domestic currency is likely to result in a high current account deficit to GDP ratio, a high external debt to GDP ratio, a high debt service ratio, donor dependency and low foreign exchange reserves for import cover.

The effects of the huge over-valuation of the domestic currencies of these countries over a prolonged period include negative developments on the BOP accounts, shortage of foreign exchange and low inflow of external investible resources. These led to the reversal of policy from the fixed to flexible exchange rate regime. The over-valuations, exhibited by a huge divergence between the official and the parallel or black market rates prior to the reform, were gradually reduced by the use of auctioning of foreign exchange as a transition measure. We now turn to auction theory.

Auction as a transition mechanism for managing exchange rate reform

The main purpose of auction is to generate information to buyers and sellers of foreign exchange about the realistic price of foreign exchange. Generally, it is this information that is absent under the fixed exchange rate regime.[3]

There are many trade and exchange relations in which more often than not a piece of information relevant to the transaction may be known to one party but not to the other. Such circumstances where information is asymmetric are countless and varied. Of the many examples cited by McAfee and McMillan (1987), Rasmusen (1991), Dominguez (1991), Gibbons (1992), and Fudenberg and Tirole (1991), the most relevant for this paper is between a buyer and seller of foreign exchange particularly when the value of the item is uncertain. The term auction has been defined differently to suit specific purposes. For example, according to Oxford Dictionary, auction refers to a "public sale in which articles are sold to the maker of the highest bid". For our purpose we shall define it as the act of offering to sell and the process of bidding to buy (Dordunoo, 1994a).

There exists a huge literature on designing an optimal auction from which four basic auction systems may be classified: the English (or oral, open or ascending) auction; the Dutch (or descending-bid) auction; the first-price sealed-bid auction; and the second-price sealed-bid (or Vickrey) auction (refer to Dordunoo, 1994a, for details). Of these types the one appropriate to foreign exchange is the Dutch auction system (DAS). There are also the marginal pricing auction system (MPAS) and the reserve pricing approach (RPA). We discuss these systems in turn.

The main features of the Dutch auction system that have been adopted in many developing countries (to be addressed in Section 2) are as follows: There are broadly two groups of participants, namely, the bidders or importers and the central bank. The latter auctions the foreign exchange from its reserves, exporters (the main source) and the IMF BOP support facility. Generally there is no upper limit but in some cases a minimum bid is required. There are four main types of bidders - multinational corporations, government parastatals, medium- and small-scale enterprises, and private individuals.

Bidders surrender their bids (in sealed envelopes) stating the amount of Forex they wish to buy and the rate at which they wish to obtain it, as well as the purpose of the request. The bids are opened and the central bank offers foreign exchange to bidders at each bidder's own bid rate starting from the highest bid rate. This continues until all the foreign exchange supplied is exhausted and the market clears. All those whose bid rates fall below the market clearing exchange rate are denied foreign exchange. Those whose bid price is equal to the marginal rate are allocated foreign exchange on pro rata basis in many cases. The marginal rate declared then becomes the rate at which the central bank in turn buys foreign exchange until the next auction. The intervals for the auction range from daily or weekly to as long as fortnightly.

In the marginal pricing auction system (MPAS), a single rate, the most appreciated bid price at which the available foreign exchange is exhausted, is applied to all successful

bidders. Bidders who have offered rates more depreciated than the market clearing rate receive all the foreign exchange they bid for at the marginal price; those whose bid price is equal to the market-clearing rate receive only part of what they bid for on the basis of an allocative rule (and in some cases on pro rata basis as in the DAS).

The reserve pricing approach (RPA) hinges on the use of a reserve price for foreign exchange allocation in a totally different way from the DAS and the MPAS. In the RPA the central bank decides on the most appreciated exchange rate at which it will undertake to supply foreign exchange.

Before we exit this section it is important to point out that there are other means by which market-related floating exchange rates are determined. One is the simple average price rule (SAPR). In this case the DAS is used to determine the bid rates and volumes that exhaust the total foreign exchange. However, instead of each bidder paying for the requested foreign exchange at the bid rate, a simple arithmetic average is obtained from all the successful bid rates; a simple average of the bid rates is then obtained that becomes the rate at which all successful bidders obtain their foreign exchange.

By way of summary, the main auction system adopted in the management of the foreign exchange rate transition from the fixed to market-related floating exchange rate regime is the Dutch auction system. In addition to the system where each bidder's rate is used in the allocation of foreign exchange there are three other methods - namely, marginal pricing, reserve pricing and simple average pricing systems - that are used in the exchange rate determination.

Exchange rate convergence (concept and feasibility)

An essential institutional arrangement developed to absorb the parallel market into the legal foreign exchange system is the *bureau de change*. Prior to the adoption of the reform programme, as noted already (especially in the case of Ghana, among other developing countries), large transactions were made through the parallel market. The coexistence of a parallel market, especially when there is a substantial divergence between the parallel and official exchange rate, is in principle indicative of a basic disequilibrium in the foreign exchange market and trade regime.

The key objectives behind the institutionalization of the forex bureaus include elimination of the illegal parallel market, capture of the main market forces directly behind the determination of the exchange rate and subsequent absorption of the parallel/ bureau market into a single foreign exchange market. The attainment of a single market requires the exchange rates to be equal in all the sub-markets within the foreign exchange system. In particular, the marginal rate in the auction market must equal the buying bureau rates (which in turn must equal the parallel market).

We define convergence as the equality of the two rates in principle. In practice, however, after allowing for capital controls, the cost of a commission, paper work or form filling, and waiting, as well as uncertainty in the auction market vis-a-vis the instant/ cash nature of the parallel market, and the premium lost by buyers of foreign exchange from the bureau market, convergence used in this study is defined in line with Dordunoo

(1994b) as:

> ... a divergence of 6 per cent (or less) of the auction rate from bureau exchange rate, and a fairly stable/predictable exchange rate. Thus, a divergence averaging between zero and 6 percent is acceptable as a condition for unification or an epsilon equilibrium (if it is greater than zero but less than or equal to 6 per cent) of the auction and the bureau exchange rate.

It is important to note that this definition is not inconsistent with the concept used in Aron and Elbadawi (1994), which states:

> The term unification in the sub-Saharan Africa (SSA) context refers to eradication of the parallel market. However, since these countries are likely to maintain capital controls in the medium term, there would remain a small role for the parallel market in meeting portfolio demand. Our concept of unification in SSA is thus a substantial reduction of the parallel market so that it is no longer a major signal in the economy.

In view of our definition we may specify the condition for unification as follows:

$$ERBURB = ERADAS + [TTC * \{(ERBURB/ERADAS) - 1\}] \qquad (1)$$

Where ERBURB = bureau buying rate; ERADAS = actual Dutch auction system marginal exchange rate (or auction market-clearing rate); TTC = total transaction costs.

The term in parentheses, {(ERBURB/ERADAS) - 1}, is equal to zero if ERBURB equals ERADAS for perfect unification. If the term {(ERBURB/ERADAS) - 1} is greater than zero and the full term, [TTC * {(ERBURB/ERADAS) - 1}], is 6% or less as the degree of divergence, then an *epsilon* equilibrium has been attained given the total transaction costs in the auction market. In other words, the condition for the degree of divergence (DOD_j) in symbols should be:

$$DOD_j = \{(ERBURB/ERADAS) - 1\} * 100\% \leq 6\% \qquad (1^1)$$

In the definitions above it is crucial to note that cognizance must be taken of all transaction costs as well as the influence of macroeconomic policies (including fiscal and monetary), balance of payments on unification and the credibility of exchange rate policy, as emphasized by Peterside (1993), Dordunoo (1994a/b), Odubogun (1994), and Aron and Elbadawi (1994). The institutional costs include transferability costs, late delivery costs and documentation, which underscore why perfect equality may not be achieved for unification to be obtained. In a three sub-market analysis, using the example of the Nigerian triconomy, there are three markets, namely, official, export proceeds and parallel/bureau markets.

In view of the above, a more general statement of the conditions for unification or convergence of a three-exchange sub-market system requires that:

$$ERPM = EREPM + TC + DC + CC + MC \quad (2)$$
$$= EROM + TC + DC + CC + MC + LDC + TLC + OVF$$

Where ERPM = parallel market exchange rate; EREPM = export proceeds market exchange rate; TC = transferability costs; LDC = late delivery costs; DC = documentation cost; EROM = official market exchange rate, TLC = time limit costs; CC = communication costs; MC = miscellaneous costs; and OVF = over-valuation factor.

It is apparent that if institutional costs were zero, the three exchange rates would converge to the parallel market rate. Therefore, the size and trend of institutional costs is a major influence in exchange rate convergence in an economy. An equally fundamental implication from Equation 2 is that the *difference between the official and parallel market rates is not a precise indicator of the extent of over-valuation.* This framework implies that the difference or gap or what is commonly referred to as the premium must be adjusted for the sum of institutional costs to generate a precise value for currency over-valuation. After this adjustment Peterside estimated that over-valuation in the official market was about 50% of the rate differential between the official and parallel markets (see Peterside, 1993; Odubogun, 1994).

It should be noted that institutional and trade barriers erected in some official exchange markets and to a lesser extent in the export proceeds markets include restrictions on forex use such as restrictions of imports not permitted by law, non-transferability of forex sourced from the central bank (for example, the case of the Central Bank of Nigeria) from an approved use to other uses, and time limits on the use of forex purchased from authorized dealers. Each of these restrictions is potentially cost generating to final users. In some countries other barriers take the form of ceilings on the quantity of forex that can be purchased and the extent of documentation required for transaction in the official market. Such restrictions do not apply to either the parallel or the bureau segments. Similarly, the export proceeds market is less regulated than the official market (in Nigeria for instance). Transactions in export proceeds involve fewer procedures, for example, hence take less time. Besides, final users who purchase export proceeds are not compelled to use the forex within a stated time period (15 days in Nigeria) as are those who buy central-bank-supplied forex.

On the basis of the analysis so far, the possibility of convergence hinges crucially on whether institutional barriers exist. In our view, convergence is not feasible as long as (a) the foreign exchange market is effectively segmented by institutional barriers; (b) weak macroeconomic policies are implemented; (c) adverse external shocks are experienced; and (d) an unconducive and non-transparent monopoly role of the central bank in the auction market rears its ugly head. Theoretically, the removal of conditions (a) - (c) may not necessarily result in convergence if the central bank does not play a transparent, realistic and a credible foreign exchange auctioning role on a sustained basis.

From Equation 2, let

$$TTC1 = TC + DC + CC + MC, \text{ and}$$
$$TTC2 = LDC + TLC + OVF, \text{ then}$$
$$ERPM = EREPM + TTC1 = EROM + TTC1 + TTC2 \quad (2^1)$$

If we subtract TTC1 from all sides we have

$$ERPM - TTC1 = EREPM = EROM + TTC2 \quad (3)$$

From Equation 3,

$$ERPM = EREPM = EROM, \text{ if and only if (iff):}$$
$$TTC1 = 0 \text{ and } TTC2 = 0 \quad (4)$$

In the event that

$$TTC1 = 0 \text{ and } TTC2 \neq 0, \text{ then} \quad (5)$$
$$ERPM = EREPM \neq EROM$$

Similarly, if

$$TTCL \neq 0 \text{ but } TTC2 = 0, \text{ then} \quad (6)$$
$$ERPM\ EREPM = EROM$$

The conditions in Equation 4 are static conditions for a general equality of exchange rates. It is possible for Equation 4 not to hold at any stationary positions but hold over time. It is, therefore, not sufficient to draw inferences from any stationary points of Equation 4; The dynamic path would be more relevant for the analysis of the adjustments in the foreign exchange market. It is also more relevant for analysing exchange rate convergence. The conditions for exchange rate convergence could be deduced from Equation 4. Convergence of the three exchange rates does not require strict equalities as in Equation 4 but that the following adjustment processes occur:

$$TTC1_t \rightarrow 0 \text{ as } t \rightarrow \infty, \text{ and} \quad (7)$$

$$TTC2_t \rightarrow 0 \text{ as } t \rightarrow \infty, \quad (8)$$

If Equation 7 holds over time, then

$$EREPM \rightarrow ERPM$$

If Equation 8 holds over time, then

$$EROM \rightarrow EREPM$$

If Equation 7 holds but Equation 8 does not, general convergence is not possible. Similarly, if 8 holds but 7 does not, general convergence is not possible. General convergence is, therefore, not possible if TTC1 or TTC2 either remains constant, grows over time, or oscillates over time. These imply that general convergence is possible if

and only if (iff) both equations 7 and 8 hold simultaneously over time.

The analysis takes the rates in the three markets as given. It also assumes that the rates are demand driven. This assumption is valid if the excess demand has persisted in the official market. The assumption implies that the rates respond to demand changes. This excess demand in the official market influences the parallel and export proceeds rates through the over-valuation factor. This factor consists of the changes in the official rate that would have resulted if the central bank had not exercised its monopoly powers arbitrarily. The excess demand in the official market tends to spill over to the parallel and export proceeds markets, raising their respective rates.

The deliberate control of official rates and forex supply by the central bank influences the other rates. For instance, if rates are allowed to vary and supply is increased, say through reduction in the leakages from export revenues, the market rate in the official market would fall. Other things being equal, excess demand would also fall. As a result, the spillover effects would diminish and their pressure on EREMP and ERPM would also fall. Consequently, the rates in all segments would be lower and the over-valuation factor would approach zero.

Similarly, if government pursues austere fiscal and monetary policies, this would check forex demand stimulus. If export revenue or net capital inflow rises through a decline in debt service and/or increase in capital flows into the economy, the supply of forex in the auction market would rise. The fall in demand and the rise in supply would check a rise in exchange rates in the three markets. They would also contribute towards reducing the extent of over-valuation and divergence (Peterside, 1993; Odubogun, 1994).

In summary, in answer to the question "Is convergence possible?", the answer is: "Under certain conditions, yes". First, institutional barriers must be uniform and hence non-discriminatory. In the alternative the costs generated from these barriers should approach zero over time. Second, exchange rate policy should be more informed and more stable. Third, the macroeconomic policy environment should lead to a rise in forex supply and a decline in forex demand. Increase in export earning, better accountability and decline in debt service would lead to an increase in supply, while fiscal and monetary restraint and increased stability in the auction market would reduce demand. A combination of these factors would lead to an efficient and sustainable exchange rate policy in an economy.

Exchange rate convergence (sustainability)

We now come to the last key issue to address. "Is convergence sustainable?" It is important to point out that this is a more worrisome issue than any other so far analysed. Unlike the feasibility consideration, which has to do mainly with the stabilization phase of the reform process, sustainability relates to more fundamental structural changes that will lead to growth and development so that the economy is able to strengthen and expand its capacity to increase export earnings in order to support debt servicing (i.e., interest and principal payments) as well as to finance current imports of goods and services. Many empirical studies have suggested the possibility that the balance of payments (BOP) support (from

the IMF, the World Bank and many bilateral donors) may have kept the exchange rate above what it would have been, given the countries' limited capacity to earn foreign exchange. If this is so, then the BOP support partially dampened the incentive to expand capacity to earn foreign exchange. There is, therefore, the concern that the over-valued currency will not be able to induce sustainable production for export and that when the BOP support comes to an end the pre-ERP disequilibrium will re-emerge. It is also argued that the BOP support kept inflation down as the countries were able to sell the import-support funds to support the budget. Even though this may not have been equally important in all countries, Ghana and Uganda used budgetary support extensively to reduce or replace the printing of money. Additionally, the large volume of imports also contributed to custom duties.

The unintended consequences are that when the support dries up all or some of the following perennial problems will re-emerge: (a) excess demand for imports, (b) shortage of budgetary revenue and (c) inflation (owing to fiscal imbalance and shortage of goods). These imbalances may lead to the resurgence of the premium or the divergence between official and parallel exchange rates, worsen the trade and budget deficits, and promote inflation. In fact, the countries attained unification while both the fiscal and current account deficits, which required long-term development policies to eliminate, continued.

The main sources of foreign exchange are three: from export earnings, from capital inflows such as loans and unrequited transfers (private and official), and from direct foreign investment (DFI). The legitimate question that may be asked is whether the capital inflows, the unrequited transfers and DFI are autonomous or induced. If they are autonomous, then developing countries may not suffer much set-back should the inflows dry up and the IMF and the World Bank pull out, provided that people's expectations during the period of exchange rate unification are changed to regard the new exchange rate regime as credible. That is, the unified system and its continued existence for capital inflow and DFI must be expected to continue. But if the capital inflows are induced, then as soon as the inducing factors (such as the presence of the IMF and the World Bank which provide the credibility cover) come to an end, these countries may be in serious trouble. The difficulty will be particularly serious if the process of unification and stability of the foreign exchange market have not been able to change people's expectations.

The country presentations that follow focus mainly (but not exclusively) on the following key issues: the initial disequilibrium conditions prior to the reform process, the auction system for managing the transition, the introduction of forex bureaus, and the effects of the reform with particular emphasis on convergence of the official and the parallel markets.

III. Country case 1: Ghana

Exchange rate policies prior to the auction regime

Exchange rate policy before 1983

During the initial phase of Ghana's economic recovery programme, a series of massive and discrete devaluations of the cedi were implemented in order to realign the highly over-valued local currency and to reduce the acute shortage of foreign exchange, as well as the size of the parallel foreign exchange market.

Following the devaluation in 1967 (after the overthrow of the first president in 1966) from C0.71/US$1.00 to C1.02/US$1.00, the exchange rate was rigidly fixed at C1.02/US$1.00. It was again devalued in 1971 (which partially led to the overthrow of the government of the second republic) to C1.82/US$1.00 in 1972; thereafter, the exchange rate was pegged at C1.15/US$1.00 for six years until another devaluation to C2.75/US$1.00 in 1978. This rate lasted until 1982. The rate of inflation, however, far exceeded the average inflation rates of Ghana's trading partners. Consequently, the real exchange rate appreciated by more than 500% between 1970 and 1982.

The yawning gap between the demand for and supply of foreign exchange in the official market resulted in a substantial differential between the official and the parallel market exchange rates. In 1967, the degree of divergence (reflecting a percentage premium) between the two rates was about 8%, but it increased steadily to 4,264% by the end of 1982. As a result, the informal black market dominated in the mobilization and allocation of foreign exchange. The existence of a substantial black market and the premium of the parallel market rate over the official exchange rate indicate the disequilibrium between the demand for and the supply of foreign exchange at the official exchange rate. Some of the demand pressures emanated from capital flight (which reflected the lack both of confidence and legal investment opportunities). The shortfall in supply of foreign currency resulted from four policy actions in the early 1980s that reduced confidence in the Ghanaian banking system: (a) C50.00 notes were demonetized, (b) bank deposits greater than C50,000 were frozen pending investigation for tax liability or fraud, (c) bank loans to finance trading inventories were recalled, and (d) a requirement was imposed that business transactions exceeding C1,000 be conducted by cheque.

Figure 1: Foreign exchange rate (C:$) (Exchange rates in logs)

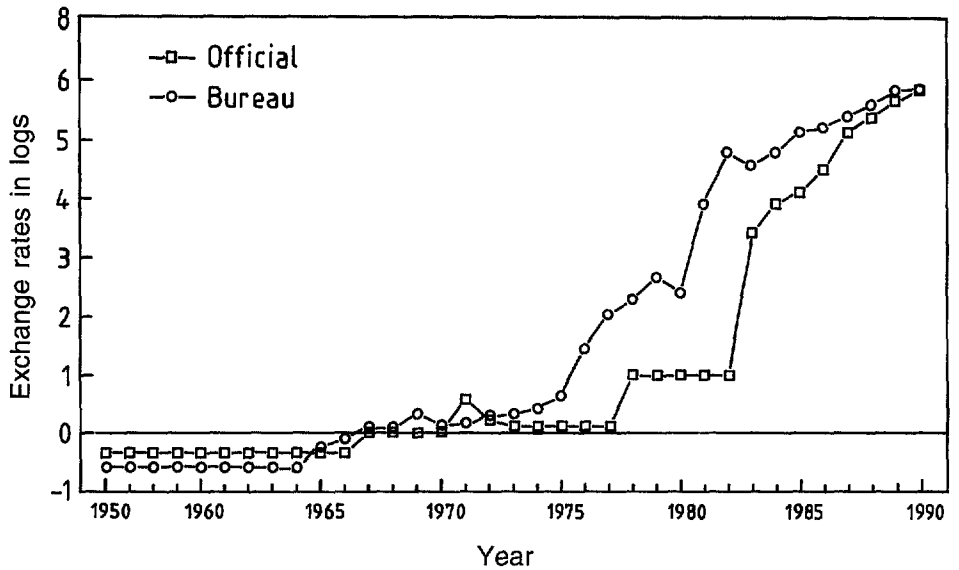
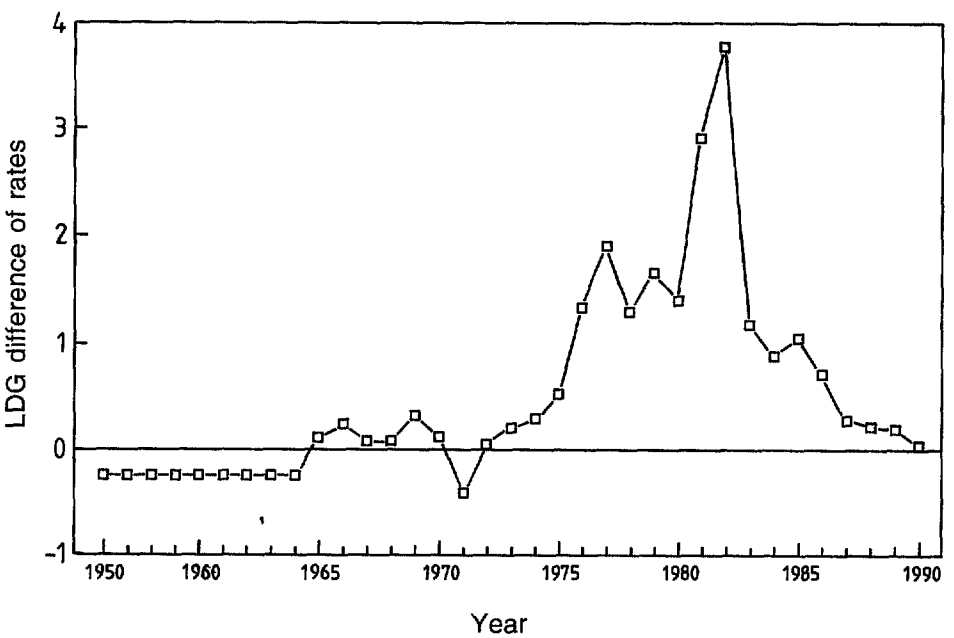


Figure 2: Foreign exchange rate: Divergence (log difference of rates)



Additionally, bank borrowing (or deposit) rates were ridiculously low while lending rates were exorbitantly high, reflecting a high interest rate risk in the money market. Thus, while effective deposit rates averaged less than 8%, the effective lending rate averaged more than 22% per annum with a spread of about 14%. Consequently, a drastic financial disintermediation occurred in the form of large cash holdings (despite the high risk). There was a strong preference for holding liquid assets abroad rather than transferring foreign exchange to Ghana.

The impact of this included a sharp reduction in production and exports of goods as the incentives had been removed. Imports of essential consumer goods and producer inputs fell sharply, resulting in low production in both industrial and agricultural sectors, which, in turn, exerted inflationary pressures. Furthermore, external financing sources dried up due to Ghana's inability to service its debt obligations. These became worse as a result of the unilateral declaration of moratorium/repudiation (Yentua) in 1972. Estimates show that external debt servicing arrears were over $600 million at the beginning of the economic recovery programme in 1983.

Inception of a multiple exchange rate regime: (April 1983 — January 1986)

Prior to 1983, the monetary and fiscal authorities could not implement large exchange rate adjustments as these could worsen political instability. But in April 1983, the government adopted many realistic exchange rate policy measures by devaluing the cedi in stages from C2.75/US$1.00 to C90.00/US$1.00 by the third quarter of 1986. The scheme of bonuses on exchange receipts and surcharges on exchange payments was a transitional measure. The exchange device comprised a multiple exchange rate system of two official rates of C23.38/US$1.00 and C30.00/US$1.00 that were applied to specified receipts and payments.

This scheme continued until 10 October 1983 when exchange rates were unified at C30.00/US$1.00. After this, a real exchange rate rule, in the framework of purchasing power parity, was adopted. This rule required a quarterly adjustment of the exchange rates in accordance with relative inflation rates in Ghana and its major trading partners for the period 1983-84. The quarterly adjustment mechanism was replaced in December 1984 by more episodic exchange rate devaluations because the real exchange rate was still considered over-valued. The last discrete exchange rate adjustment, before the establishment of an auction system, brought the exchange rate to C90.00/US$1.00 at the end of September 1986.

During the same period, the black market premium remained high (about 180%), indicating the rationing of foreign exchange from official sources for the import of goods. Imports remained controlled within the framework of an annual import programme. There was a scheme for producers to use special unnumbered licenses (SULs), which were mainly a channel for remittances from Ghanaians abroad. The SULs were used to finance

imports of goods, which were then sold at a profit on the domestic market. Also, before October 1986, the import licensing system involved two different import licenses, namely, the specific import license (SPIL) and the special import license (SIL). While the specific license allowed the use of foreign exchange from the banking system, the SIL required importers to use their own foreign exchange resources. In 1985 there was a further liberalization by increasing the number of goods that could be freely imported under SIL, resulting in a shorter negative list. In this new arrangement, quantitative restrictions on importation of goods were removed and only subjected to the importers' access to foreign exchange from official sources.

Despite the policy charges, the cedi remained over-valued, as reflected by the divergence between the parallel and official exchange rates, and the deterioration in the balance of payments position. In order to accelerate the adjustment of the exchange rate and attain the objective of trade liberalization, the auction market was introduced on 16 September 1986.

The dual retail auction and the Dutch auction systems

Dual exchange rate system in a retail auction market (September 1986-February 1987)

Between October 1983 and 16 September 1986, all foreign exchange transactions operated under only one window, Window 1. Before the abolition of Window 1 in February 1987, the government shifted to a floating mechanism, which was considered the best way of depoliticizing the issue of exchange rate adjustment. Besides, by resorting to a floating scheme the authorities were continually able to determine the exchange rate in line with the fundamental forces of demand and supply rather than having to resort to discrete devaluations as under the previous pegged regime. Added benefits of the new arrangement were the minimizing of capital flight and the prevention of collusion among commercial banks.

Under the new arrangement, there was a dual exchange rate system comprising two windows. The Window 1 exchange rate was fixed at C90.00/US$1.00, while the Window 2 exchange rate was determined by demand and supply in new weekly auctions conducted by BOG. Window 1 was used for such transactions as debt service payments on official debt contracted before 1 January 1986, imports of crude oil, processed petroleum products, essential drugs and inputs for Ghana Italian Petroleum (GHAIP). Corresponding to the duality of the exchange rates, the surrender of exchange earnings to BOG was effected at two different rates. Earnings from exports of cocoa and residual oil products were to be surrendered at the Window 1 exchange rate. All other transactions (about 66% of external payments and receipts) were conducted through Window 2.

Retail nature of the auction

The new dual exchange rate system empowered BOG to auction foreign exchange on a weekly basis to final users only; this underlines the retail nature of the auction system. Authorized dealer banks had a very limited intermediary role to play in the new system. Their main functions were to centralize the bids for auction funds from their clients and then channel these bids to BOG.

Import license under the dual exchange rate system

With the establishment of the dual exchange rate system, a new import licensing arrangement was introduced from 6 October 1986. There were three types of license, namely, "A", "S" and "G". The "A" license permitted the holder to bid for foreign exchange through the auction system and was initially issued for drugs and producer inputs such as raw materials, semi-finished products, spare or repair parts, and machinery. Holders of an "S" license could use their own foreign exchange resources to import goods with the provision that such imports were undertaken under the existing special import license regulations. The "G" licenses were allocated to government organizations for the importation of essential commodities. The foreign exchange for "G" license holders was directly allocated outside the auction system.

The main characteristic of the new licensing system was the inclusion of all non-consumer goods under "A" licenses, giving access to foreign exchange from the auction. In the previous arrangement, eligibility for the auction had been limited to very few goods and only importers who had acquired a specific import license. Additionally, there were no restrictions on the number of "A" licenses. This led to the elimination of monopoly rents that could be reaped in the previous scheme because of limitations imposed on the number of specific import licenses.

Holders of a valid import license, and persons or institutions who received the approval of the exchange control authorities to undertake service payments or make an outward transfer, were eligible to bid in the auction market. But other traders were to import goods using their own foreign exchange as long as such imports were allowed under the existing specific import license regulations.

Supply and retention of foreign exchange

During the period under consideration, partial surrender requirements continued to be enforced. Exporters were generally allowed to retain up to 35% of their export proceeds in accounts abroad for financing essential imports. The retention ratio was 45% for Ashanti Gold Mining Company, 20% for log exporters and 5% for the Cocoa Board. The retention did not apply to exports of residual oil and electricity, and receipts from electricity exports were not surrendered to BOG but kept in the Volta River Authority's accounts abroad.

Apart from these, all foreign exchange earnings were to be repatriated and sold to the

BOG (directly or through commercial banks). After foreign exchange allocation to the government and certain other public institutions, BOG decided the amount of foreign exchange to auction. The extra-auction exchange transactions were effected through the marginal rate of Window 2.

The primary objective of the auction is to narrow the spread between the parallel and official exchange rates. The official or marginal rate depreciated from C128.00/US$1.00 at the first auction on 19 September 1986 to C152.00/US$1.00 at the fourteenth auction on 19 December 1986. In the event, the spread/premium of the parallel exchange rate over the marginal rate declined from 41% at the first auction to 20% at the fourteenth.

The switch from marginal pricing to the Dutch auction system

The first auction was based on marginal pricing auction system (MPAS) in the determination of the exchange rate, in which case all the successful bidders pay the marginal price. Dutch auction system (DAS) was adopted from the second auction. Under DAS successful bidders paid the bid price.

Bidders submitted their bids to BOG in sealed envelopes by the end of Thursday each week. Auctions were conducted every Friday. Bidders used a standard bid form and enclosed specified supporting documents, such as import license, letters of credit, pro forma invoice, etc. Bids could be for US dollars, British pounds, German marks, French francs or Japanese yen. Bidders were required to state the currency, the amount being bid for, and the bid price they were willing to pay. There was no restriction on the bid price.

The adoption of DAS led to a multiple currency practice, but the auction was conducted in US dollars. Consequently, the dollar equivalent of bids in currencies other than the dollar was determined using the most recent cross rates between the dollar and other currencies in the international currency markets. Bidders were obliged to submit an authorization from their commercial bank that allowed BOG to debit the bank's account with 100% of the cedi equivalent of a successful bid. Additionally, the bid had to be above $500.

The clearing of the auction was supervised by a foreign exchange auction committee that included representatives from BOG and several ministries. The bids were verified against the eligibility criteria mentioned above.

After that, the committee determined the marginal exchange rate as the rate where the foreign exchange supplied by BOG was exhausted by the demand. The demand at the most depreciated exchange rates was satisfied first. There were cases where the total demand at the marginal rate exceeded the supply at that rate. In that case, the bidders whose bid prices were equal to the marginal rate received a pro-rated amount of the foreign exchange.

The marginal exchange rate declared on the auction day (until a new rate was announced) applied to all extra-auction transactions such as all foreign exchange bought by BOG, foreign exchange outside the auction and foreign exchange sold to the commercial banks to replenish their working balances.

Apart from the switch from MPAS to DAS, there were several modifications of the Ghanaian auction market even though its retail nature remained intact. The two windows

that coexisted from September 1986 were unified on 19 February 1987.[8] Thus, from the 21st auction week to the 176th auction week (27 April 1990) all transactions through the banking system were settled according to the marginal rate determined in the weekly retail auction.

Following the abolition of Window 1, BOG widened access to the auction market in order to expand the coverage of the exchange arrangement. This arrangement more closely represented market conditions during the period 1987-1989. As of 20 March 1987, several categories of imports subject to the SIL scheme (which was more than a third of the value of all goods previously excluded from the "A" licensing scheme) were now included in the "A" list of goods eligible for foreign exchange from the auction. From 14 September 1987, additional SIL goods-about one half of the value of all SIL goods-were moved onto the "A" list. On 5 February 1988, all remaining goods under the SIL scheme were moved onto the "A" list, with the exception of beer and stout, cigarettes, cement pipes, asbestos and fibre roofing sheets, and those goods prohibited for non-trade reasons.

The removal of all foreign exchange restrictions on the demand side meant that existing administrative arrangements for import licensing became redundant. Therefore, the import licensing system together with the Import Programming and Monitoring Committee (IPMC) (comprising the Secretaries of Finance and Economic Planning, Industries, Agriculture, Trade, and Health, and the Governor of the Bank of Ghana) were abolished on 14 January 1989. After this, importers were requested simply to file an import declaration form at their commercial banks.

Demand for the dollar on the auction, emanating from payments for invisibles, also underwent changes in the 1987-1989 period. From 13 March 1987, services and transfer payments approved by the exchange control authorities became eligible for funding on the auction. Also, from 29 February 1988, all bona fide requests for business travel (up to a maximum of $3,000 per trip) became eligible for funding through the auction, as did transfers of profits and dividends from 1 February 1989. But transfer of profits by companies that had been financed with locally raised capital was not permitted.

Supplies of the dollar on the auction through export proceeds and the retention scheme were also modified. The aim was to increase the supply of foreign exchange to the auction and to reduce the amount of foreign exchange held in retention accounts. First, the Cocoa Board's foreign exchange retention ratio was reduced from 5% to 2% on 20 March 1987. Second, from 28 April 1989, foreign exchange retention entitlements were to be credited to the exporters' foreign exchange accounts with banks located in Ghana within 60 days of shipment. Third, cocoa exports under bilateral payment agreements that did not yield convertible foreign exchange receipts were gradually reduced to 10,000 tons (less than 5% of Ghana's total cocoa exports).

Objectives of the modifications in the auction market

There were four major objectives behind the introduction of the new auction system and modifications implemented between 1987 and 1989, namely, to achieve an increased supply of foreign exchange to match increased demand, to reduce the erratic behaviour

of the exchange rate, to decrease the spread between the highest and lowest bid (or marginal exchange rates), and finally, to narrow the divergence between the auction and the parallel rates.

The Bank of Ghana was able to increase the supply to match the upsurge in demand for foreign exchange due to the further liberalization of international trade and finance. At the first auction, the total supply was $2.5 million. The average weekly supply was $2.952 million in 1986 (after September) *vis-à-vis* a mean weekly demand of $4.804 million; the excess demand was $2.196 million over and above the supply of foreign exchange on the auction market. As can be seen from Table 2, the mean weekly supply increased steadily to $7.743 million in 1990 *vis-à-vis* a demand of $9.010 million. It is important to note that excess demand (supply minus demand), in absolute terms, decreased slowly but steadily from $2.196 million in 1986 to $0.267 million in 1990.

Table 2: Weekly mean supply and demand for foreign exchange at auction market, 1986-1990 ($'million)

	1986	1987	1988	1989	1990
Supply	2.608	4.584	5.127	6.951	7.743
Demand	4.804	5.884	6.240	7.960	8.010
Excess demand[a]	-2.196	-1.300	-1.113	-1.009	-0.267

[a] (-) means that demand exceeded supply of foreign exchange; excess demand = supply minus demand.

In addition, the mean weekly variation in the marginal rate declined. In terms of weekly percentage changes, the marginal rate variability, estimated to be 2.01% in 1986, fell gradually to a little less than 0.23% in 1990. In the second week of auction, the change was 6.25%, but from then on it declined steadily. The next highest weekly percentage change was 3.90% in 1987 in the nineteenth auction week. This figure went down to less than 2.00% but then, in the eighty-ninth week in 1988, an extremely high weekly change of 4.98% was recorded. Since then, however, the weekly variation has averaged less than 1.50%. The mean weekly spread between the highest and the lowest bid rates in the auction market also declined from C24.07 in 1986 to C6.58 in 1987. Thereafter, it increased to C7.35 in 1988 and C9.55 in 1989, and fell to C2.72 in 1990.

The picture is not significantly different when we consider the spread between the mean buying and selling parallel/black market rates. As shown in Table 3, the spread was C20.66 in 1986; it increased to C32.16 in 1987, and went up again by 12.4% to C36.25 in 1988. It started to decline in 1989, falling to C28.20, and again to C13.39 in 1990. The widening of the spread from 1986 to 1988 implies an increase in foreign exchange risk on the market and points to improper functioning of the auction during the period.

A similar trend can be seen in to the degree of divergence between the bureaus' buying rate and the marginal rate as a percentage of the latter. In 1986, the divergence was 24.25%; it increased to 32.13% in 1987, reflecting erratic behaviour in the auction market.

After 1988, however, the divergence went down to 3.32% which represented a near unification of the two rates. It is important to note that the above "near-merger" position of the official and the parallel exchange rates was attained after 210 auctions spanning 3.25 years of auctioning and 7 years of exchange rate and trade stabilization. This period seems rather long. Indeed, it is a "gradualist" approach to realignment of the exchange rate market. In the author's view, the fact that it took a very long time for the parallel and official markets to converge, and the behaviour of the market exchange rates to become erratic, may be ascribed to the design and/or operation of the market system.

Table 3: Weekly mean spread between highest and lowest bid, buying and selling rates, and degree of divergence between marginal and parallel bureau rates, 1986-1990

	1986	1987	1988	1989	1990
Highest auction bid rate (HR)	158.40	171.37	218.40	285.88	333.32
Lowest auction bid rate (LR)	134.40	164.79	211.05	276.34	330.60
Spread (HR-LR)	24.00	6.58	7.35	9.55	2.72
Marginal rate (MR)	146.00	166.50	212.10	277.34	331.15
Bureau buying rate (BR)	181.70	219.99	263.63	335.92	342.14
Bureau selling rate (SR)	202.36	252.15	299.78	364.12	355.53
Spread (SR-BR)	20.66	32.15	36.15	28.20	13.39
Divergence (%)	24.25	32.13	24.30	21.12	3.32

Source: Bank of Ghana and Ministry of Finance

As outlined above, the auction market in Ghana has performed erratically given the supportive institutional arrangements and foreign exchange assistance from which it has benefitted. It has also taken a long time for the objectives to be realized. Despite this, many positive developments took place, albeit rather late. For example, the premium that the parallel rate had over the official exchange rate fell (as evidenced by the degree of divergence between the official and the parallel exchange rateS) from 24.25% in 1986 to 3.32% in 1990 (having risen to 32.13% in 1987, and then fallen to 24.3% in 1988 and 21.12% in 1989).

The key objectives in the attempt to liberalize and stabilize the exchange rate and trade regime of Ghana were finally accomplished by the legalization of the parallel market.

The foreign exchange bureaus

Establishment of foreign exchange bureaus

In order to absorb the parallel/black market into the legal foreign exchange system in Ghana, foreign exchange bureaus were allowed to operate as from 1 February 1988.

The co-existence of a parallel market, especially when there is a substantial divergence between the parallel and official exchange rate, indicates a basic disequilibrium in the

Figure 3: Foreign exchange graph

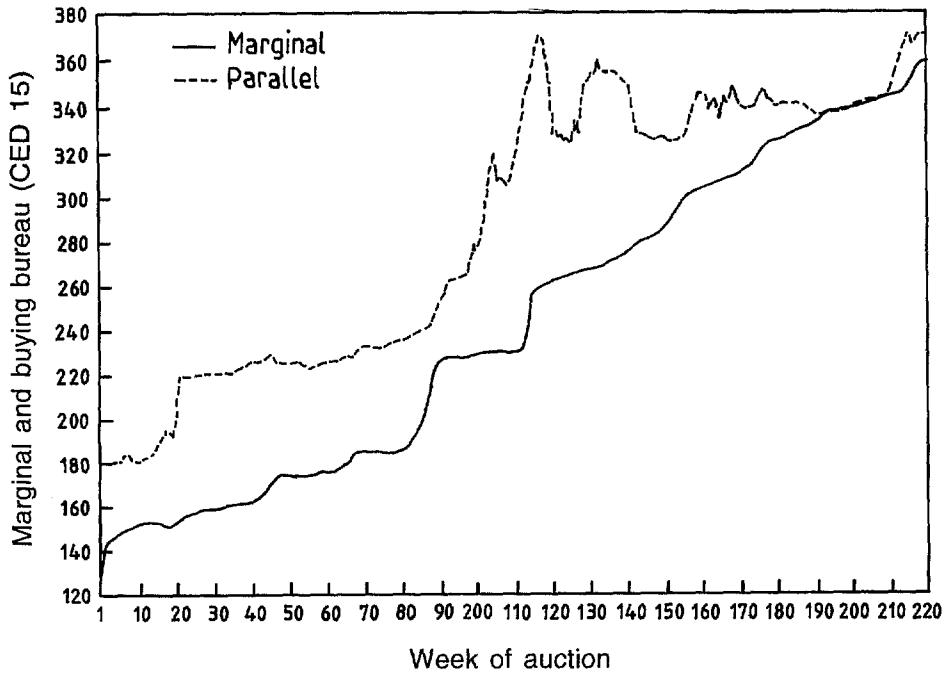
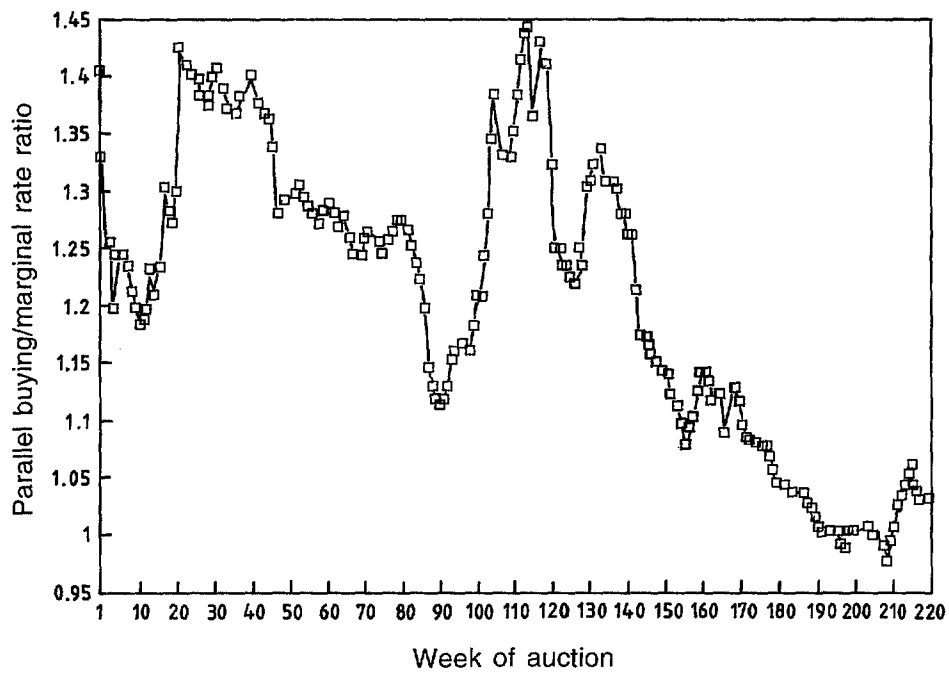


Figure 4: Parallel buying/marginal rate



foreign exchange market and trade regime. In the view of Quirk *et al.* (1987), a Dutch auction type of arrangement inhibits entry to the auction market by participants who fear having to pay a price significantly higher than the clearing price for exchange if their bid is successful, leading to the continued existence of a black market and collusion before auctions. But it is essential to note that in addition to the inhibition imposed on bidders in the Dutch action system, the rejection of bids from participants and, more importantly, an excessively over-valued exchange rate in the official market have the effect of encouraging the co-existence of a black market.

Thus, despite the modifications in, and institutional arrangements for, the implementation of the foreign exchange auction, divergence between the marginal rates and parallel rates widened from 24.25% in 1986 to 32.12% in 1987. This compelled the authorities to legalize the parallel market by the introduction of foreign exchange bureaus. The first foreign exchange bureau became operative on 8 April 1988; by the end of June 1988 119 bureaus had come into full operation, and by early 1990 over 180 bureaus were fully licensed. The foreign exchange bureaus were owned and operated as separate entities by individuals, groups of individuals, banks or institutions, provided they had been licensed.

Rules and regulations

Commercial bank bureaus were to function independently of, and separate from, normal banking operations. Other rules and regulations authorized the bureaus to buy and sell foreign exchange at freely negotiated rates and to be free to quote buying (or bid) and selling (or offer) prices, and specified that neither the bureaus nor their customers/sellers were under any obligation to indicate or identify the sources of their foreign exchange. The bureaus were (until the establishment of wholesale and inter-bank auctions in April 1990) required to report their monthly transactions in terms of volume of purchases and sales by type of currency to BOG.

Bureaus could purchase traveller's cheques only in US dollars and British pounds, and were to purchase and sell currency notes only in Canadian dollars, Deutsche marks, French and CFA francs, and US dollars. However, in practice, traveller's cheques in other foreign currencies and other currency notes were, and still are, transacted in the bureaus market. Also, all legal imports and services were, and still are, allowed to be funded through the bureaus.

Supply of and demand for foreign exchange in the bureau market

The main sources of supply of foreign exchange are exporters' retention accounts, receipts from unofficial (particularly non-traditional) exports, private remittances, and the general public. The key demand sources include all those engaged in legal import and service payments, and capital transactions. The latter are illegal in some cases because "all outgoing capital movements must be approved by BOG; applications for such transfers must be supported by documentary evidence and are considered on their merits".

Remittances by non-Ghanaian employees and self-employed persons were, and still are, allowed through the bureaus but were usually limited to 40% of new annual earnings, up to a maximum of $2,600 per annum, plus leave allowance.

Developments in the foreign exchange bureau market

With the establishment of the bureaus, Ghana's exchange arrangements were characterized by the co-existence of two spot foreign exchange markets where spot rates were quoted. The auction and the bureau markets were effectively segmented between 8 April 1988 and 29 December 1989. Foreign exchange bureaus were not allowed to bid for foreign exchange in the weekly retail auction. The absence of seepage between the two markets (in view of the existing regulatory framework at the time) resulted in imbalances between the supply of and the demand for foreign exchange. This partially explained the divergence between the exchange rates in the bureau and the auction markets, as outlined above.

The exchange rate differential between the two markets, which was 24.25% in 1986, widened sharply to 32.13% in 1987 and continued to be fairly high in the first half of 1989. This was, among other factors, due to the termination of contraband activities involving the sale of cocoa by Ghanaian farmers and traders to neighbouring countries (first, because of difficulties experienced by those countries in marketing their cocoa and, second, because of the increase in the producer price of cocoa being offered to the farmer in Ghana). An end to these illegal cross-border activities reduced the supply of foreign exchange to the bureaus.

Despite the fairly wide premium that existed between the auction and the bureau exchange rates, the latter got closer to the parallel rate. The results of the surveys conducted for this study reveal that the gap, which was C10.00 in 1988 after the legalization of the bureaus, narrowed to C2.00 in 1990, indicating a virtual absorption of the parallel sub-market by the bureau market. The latter "Cow Lane" may be thought of as the Wall Street of Ghana.

Following the legalization of the bureaus in Ghana, the volume of transactions through the forex bureau market showed tremendous progress. The monthly transactions were about $0.534 million in purchases and $0.660 million in sales in April 1988. The purchases and sales rose quickly and steadily to $7.8 million and $8.5 million, respectively in August 1988. As can be seen from Table 4, the volume of monthly transactions remained fairly stable at about $10 million after the first quarter of 1989.

Merger of the auction and bureau markets

The key objectives behind the institutionalization of the bureaus were to eliminate the parallel market, to capture the main market forces directly behind the determination of the cedi-dollar rate and to absorb the bureau/parallel market into a single foreign exchange market. The principal consideration and the historical rationale behind these objectives can be discerned in the government's intention to minimize and eventually eliminate the use of any administrative mechanism in the allocation of foreign exchange, and then

replace it with the forces of demand and supply to bring foreign exchange outside the banking system into the legal auction/bureau market, and finally to attain full trade liberalization.

The attainment of these objectives required the exchange rates to be equal in the two markets. In particular, the marginal rate in the auction market must equal the buying bureau rates. As can be seen in Figure 3, there have been two big steps/jumps in the marginal rate, first from C211.00 to C215.00 (an increase of 4.98% on the 90th over the 89th auction) and, second, from C242.00 to C258.00 (an increase of 6.61% on the 117th over the 116th auction). Before and after these jumps the marginal rate levelled off, even though there were (a) periods of larger divergences between the marginal rates and the bureau buying rates, and (b) excess demand in the auction market. These developments seem to suggest that either the auction has been a managed float or the auction design has not been effective in capturing the forces of demand and supply of foreign exchange, or both.

The degree of divergence by the 160th auction week on 22 December 1989 was 12.6%. The continued existence of the spread or premium led to the introduction of the wholesale auction system. The wholesale auction, which replaced the retail system, became operative with effect from 23 March 1990. Under the wholesale auction, a composite exchange rate system was operated, namely, an interbank and a wholesale system.

Table 4: Monthly mean foreign exchange bureau transactions, 1986—1990 (US$ million per month)

	April 1988	August 1988	Q3 1988	Oct. 1988	Q4 1988
Purchases	0.534	7.800	7.350	6.900	7.632
Sales	0.606	8.500	7.550	6.600	7.531
Difference	-0.126	-0.700	-0.200	0.300	0.101
No. of bureaus in operation	10	70	NA	NA	119
	Q1 1989	**Q2 1989**	**Q3 1989**	**Q4 1989**	**Q1 1990**
Purchases	10.812	10.632	9.901	10.001	13.210
Sales	9.735	9.644	9.795	10.000	13.402
Difference	1.077	0.988	0.106	0.001	-0.192
No. of bureaus in operation	140	180	NA	NA	NA

Source: World Bank (1989) and Bank of Ghana.

In December 1989, guidelines were provided to enable the participation of dealer banks and eligible foreign exchange bureaus who would purchase foreign exchange from BOG to meet their own import requirements and on behalf of their end-user customers. The eligibility criteria for the bureaus were that the bureau must have been in operation for at least a year, must have had a monthly turnover averaging $250,000 or more during the previous six months and must have arranged to use the facilities of authorized dealer

banks for disbursement of auction funds.

The customers (or end-users) were to submit applications for foreign exchange to authorized dealer banks and eligible bureaus indicating the bid rate, the amount and the currency required. The consolidated exchange requirement at each bid rate computed by each bureau was submitted to the auction through authorized dealer banks. The dealer banks then submitted the aggregated bids of their end-user customers to BOG together with their own bids and those received through eligible foreign exchange bureaus. The eligibility of bids was no longer decided by BOG but by the 11 participating commercial banks, as well as eligible foreign exchange bureaus.

The Dutch auction system was retained. Thus, the successful bidders were required to pay for their foreign exchange allocation at their respective bid rates plus a margin determined by each authorized foreign exchange bureau and the dealer bank.

The immediate effects of the institutional modifications were an increase in the number of bidders/participants in the auction, a narrowing of the spread between auction and bureau rates, and an increase in the number of authorized dealers, thereby laying a solid foundation for the merger of the bureaus and the official foreign exchange markets.

Developments between end December 1989 and end April 1990

The expansion of the transactions in the auction market reduced the excess demand that previously had not been satisfied on the official auction market and which usually spilled over to the foreign exchange bureaus.

Also, the operations of the bureaus were broadened; consequently, as participants gained more confidence in the market, speculative pressures subsided leading to a further narrowing of the degree of divergence between the auction and the bureau exchange rates. The degree of divergence between the marginal and the bureau buying rates narrowed steadily from 12.6% at the end of December 1989 to 7.6% at the end of April 1990 (as can be seen from Figures 3 and 4).

The exchange rates quoted in the bureau market exhibited erratic behaviour initially and later remained fairly stable, while the spread between the buying and selling rates narrowed. For the same period, the spread between the selling and buying bureau rates, which averaged C31.26 per week, narrowed to C16.50 by the end of April 1990.

Wholesale and interbank systems - 7 April 1990 and beyond

With effect from 23 March 1990, the wholesale auction became operative. From 27 April 1990, the authorized dealer banks and the eligible foreign exchange bureaus were allowed to purchase foreign exchange from BOG for sale to their end-user customers and to meet their own foreign exchange needs. Prior to the April 1990 arrangement, the authorized dealers were not allowed to be on their own account and, with the exception of the bids covering their own import needs, dealers' bids were to be entirely backed by

firm bids by end-users of foreign exchange. In effect, the dealer banks and bureaus were not allowed to bid for themselves for the purposes of reselling; with the change they could do so.

The authorized dealers, therefore, were thus allowed to determine freely the structure of their own bids at the wholesale auction. They could sell the foreign exchange obtained in the auction to their customers plus a margin determined by each authorized dealer. The wholesale auction continued to be based on Dutch auction system.

Inter-bank auction system

Under the inter-bank market, authorized dealers may trade in foreign exchange among themselves or with their end-user customers. The main provisions are that the foreign exchange traded in the inter-bank auction should not be subject to surrender requirements and that BOG may also participate as a buyer or seller in the inter-bank market. Moreover, authorized dealer banks' working balances should not exceed a given maximum, and balances in excess of that after 14 days may be kept with BOG. Banks are to provide weekly reports on their gross holding, showing their own balances and the total balances in customers' accounts.

In order to increase the supply of foreign exchange to the inter-bank market, the surrender requirements have remained almost the same as under the retail auction and the wholesale auction systems. Under the new requirements, however, all proceeds from exports of non-traditional products must be lodged in a commercial bank in Ghana upon receipt. Other export earnings, apart from those from electricity, are to be surrendered to BOG.

On the demand side, the remaining restrictions on payment for current international transactions involving invisible payments were lifted. This was a step toward full liberalization of the exchange system; it marked significant progress toward the attainment of convertibility of the cedi.

Effects of the wholesale and inter-bank auction systems

Between 27 April 1990 and 8 June 1990 the authorized dealer banks were very cautious in bidding at the wholesale auctions on their own account. Therefore, transactions in the inter-bank arrangement were limited. But as from 8 June 1990, business on the inter-bank market became brisk as the dealer banks tried to buy foreign exchange over and above the actual bid requirements of their end-user customers and to then sell the excess to the public at small margins. Since 8 June 1990 (which was the twelfth wholesale auction) the number of authorized participating financial institutions has remained at 11 commercial banks.

The major impact of the wholesale auction and the inter-bank arrangements relates to the narrowing of excess demand on the auction market, reduction in the difference between the highest and lowest bid rates in the auction market, and the convergence of the marginal

auction and the bureau exchange rates. The weekly mean excess demand in the auction market, which was, in absolute terms, $0.349 million for the second quarter in 1990, fell to a weekly mean of $0.166 million in the last quarter of 1990. A worrying development, however, was the widening of the excess demand gap in the first quarter of 1991 to an average weekly mean of $0.191 million.

The difference between the highest bid rates in the auction market also fell from a weekly mean of C3.63 in the second quarter to C2.20 in the last quarter of 1990 and continued to be fairly low (C2.60) in the first quarter of 1991.

The degree of divergence, which was 7.6% at the end of April 1990, was completely eliminated in the last quarter of 1990. The most disturbing development, however, was that the convergence attained in the auction and bureau markets after 9 November 1990 started to widen again in the first quarter of 1991. However, by the first quarter of 1992, convergence between the bureau and the marginal rates was achieved. The sustainability of the unification depends to a very large extent on whether Ghana will continue a prudent fiscal policy and avoid the current appreciation in the real exchange rate with its attendant detrimental effect on the supply response.

IV. Country case 2: Nigeria

The late 1970s and early 1980s was a period of chronic macroeconomic decline for Nigeria. For instance, the rate of growth of the economy dropped from 6.5% in 1965-1973 to 2.9% in 1974-1980 and further to -1.2% in 1981-1985.[4] In contrast, the debt service ratio rose from 6.1% in 1973 to 33.3% in 1985.[5] These economic problems gave rise to the structural adjustment programme (SAP) in 1986, of which the second tier foreign exchange market (SFEM) was a key element. The decision to introduce the SFEM, with the auction system as the mechanism for determining the exchange rate and the allocation of foreign exchange, was taken as part of the policy changes needed to correct the distortions in all major sectors of the economy, reduce imports, stimulate exports, especially of non-oil goods, and pave the way for economic growth (Central Bank of Nigeria [CBN], 1986).

Two issues are at the heart of exchange rate policies in Nigeria. The first is the choice between fixed and flexible exchange rate regimes. The second is the possibility of and sustainability of exchange rate convergence. The first highlights the question of general efficiency in the economy and welfare benefits of each exchange rate regime given the operational efficiency of the institution of government and the market system in Nigeria. The second issue, on the other hand, brings to focus the ability of the post 1986 Nigerian foreign exchange market to attain a level of competitiveness required for the realization of the theoretical advantages ascribed to market-determined exchange rate regimes. Internal macroeconomic policies and external developments have strong influence on the success of each of the two regimes, and also on the possibility of exchange rate convergence of the Nigerian currency, the naira. This is so because any exchange rate policy is an element in the set of macroeconomic policies, therefore it is closely associated with other elements of the set, i.e., fiscal, monetary, income and trade policies. The realization of the objectives of exchange rate policy invariably requires a consistent macroeconomic policy.

Foreign exchange policy in Nigeria, 1959-1986

The first phase of the Nigerian exchange rate policy began in 1959 with the establishment of the Central Bank of Nigeria (CBN). The CBN was specifically set up to manage the country's currency with the objective of attaining a sound and stable national currency. The pegged exchange rate system was the first exchange rate regime adopted in Nigeria. The Nigerian pound was fixed by the 1958 Central Bank Ordinance at par with the

pound sterling (Obaseki, 1991) and the CBN was responsible for buying and selling foreign currency in Nigeria. In 1962, the exchange control act was enacted by the CBN; it vested the Minister of Finance with the authority to grant approvals for foreign exchange transactions, while the CBN handled private sector transactions through authorized dealers, i.e., commercial banks.

There was a major change (the first) in 1962 that unpegged the Nigerian pound from the pound sterling. The change, through the 1962 Act, defined the Nigerian pound in terms of gold, which meant that Nigeria could at any time decide on whatever adjustments needed to be made in the official rate between her currency and other currencies including the pound sterling. This, of course, was supposed to send strong signals to the international community that Nigeria, as an independent nation, was free to make decisions on her own. The wisdom of the action was later justified when in 1967 the pound sterling was devalued without any effects on the Nigerian pound.

The second major change occurred in 1973 when the Nigerian currency was decimalized and changed from the pound to the naira. This time, seemingly forgetting the wisdom of autonomy, it was fixed to the US dollar. When the dollar was devalued in 1973, the value of the naira depreciated. The depreciation persisted due to the persistence in the depreciation of the dollar. Consequently, at the end of 1973, the Nigerian government decided to discontinue any direct relationship between the naira and either the pound sterling or the US dollar.

This led in 1974/75 to the policy of progressive appreciation of the naira. This policy was greatly enhanced by the oil boom. The naira was pegged to a basket of the currencies of seven of Nigeria's major trading partners - United Kingdom, United States, Germany, France, Japan, Switzerland and The Netherlands. Exchange rate stability was the main objective of the reform. It was believed the naira would thereafter be stable since a loss in value due to the devaluation of one currency in the basket would be compensated by the appreciation of another currency in the basket. The arrangement was therefore a mechanism for dampening the effects of external exchange rate changes on domestic prices and the balance of payments.

It is important to know that from about 1973 to late 1977, Nigeria accumulated sizable foreign reserves arising from the oil boom, which made it possible for the fixed exchange rate policy to be managed through reserve movements. Official reserve depletion helped to meet private excess demand; however, there was a reluctance to devalue when the reserve later became too low to support the fixed exchange rate. To curb the situation, foreign exchange from the central bank was strictly rationed and controlled through an import licensing system. The problem was that when the level of reserves increased, the naira appreciated, but it was never allowed to depreciate when the reserve level fell. This gave an impression that a continuous drain on the official reserves could sustain the fixed exchange rate regime. Subsequently, strict exchange control measures were adopted. These included: reduction of consultancy and technical fees remittable to foreign consulting companies from 60% to 50%; reduction of business trips from 15 to 14 days maximum per trip; reduction of basic travel allowances to pilgrims and other travellers; and so on.

These were supplemented by the establishment of the exchange control (anti-sabotage)

decree of 1977, which set up tribunals to try forex offenders, and the comprehensive import supervision scheme (CISS) in 1979 to ensure a pre-shipment check of prices, volume and quality of imported goods worth over US$33,000. The scheme was also expected to check other forex malpractices, such as over and under-invoicing of imports, importation of obsolete plant and machinery at the prices of new ones, importation of out-dated and rotten food items and expired drugs, falsification of documents, forex claims for goods not imported or services not rendered, and overpricing of federal government projects with a view to keeping the gains abroad in forex.

From 1980 to 1981, the degree of exchange control was reduced, largely due to improvement in the balance of payments brought about by positive developments in the international oil market. This policy reversal was also due to the difficulty associated with tight exchange control regulations. The relatively more liberal system of exchange controls in the early 1980s was mainly aimed at curbing rampant abuse and malpractices in forex transactions, such as over-invoicing of import bills, smuggling of currencies and goods across the borders, and false documentation of import bills.

The period between 1982 and 1986 marked the last phase of the policy of exchange controls in Nigeria between 1959 and 1993. The stringent exchange control measures as in earlier periods was preceded by severe balance of payments pressures. Forex receipts on both oil and non-oil exports were consistently less than the disbursements for imports. For example, between 1981 and 1984, the total exports receipts were less than the total imports (see Table 5). This led to a slide in external reserves and subsequently to the accumulation of external debts due to the inevitable reliance on short-term external loans in financing trade deficits.

An economic stabilization act was passed in 1982 with the aim of correcting the balance of payments problems and the distortions in the domestic production and consumption pattern. The act provided for, among others, reduction of business travel allowance from N3,000 to N2,500 per annum for registered companies; re-imposition of pre-shipment inspection for raw materials, spare parts, books and fish; and reduction in repatriatable consultancy fees from 30% to 20%. Despite the exchange control measures of the 1982 act, evidence indicates that the Nigerian external sector continued to experience problems, primarily due to developments in the international oil market that caused the price of oil to fall and forex earnings to decline. Statistics show (see Table 5) that despite the 1982 act, total export earnings dropped from US$14,951.2 million in 1982 to US$11,679.2 million in 1983. While the total imports for 1982 were US$17,095.6 million, in 1983 they were US$12,095.6 million, a reduction caused by the stringent controls on imports. Despite the reduction in imports the debt service ratio for 1983 was 17.5% as compared with 8.9% in 1982.

Table 5: Selected macroeconomic indicators for Nigeria: 1970-1990 (US$ million)

Year	Oil exports	Total exports	Total imports	External debt outstanding	Debt service ratio (%)	External reserves
1970	n.a	901.6	829.9	68.43	3.5	218.96
1971	n.a	1,495.3	1,315.6	308.88	2.3	405.22
1972	n.a	1,818.5	1,877.5	400.37	1.8	370.27
1973	2,605.6	3,399.89	2,755.9	420.89	1.3	574.56
1974	7,067.4	8,442.2	3,473.0	515.33	0.5	5,199.56
1975	7,719.7	8,917.3	8,959.5	568.38	0.7	5,490.63
1976	8,698.0	10,502.6	11,014.3	597.86	0.5	4,879.93
1977	9,975.9	12,003.8	12,807.5	768.51	0.3	3,895.42
1978	8,287.5	12,538.4	14,749.1	2,063.71	2.7	1,965.48
1979	14,503.5	17,351.0	14,280.4	2,673.64	1.7	5,048.64
1980	22,932.6	25,979.3	21,586.2	3,413.63	0.7	9,957.09
1981	17,471.5	21,449.2	26,443.8	3,854.41	5.0	4,009.16
1982	12,178.5	14,951.2	17,028.5	13,102.10	8.9	1,524.97
1983	10,192.5	11,679.2	12,095.6	14,620.49	17.5	1,002.37
1984	11,016.1	12,121.4	11,656.9	19,021.14	29.1	1,413.18
1985	11,367.2	12,310.2	11,731.7	19,375.85	33.2	1,839.02
1986	5,742.5	6,976.5	6,481.9	32,606.07	29.4	2,821.85
1987	4,659.2	5,510.3	5,312.8	25,388.93	11.9	1,169.75
1988	4,924.9	5,229.2	5,561.9	32,195.24	25.7	721.30
1989	5,912.3	6,984.7	5,837.0	32,645.45	23.1	1,827.47
1990	7,437.1	9,562.1	7,437.6	37,058.05	31.3	4,348.16

Source: CBN Annual Reports and Statement of Accounts (various issues)

In 1984, exchange control measures were even tighter, partly due to the growing external debt outstanding, which totalled US$19,021.14 million in 1984 up from US$14,620.49 million in 1983. Other restrictive measures were introduced in 1984 and 1985. These included regulatory measures such as the "Form M" registration, monitoring of import license use and matching the value of import licenses with the forex budget for imports. Others were the prescription of a "manageable" system of forex allocation on sectoral and monthly basis. The forex market was liberalized through the introduction of import licenses not valid for forex, by which imports financed through off-shore sources were allowed.

A strict exchange control was maintained throughout 1985 to mid 1986 with some modifications in 1986. New measures were put in place to tighten exchange controls. These included suspension of the BTA pegged at N2,500 per annum for registered companies in 1983; re-inforcement of the anti-sabotage decree introduced in 1977; an embargo on external borrowing, except for projects deemed crucial to the survival of the people; and a ban on importation of some commodities, such as rice and maize with effect from 1 October 1985.

Exchange rate and foreign exchange management in the pre-reform period were government-determined. The formula for determining the exchange rate and foreign exchange allocation was influenced by the internal and external state of the Nigerian

economy and the experience of policy makers. All the changes in policy are the consequence of these three factors. In the early period, the colonial experience was most influential. Colonial influence began to decline in 1962 when the exchange control act was enacted. From 1962 to 1986, the state of the external economy and the experience with previous policy influenced policy design and implementation. Thus, when the pound and the dollar declined persistently when the Nigerian currency was pegged to them, policy responded by unpegging; the experience with each peg led to new policies. This implies that policies were simply adaptive responses to external stimulus. Though attempts were made to foster internal policy autonomy, policy remained responsive to external economic influences.

It is important to note that policy should aim at exchange rate stability and domestic price stability. Any assessment of pre-reform policy must include an assessment of the extent to which these objectives were realized. In addition, any assessment must evaluate the other policies that were affected by exchange rate policy changes. These policies include trade and external debt as well as institutional changes such as the export promotion council, decreed into existence in 1976, and the dissolution of the marketing boards and their replacement with commodity boards in 1977.

Exchange rate policy and foreign exchange management in Nigeria, 1986-1993

A market-influenced exchange rate determination and foreign exchange allocation system replaced government control in July 1986 within a framework of a structural adjustment programme. Among other objectives, the SAP sought to: achieve balance of payments viability; lessen the dominance of unproductive investments in the public sector by rationalizing public properties through privatization and commercialization; reduce the level of unemployment; and bring the economy back on the path of steady and balanced growth (CBN, 1986).

The second-tier foreign exchange market (SFEM) introduced in September 1986 was the major institutional change of reform policy. Its key objectives were to enable the naira to find its true value; to achieve a more optimal allocation of foreign exchange; to gradually eliminate the parallel market; and to eliminate the vices associated with the import license regime (CBN, 1986). The SFEM was also expected to encourage increase in domestic output and export revenue, curtail imports, and reduce exchange rate volatility. In essence, the operation of the second-tier market was expected to make forex management less costly.

The thesis that pre-reform policy caused exchange rate over-valuation, which in turn led to distortions and hence internal and external disequilibrium in the Nigerian economy, anchored exchange policy reform. This was why the reform, which was in itself a reversal of pre-reform policies, was considered necessary to a reversal of the fortunes of the Nigerian economy.[6] It is important to note that the success of reform hinges on the effectiveness of the Nigerian market system. Therefore, the discussion of post 1986 exchange rate policy and exchange rate management in Nigeria should be conducted

within the context of the Nigerian forex market system.

Odubogun (1992, 1994) and Peterside (1993) suggest that a segmented foreign exchange market system evolved in Nigeria between 1986 and 1993. Odubogun (1992) isolated three distinct markets within which forex is exchanged, i.e., the official market, the forex bureaus and the parallel market. The official market at various times included the second-tier (SFEM), first-tier (FM), foreign exchange market (FEM), inter-bank foreign exchange market (IFEM) and export proceeds market (EPM). Odubogun (1992) indicates that the markets did not all co-exist simultaneously, but a combination of market types co-existed at one point or another as the market evolved. Table 6 shows the evolution of the market.

Table 6 shows that only the parallel market existed throughout the period. Recall that the elimination of this market, which predated reform, was a key objective of reform. The official market in 1986 consisted of the first-tier (FFEM) and the second-tier (SFEM) from September 1986 to November 1987, when both markets merged to form the foreign exchange market (FEM). The FEM co-existed with the parallel market and the autonomous market between December 1987 and December 1988. Subsequently, the FEM and the autonomous market merged to form the inter-bank foreign exchange market in August 1989. The IFEM co-existed with the forex bureaus which came into being in August 1989 and the parallel market, which preceded all the other market types. The export proceeds market (EPM) became prominent in the third phase of the evolution of the foreign exchange market. The export proceeds segment arose from the need to stimulate non-oil exports. It was an incentive to non-oil exporters in that it allowed them to exchange their foreign earnings at rates that were higher than the official rate.

It is possible to segment the Nigerian foreign exchange market into four: official, export proceeds, forex bureaus and parallel. This classification is applied in documenting the operations of the Nigerian forex market. The discussion focuses on key issues such as the objectives of the market, the operators within each market type, and the pricing policies that exist in each market at specific points and over time. By and large, the reference point would be the degree of competitiveness within the exchange process. In this context, regulations or interventions and the reasons informing them would be identified and evaluated.

Table 6: The evolution of the Nigerian foreign exchange market system, 1986-1993

Year	FFEM	SFEM	FEM	Autonomous market	IFEM	EPM	Forex bureaus	Parallel
1986	X	X						X
1987			X	X				X
1988			X	X				X
1889					X	X	X	X
1990-93					X	X	X	X

Source: Adapted from Table 4.1 in Odubogun (1992).

The official market and auction system

The second-tier market is the core of the official market. The evolution of the official market began with the simultaneous operation of the first-tier and the second-tier markets (SFEM), through convergence into the foreign exchange market (FEM) and thence to the integration of the autonomous market into FEM to form the inter-bank market (IFEM). It was necessary to operate the first-tier market when the second-tier market began operation because prior to reform, applications for forex were approved through the import license policy. Thus, the first-tier market made it possible for the Central Bank of Nigeria to release forex to successful applicants. The rate of exchange in the first-tier market was fixed while that at the second-tier was market- or auction-determined. The first-tier market covered five groups of transactions. These were:

- Transactions covered by a specific import license issued in 1985 or 1986 for which a confirmed and irrevocable letter of credit had been established on or before the day before the commencement of the second-tier market;
- Capital transfers, profits, dividends and other invisible payments for which approval had been granted before the SFEM commenced;
- Public or private sector transactions relating to debt service obligations that were due and payable, official contributions and grants to international organizations, and remittances to Nigerian missions abroad;
- Net proceeds of air tickets sold by foreign airlines up to and including the day before the beginning of SFEM; and
- Any transactions valid for foreign exchange for which advanced import duty on Form C188A had been paid, a clear report of findings issued by the Inspection Agent, and document submitted to the CBN for issue of cover not later than the day before SFEM began operating.

All the first-tier operations were to be settled by the CBN at the rates of exchange prevailing at the date when all documents collected from the CBN were submitted back to it; the obligation to which the documentation relates, having regard to the nature of the transaction, became due and payable; and the corresponding naira component of the transaction was deposited with the CBN.

It is important to note that during the early days of exchange rate reform in Nigeria, the officially sourced forex was allocated between the FFEM and the SFEM. The official forex, accrued mainly from oil exports was auctioned in the SFEM by the CBN, which was a monopolist in both the SFEM and the FFEM. The mechanism for exchange rate determination was a key distinguishing feature between the first- and second-tier markets. The second-tier rate was market-determined while the first-tier rate was CBN-determined. The dual exchange rate mechanisms generated dual official exchange rates. The second-tier rate soared higher than the first-tier rate because the former was demand driven in contrast to the latter, which was fixed. For example, at the first SFEM bidding session on

26 September 1986, while the FFEM rate was fixed at ₦1.5691/US$1, the SFEM rate was ₦4.6174/US $1. The value of the naira at the second-tier rate was 66% less than its value at the FFEM. However, the first-tier rate was thought to be uncompetitive.

This prompted a merger of the two markets on 2 July 1987 into the foreign exchange market (FEM). The merger was anticipated by the SFEM decree of 1986 and was expected to enhance the competitiveness of forex allocation. In addition to the merger, the CBN permitted an autonomous market to operate. This market facilitated forex trade among authorized dealers, i.e., designated banks, without going through the CBN auction process or even confirming with the CBN on a transaction to transaction basis. This was expected to improve business in the banks and remove some of the delays and bottlenecks associated with the auction process. It was also expected to reduce the pressure on available forex in the FEM as a means of causing an appreciation of the naira in the FEM.

However, the autonomous market was outlawed at the end of 1988. The action was justified by the accusation that authorized dealers were engaged in widespread abuse of deregulation rules of the CBN. The authorized dealers, for instance, kept the autonomous rate persistently higher than the FEM rate. Between January and August 1988, while the rate at FEM was between ₦4.1740 and ₦4.5540 to the dollar, the corresponding autonomous rates were ₦4.3611 and ₦6.8800. Thus, the autonomous rates were, respectively, 4.46% and 43.52% higher than the FEM rates (see Table 6).

In January 1989, the FEM and autonomous markets were unified to form the inter-bank foreign exchange market (IFEM). With the formation of IFEM, the naira exchange rate at the bidding sessions became more stable than in 1988. For example, the average rate, which in January 1989 was ₦7.089, rose to only ₦7.6500 in December 1989. The relative stability was maintained in 1990, when it opened at ₦7.820 in January and closed at ₦8.7071 in December.

Participants in the official market

Odubogun (1994) indicates that there are two levels of transactions in the official market, which were referred to as the primary and secondary transactions. The primary transaction takes place between the CBN as the sole supplier, i.e., a monopoly, and authorized dealers (who together constitute an oligopsony). The CBN's supply therefore is the market supply and this supply is then auctioned at a specified place, usually the CBN foreign exchange department, to authorised dealers, i.e., commercial, merchant and development banks, under various auction regimes.

Final users of foreign exchange are not allowed to participate in the primary transaction. Rather, their demands are channelled through the authorized dealers. This channel is referred to as the secondary transaction. Only the authorized dealers participate in both transactions. This is because their basic role in the foreign exchange market is to intermediate the demand and supply of officially generated foreign exchange.

Both the primary and secondary transactions are subject to controls. In spite of the deregulation, key provisions of the exchange control act of 1962 still govern the use and the allocation of forex in both markets. For instance, the categories of uses of forex

allowed by the 1962 act still apply. Similarly, the procedures for securing approval for international transfer of forex still apply. Consequently, the allocation of forex through the primary and secondary transactions rather than through import license is the major institutional change in the reform.

A pilot survey by Odubogun (1994) seems to confirm that the exchange control act of 1962 is still in force. The survey shows that the authorized dealers receive and process private sector forex applications and make forex allocations to successful customers. Allocation to final users is influenced by CBN's guidelines and the specific guidelines of authorized dealers. The authorized dealers, within the framework of CBN guidelines, also help the successful customers to transfer the funds allocated.

Furthermore, the CBN still approves final use of forex. The process of approval is tedious and time wasting; it involves extensive documentation, and the timing and application of forex is CBN-regulated. The tediousness of the procedure is due to the regulation that all final demand for forex in this market must pass through the CBN, which is the sole supplier of forex.

Regulations in the official market

Guidelines under SFEM are issued to inform, educate and aid authorized dealers, as well as members of the public, in the efficient operation of the market. Regulations as to when and how forex transactions should be conducted and sanctions for offenders are the responsibility of the CBN. In addition to the original guidelines issued at the inception of the second-tier market, many circulars have subsequently been issued to the authorized dealers. The guidelines specify who can take part in the foreign exchange auction, what uses of forex are permitted by law, frequency of auctions, pricing rules, documentation required at each level of transaction, how and when acquired forex should be used, etc. In addition, the CBN influences the official market through its control of the money supply and through periodic price and non-price regulations. These interventions in the market are documented in Odubogun (1992). The guidelines were reviewed periodically as we shall see below with reference to pricing rules. Moreover, the guidelines segment the Nigerian forex market because they do not apply to other forex markets particularly the bureau and the parallel markets. In addition, they restrict entry and by so doing, confine some forex users to the other, less regulated markets.

Types of auction and pricing rules in the official market

Allocation of officially sourced forex and the determination of exchange rates in the period were conducted through auctions or bidding sessions organized by the CBN. While the rule for allocation was invariable, the pricing rule was highly unstable. It reflected inexperience and a lack of consistency on the part of the CBN. The three pricing rules and the period when they were applied are summarized in Table 7. The rules are simple average pricing, marginal rate pricing, and Dutch auction pricing.

Table 7: Pricing rules in official foreign exchange transactions, 1986-1990

Period	Pricing Rules
26 September to 20 October 1986	Simple Average/ marginal system
3 November 1986 to 19 March 1987	Marginal rate system
2 April 1987 to 1989	Dutch auction
1989 to December 1990	Marginal rate system
December 1990 to February 1992	Modified Dutch auction
5 March 1992 to December 1993	Convergent rate/Dutch auction

Source: Adapted from Table 4.2 in Odubogun (1992).

The first phase of the auction began on 26 September 1986 and ended on 20 October 1986. The end points were the first and second auctions of foreign exchange in Nigeria. The auction or bidding process started with the submission to CBN of bids by each of the authorized dealers. Each bid specified bid rate and quantity of forex desired. The success of bids and the exchange rates were decided by collating all submitted bids and then determining the bid rate that exhausted given CBN-supplied forex. This rate was the marginal rate, which was then used to determine those bids that were successful and consequently to allocate the CBN supplied forex. Thereafter, the rate that each successful bidder would pay was determined. At the first and second bidding sessions, the exchange rate was determined using a *simple average pricing* rule that required each successful bidder to pay a simple average of all successful bid rates. This rate was also the effective official exchange rate. Each successful bidder was permitted by law to sell to "successful customers"[7] at 0.5% above the official rate.

The second phase began on 3 November 1986 and ended on 26 March 1987. This was the era of the marginal rate system. Only the rule for determining what successful bidders should pay was altered. The alteration was considered necessary because the simple average rate led to a rate that was considered lower than "realistic."[8] Thus, the marginal rate plus 5% of the marginal rate replaced the simple average as the purchase price of CBN forex by successful bidders. The purchase price was also the effective buying rate in banks, and the selling rate was 0.5% above the buying rate. The bidding sessions were weekly until 1987, when they became fortnightly.

The Dutch Auction Bidding System (DAS) was introduced on 2 April 1987 in place of the marginal rate system. A key difference between this system and the previous ones was that the successful bidders purchased forex at their bid rate. The CBN simply debited the authorized dealers' accounts using their successful bid rates. The previous 0.5% over the effective exchange rate was increased to 1%. Moreover, each bid had to be fully backed with the precise naira equivalent. These changes were designed to check frivolous and speculative bidding. The auction took place fortnightly until the FEM and autonomous markets were integrated to form IFEM in 1989.

With the introduction of the IFEM in 1989, the bidding sessions became daily and the marginal rate system pricing rule, which predated the DAS, was adopted as the pricing rule. This was the first reversal in pricing rule. This phase, the fourth, lasted until 14 December 1990 when the CBN re-introduced the weekly DAS albeit with a slight

modification. In this case, the CBN set a floor on bid rates. Among other objectives, the second reversal sought to check persistent pressure on the naira, enhance competitiveness of auction and give dealers adequate time to prepare and collate their customers' bids. The modified Dutch auction was itself significantly modified on 5 March 1992.

The significance of 5 March 1992 was that for the first time the official rate converged with the parallel market rates. However, the convergence was forced by the CBN, which claimed to "deregulate" the forex market by merging the official rate with those of the parallel market (PM) and the forex bureaus. The second significant modification was that unlike earlier auctions, the CBN fully met the bids of all authorized dealers as long as the bid rate was not lower than ₦18/US$1. As Table 8 shows, the rate on 5 March 1992 was about 70.5% more than the rate of the preceding auction. Ironically, the immediate causes of the action were persistent depreciation of the naira and persistent increase in the gaps between the three exchange rates in the forex market (see Table 8).

With the deregulation of 5 March, the official market was expected to become an inter-bank market with the CBN as participant, free to buy and sell forex at rates freely negotiated by authorized dealers. The deregulation had two main objectives: convergence of the multiple exchange rates and exchange rate stability.

Table 8: Multiple exchange rates: Before and after 5 March 1992

Day/Month/Year	Official	Parallel	Bureau de change
Dec 1986	3.3166	n.a	-
Dec 1987	4.1413	4.6000	-
Dec 1988	5.3530	8.3500	-
Aug 1988	7.300	10.2000	10.2000
Dec 1989	7.6500	9.6000	9.6500
Dec 1990	8.7071	10.4100	10.1600
Dec 1991	9.8662	15.0750	15.6250
3 Mar 1992	10.5564		
5 Mar 1992	18.0000	18.0000	18.0000
16 Apr 1992	18.6000	19.1400	19.3000
8 Sep 1992	19.4696	21.3500	21.6000
8 Dec 1992	19.7500	23.4500	23.6000
12 Jan 1993	20.0000	24.8000	25.0000
18 Feb 1993	24.9900	27.2500	27.2000
4 Mar 1993	24.9900	31.0000	30.0000
11 Mar 1993	24.9900	32.9000	33.3000

Source: *Guardian* Newspapers (March 1992-March 1993) and *Business Times* (March 1992-March 1993).

Convergence was achieved through the equalization policy on 5 March 1992. The CBN was expected to induce stability of the exchange rate by increasing the supply of forex. The federal government was to complement CBN's efforts by inducing a fall in demand for forex through fiscal and monetary restraints. There have been some developments in policy since 5 March 1992.

On 15 December 1992, the CBN did not operate the auction market and the supply of forex by the CBN became erratic from then onwards. For instance, between 15 December 1992 and 11 March 1993, the CBN suspended sales three times: 15 December 1992-11 January 1993; 26 January 1993-18 February 1993; 27 February 1993-11 March 1993. Notwithstanding the diminishing and erratic supply of forex, and the failure of earlier attempts at convergence, the CBN embarked on yet another convergence exercise on 18 February 1993 and a re-introduction of the Dutch auction. This policy and the instabilities in the auction market persisted through December 1993.

Secondary transactions

Final users of forex bid for official forex through authorized dealers. If there are no violations of CBN's guidelines, total bids at each primary auction should be precisely equal to total bids of final users. The study by Odubogun (1994) reveals that the allocation of forex to authorized dealers is usually much less than their customers' requirements. This was ascribed to supply constraints in the primary auction market. Consequently, much of the uncertainty in the official market is borne by final users. Odubogun (1994) indicates that secondary auctions are used by successful authorized dealers to ration forex "won" to their customers. The secondary auction is less coordinated than the primary auction, and also less competitive. Odubogun (1994) found that "price is not the only determinant of the allocation of forex in the secondary market. The credit-worthiness of the customer, his/her importance to the AD (measured by the size of his/her account), the importance of the use to which the forex will be put, and so on significantly influence allocation".

Therefore, the secondary auctions allow significant degrees of arbitrariness in allocation. As a result, it is like the import license system, which was believed to have encouraged corruption in the secondary market. Consequently, the final user is more likely to bear the cost of corruption. Other costs derive from the guidelines of the CBN. As emphasized earlier, there are restrictions on final use. These include:

- Restriction on forex use: The CBN in support of non-tariff trade restrictive policies of government, restricts certain import demands from competing for official forex. In addition, CBN's forex is not transferable across uses and it has a time period within which it must be used. Each of these restrictions is potentially rent creating.
- Restriction on quantity of forex for some uses: The CBN ceilings for some uses are as follows: personal travel allowance (PTA), US$500.00; conference/seminars, US$1,000.00; business travel allowance (BTA), US$5,000.00; personal home remittances, 75% of net income of applicant.
- Procedural complexities: The process between initial bid and final use is controlled and extensive. It commences with bids, filling of Form M (for visibles) or Form A (for invisibles), processing of forms through authorized dealers, the CBN, success of bids of the authorized dealers, notice of success by the authorized dealer, approval of application, then crediting. The procedure is made more tedious because of the possibility of arbitrariness at each stage. The final users who source forex from other segments of the forex market do not face these restrictions. Moreover, they do not

have to contend directly with arbitrary and unforeseen changes in the "rules of the game".

Export proceeds market

The export proceeds market (EPM) has not been the subject of much analysis. It is not very clear at what time it became important. Similarly, its operation is the least documented. It developed out of export promotion policies that accompanied Nigeria's structural adjustment. Export promotion permitted importers to control the use of their proceeds with the result that those who bring in export proceeds have at least four choices. The first option is to sell the proceeds to the CBN. By law, this is what is expected. Most exporters do not do this since it yields the least returns. The second option is to use the proceeds to open letters of credit (LC) with their bankers for future business transactions. The third option is to sell the proceeds to importers, and the fourth is to sell to banks who in turn could sell to importers and other individuals. In the second case, the export proceeds are deposited in the exporter's domiciliary account. In future, this could be used to open letters of credit. Options three and four provide an alternative source of forex to the formal importer. A survey in Odubogun (1994) shows that on the average, forex from export proceeds accounts for about 15% of forex sold by authorized dealers.

Unlike the official market where CBN supplies all the forex, the transaction here is quick, less uncertain and with fewer CBN restrictions. For example, a buyer in this market avoids CBN regulation that forex must be used within 15 days of purchase. Transactions in this market take place between an exporter (seller of forex) and an importer (buyer of forex). Both parties' banks are involved, particularly in the transfer of funds from the exporter's account to the importer's.

The provisions of the Exchange Control Act for the procedures for international transfers apply to this market. For instance, the importer must seek approval for international transfers through the completion of either Form M or Form A. The documentation involved is similar to that needed in the official market. Once transfer to the importer's account is made, the forex is not transferable to other accounts.

The rates in this market are negotiated. Considering that the importer by-passes some obstacles in the official market, the demand price for export proceeds forex is most likely to be higher than the demand price for official forex. The offer price, as a result, is likely to be more than the offer price would be in the official market. Other things being equal, the offer price in the export proceeds market would be less than the offer price in the forex bureau or parallel market.

The forex bureaus and the parallel market

The forex bureaus were decreed into existence in August 1989. They were expected to enlarge the scope of the official market transactions for forex and to serve the forex needs of some businesses, especially the smaller ones that were unable to cope with the demands and formalities associated with purchasing forex from the official market. Forex

bureaus were also expected to enhance efficiency in the forex market.

Operators in the forex bureaus are private entrepreneurs who have been granted legal recognition by government to deal in forex, and to provide customers with access to forex in a more convenient and informal manner. Although only a few licensed operators existed at the end of 1990, returns received from an average of 65 dealers showed that the public purchased the sum of US$109.60 million from the bureaus in 1990 and the bureaus purchased a sum of ₦111.0 million from the public in the same year. Forex is primarily sourced from private individuals, including business people who are unable to deal at the official market. The consumers in this markets are final users of forex who are unable to source forex in the official markets either because their bids are unsuccessful/ not fully successful or because regulations and institutional constraints keep them from participating in the official market.

It is important to note that apart from the general requirements for getting licensed as a forex bureaus, the operators are not subject to central bank rules and regulations governing the IFEM. In creating the bureaus, however, the CBN specified that they are only allowed to deal in bank notes, coins and travellers' cheque purchases. They are excluded from trade in travellers' cheques. In terms of regulations, the forex bureau market is closer to the parallel market, and like the parallel market there is no control on who may consume forex; consequently, there is little or no documentation of transactions.

Each bureau surveys the market, generating data on rates of its competitors, i.e., other bureaus and parallel market operators, and on developments in the official market and possible consequences before quoting offer and purchase price for convertible foreign currencies. The offer price is usually a ceiling while the purchase price is a floor and either one could change depending on the negotiating skills and experience of the buyer or seller and the quantity of forex involved in the transaction. Each buyer or seller of forex has a choice between negotiating or accepting the offer or purchase price. Either way, the exchange rate is mutually accepted before transaction takes place on a cash-and-carry basis.

The parallel market

This segment of the forex market predates exchange policy reform. Its existence is linked to the inability of official sources of forex to meet the forex needs of users. Thus even after reform, the market operates to satisfy the forex needs of consumers who for one reason or another are unable to participate in official auctions.

The attraction of patronizing the parallel market is the total absence of documentation involved in the transactions, which makes transactions quick and informal. It also means that customers do not have to disclose information regarding their source of forex to the dealer. The high risk associated with dealing with parallel market operators, however, is the inability of customers to ensure the genuineness of the foreign currency purchased or the local naira accepted for the foreign currency sold. Also, the speed at which transactions are concluded may result in inaccurate numbers of currency notes accepted from an operator; the lack of documentation makes either returning fake currencies or rectifying incomplete money almost impossible.

Participants in the parallel market are not defined, especially as the operators are not accorded legal recognition. As a result of this, anyone who has need to either sell or buy forex may become an operator in this market. One is quick to add that although no legal recognition is given, over time, operators in this market informally organize themselves into groups to monitor the official and forex bureau rates; decide on the rates in their market; and pass information to their co-operators about government regulations that may affect their market.

Although this informal group is important to members, it does not constrain members to sell at rates determined by the group; in other words, individual operators may decide to sell/buy at rates different from the rate set by the group. Spot rates often emerge that reflect the relative ability of the seller and buyer to haggle. Usually, the group's pre-determined rate is a bench mark for individual transactions.

There are either no direct restrictions on operations in this segment or restrictions are not enforced. Operators themselves informally create a group or groups that ensure proper information flow, monitoring and smooth operations in their market. Even though members are not bound by the "regulations" of government and CBN, they are aware that the survival of this market depends on their understanding the effects of CBN's regulation of their operations. Exchange rates are negotiated on the spot and once agreement is reached, transaction is instantaneous. The determination of exchange rate and allocation of forex is thus approximately the same in the parallel and bureau markets. Moreover, the rules are stable, i.e., they do not change as in the case of official auctions.

V. Country case 3: Uganda

Disequilibrium in the foreign exchange market

The 1970s were characterized by large distortions in Uganda's economy. The nominal exchange rate was fixed at Ushs 7.0/US$1.0 and maintained at that rate for over 10 years, despite a high rate of inflation from defense spending to support the military regime. Since the real exchange rate is a key relative price that determines a country's comparative advantage between its tradeables and non-tradeables, over-valuation of the nominal exchange rate translates into appreciation of the real exchange rate, making the tradeable sector non-competitive. The over-valued nominal rate imposes an implicit tax on exports, while granting an implicit subsidy on imports. This, other things being equal, leads to a balance of payments deficit as foreign exchange earnings from exports through official channels dwindle due to the implicit tax, while the implicit subsidy leads to an excess demand for imports, exasperated by domestic inflation.

Unsatisfied customers in the official exchange market resort to the parallel market. Exports are smuggled out and the revenues used to smuggle in imports. This not only represents a misallocation of resources spent to finance the risks associated with smuggling, it also leads to dwindling trade taxes from a shrinking export base and from evaded customs revenue. The decline in trade taxes necessitates printing money to finance the budget. Inflation makes the tradeable goods sector even more uncompetitive, stimulates the demand for imports and increases the premium of the parallel market exchange rate over the official rate.

By 1980, Uganda's export sector, which was diversified in the 1960s, had shrunk to one tree-crop, coffee, which it was illegal to uproot. Foreign exchange was so scarce at the official rate that most customers turned to the parallel market to meet their requirements, financed by smuggled coffee. Between July 1981 and April 1984, the Obote II regime, under the supervision of the International Monetary Fund, tried to reduce the exchange rate premium by a massive devaluation of the Uganda shilling, starting with 75% at the first go. Exports were further encouraged by an upward adjustment of the nominal fixed producer prices, in addition to reducing the implicit tax through devaluation. However, the policies of the early 1980s were abandoned as the regime printed money to finance the civil war, which lasted until 1986.

The new government spent most of its first year collecting humanitarian relief to re-settle war victims. By May 1987, when the economic recovery programme was launched, the disequilibrium in the exchange market had become clearly unsustainable. The balance of payments deficit grew from 5.6% to 12.8% of real GDP between 1987 and 1990. The

debt service ratio over the same period grew from 50% to 70%. Donor dependency was reflected in the rapid growth of import support to finance the budget and project and programme aid. Despite dwindling export revenue, imports grew from US$66 million, in 1986 to $457 million by 1992. Clearly this level of external financing was unsustainable.

To make matters worse, Uganda suffered an external shock when the international price of coffee, the source of over 80% of official foreign exchange earnings plummeted from US$2.80 per kg to US$0.9 over the period 1987-1992. The same robusta coffee export was the main source of recurrent revenue, contributing 66.5% in 1985/86 and around 40% in 1986/87 fiscal years, and yet the implicit tax on coffee from over-valuation of the exchange rate grew from 86% in 1986 to 247% by 1989. Meanwhile, the financing of the fiscal deficit by printing money fuelled inflation, which ran at 300% in 1986 and averaged 255% in 1987. The parallel market premium over the official exchange rate stood at 306%. With such magnitudes of disequilibrium, Uganda had to change her fixed exchange rate policy.

Exchange rate unification and dismantling of controls

The key objective of exchange rate management was to move from an administered foreign exchange regime characterized by inertia and inefficiency to a market-based exchange rate regime that would promote an efficient allocation of resources. The process involved six types of policy changes: narrowing over-valuation of the official over the parallel market nominal rate by discrete devaluations; liberalizing foreign exchange controls and allocation procedures; liberalizing trade procedures and foreign exchange retention; legalizing the parallel market; determining the official exchange rate by auction; and creating a unified inter-bank market for foreign exchange.

The period between May 1987 and October 1989 was characterized by discrete movements in the exchange rate. On 17 May 1987, the shilling was devalued from Ush14 to Ush60 per US$1.0. It remained at this level for slightly over a year in spite of the high annual average rate of inflation of about 255%. During the fiscal year 1988/89, a policy of discrete devaluations was implemented to take account of exchange rate effects on Uganda's export competitiveness. At the very beginning of the financial year on 1 July 1988 the shilling was devalued by 60%. This was immediately followed by further adjustments in December 1988, March 1989 and October 1989, depreciating the official rate to Ush340 per US$ 1.0 and narrowing the premium to 205%.

The crawling peg

From October 1989 to July 1990 the government adopted a more active stance on the management of the official exchange rate. The policy guide was to adjust the exchange rate in line with the differential inflation between Uganda and its main trading partners, namely the United States, United Kingdom and Kenya. This rule, while marking the base line for exchange rate policy, also allowed the authorities to implement discretionary changes in excess of the inflation differential.

The policy was initiated in October 1989 with a 41% devaluation of the shilling. In response, the premium, as expected, fell dramatically. The official rate was further adjusted downwards by 8.1% in December 1989 and 1.0% in February 1990, resulting in a real devaluation compared with the May 1987 level. During the period the authorities increasingly effected discretionary devaluations in excess of the inflation differential in order to merge the official and the parallel market exchange rates. Although elimination of the differential through this mechanism did not materialize, the premium narrowed considerably.

Dismantling foreign exchange control and allocation procedures

Uganda's trade regime was characterized by the existence of ubiquitous foreign exchange controls and administratively determined allocation. The over-valuation of the shilling meant that import licensing and foreign exchange allocation became the effective systems of restricting official imports. Foreign exchange controls became pervasive, hence the cornerstone of the liberalization efforts has been to ease or eliminate these controls. Allocation precedures have been progressively relaxed through the establishment of the open general license (OGL) scheme of importation for selected industrial sectors; institution of the special import programmes (SIPs); and establishment of foreign exchange bureaus.

As the foreign exchange constraint tightened on the country, government strengthened the allocation system to ensure that resources went to the pre-identified priority sectors. A high level Foreign Exchange Allocation and Import Licensing Committee (FEA & ILC) was set up. This committee was initially chaired by the Ministry of Commerce, then by the Prime Minister's office, and finally by the Bank of Uganda. The FEA & ILC originally included ministers from the line ministries, and when it was moved to the Bank of Uganda, their permanent secretaries.

The role of this committee was to evolve a monthly foreign exchange budget based on the BOU projections of export receipts. The priority payments identified under this system included debt service, foreign embassy expenses, oil imports, government imports and imports by public enterprises. Any foreign exchange balances, after financing priority payments, would then be allocated to the private sector for imports. The high demand for foreign exchange that existed rendered the process of allocating foreign exchange through this system difficult and prone to corruption.

Allocating foreign exchange resources through this method to finance imports was not efficient. For instance, for the period January-November 1988, out of the total allocation of US$53.6 million, only US$32.4 million, or 60% was purchased. This low level of use curtailed the inflow of imports. It also affected fiscal performance, since import support sales generate budgetary support, and thus slowed the pace of re-establishing macroeconomic stability. More ominously, the slow use of funds also put the country's absorptive capacity rating into question. The main problem with the allocation method was that it did not take into account the applicants' capacity to take up

Table 9: Special import programmes I and open general license approvals (in US$ million)

Months	Ordinary applications	OGL	Monthly totals
1988			
December	13.515	-	13.515
1989			
January	11.567	-	11.567
February	6.136	-	6.136
March	6.658	2.418	9.076
April	0.013	2.946	2.959
May	4.561	3.956	8.517
June	7.808	2.524	10.332
July	2.083	0.686	2.769
August	3.083	0.516	3.599
September	1.264	1.058	2.321
October	0.929	0.199	1.128
November	2.599	2.424	5.023
December	1.964	0.353	2.317
1990			
January	6.723	2.228	8.951
February	2.753	-	2.753
Total	71.655	19.308	90.963

Source: Bank of Uganda

an allocation once made. The non-purchase of funds reflected the fact that the submission of applications to BOU was sometimes driven by speculative rather than effective demand, where people applied for more foreign exchange than they could actually use.

In January 1988, to further strengthen the prioritization process, government established the open general license (OGL) scheme of importation. The objective of OGL was to facilitate growth in the industrial sector by making foreign exchange available on a sustained basis to selected manufacturing establishments for acquisition of raw materials and industrial spares. The OGL system specified a list of eligible firms in eligible sectors that would qualify for funding. The initial criteria for selecting the broad industrial sub-sectors to enjoy the OGL were that the establishments in such a sub-sector contributed - or could potentially contribute - significant tax revenue to the budget; that they produced essential mass consumption goods or inputs to other priority industries; and that they had been in existence by 1987, with a working plant. The last criterion was meant to ensure that OGL funds would be used solely for procurement of raw materials and spare parts, and not as venture capital, as the major aim at the time was macroeconomic stabilization. Under these criteria, 25 companies were issued with licenses, in the soap, beer, soft drinks, cigarettes, mattresses, textile fabrics, fishnets, blankets, gunny bags and cement sub-sectors.

The eligibility criteria were expanded in early 1990 to include companies that had low use of imported inputs, that produced exports or that produced incentive goods to encourage agricultural production. Access to OGL was later expanded to 63 firms, to

include the new sub-sectors of pharmaceuticals, corrugated iron sheets, aluminium hollowware, nails and sugar.

The OGL system of allocating foreign exchange contributed to the substantial increase in the production of some manufacturing firms, and also led to a fairly sizeable contribution to tax revenue. However, the system also subsidized firms through the over-valued exchange rate. The OGL monthly allocations of foreign exchange are shown in Table 9.

Special import programmes and liberalization of trade

Special Import Programme I (SIP I)

In November 1988, the government launched the Special Import Programme I (SIP I) in order to improve the rate of absorption of import support funds. Foreign exchange was sold on a first-come-first-served basis at the official rate for a broad range of imports within indicative sectoral allocations. Applicants would, through their bankers, indicate their ability to take up any funds allocated. However, importation under the programme was subject to a negative import list.

A total of US$50.26 million, or 71% of the funds approved, was sold during the period December 1988 to June 1989, representing an improved rate of absorption compared with the 60% in the period January to November 1988. Further sales of US$21.40 million were made in the subsequent eight months. Under this programme, agricultural inputs, spare parts and consumer goods were imported. The industrial sector took the largest share, at 37.7%, followed by the transport and agricultural sectors, with shares of 22.5% and 13.4%, respectively. A comparison of SIP I and OGL monthly approvals is shown in Table 9.

This scheme operated until February 1990. Its immediate effect was to alleviate part of the excess demand at the over-valued official rate. The parallel market rate fell and the premium declined (refer to Figures 5 and 6). However, as inflation accelerated after February 1990, the official rate remained unchanged; the premium increased from around 130% in February 1990 to 206% by the middle of the year. The problem of consistency between macroeconomic and exchange rate policies became evident.

Special Import Programme II (SIP II)

The success in mobilizing resources outside the economic recovery credit (ERC I) motivated the implementation of this programme. The government decided to sell these resources to the public very quickly and at special rates in order to dampen the huge excess liquidity that had built up over the 1988/89 fiscal year due to increased refinancing of commercial banks by the central bank for crop finance credit. In July 1989, special import program II was launched, under which foreign exchange was sold at Ush400 per US dollar - twice the official rate. Eligibility criteria were also liberalized: the number of commodities eligible for importation was broadened from SIP I, to include transport

equipment, building materials, agricultural chemicals and tools. SIP II was viewed as a temporary mechanism to raise fiscal revenue and mop up excess liquidity. Commercial banks were as a result prohibited from lending for the purpose of purchasing funds under SIP II.

Table 10: Monthly approvals of SIP II funds in 1989 (in millions of US $)

Months	Approvals
JUNE	4.932
JULY	8.446
AUGUST	6.808
SEPTEMBER	4.641
OCTOBER	1.991
GRAND TOTAL	26.818

Source: Bank of Uganda.

The fact that the funds obtained were on the Bank of Uganda's own account ensured that they were not subject to the elaborate donor disbursement procedures. Applications for foreign exchange were therefore processed expeditiously and payment by draft was allowed for goods of CIF value not exceeding US$5000. Monthly approvals for imports are shown in Table 10; the total was US$26.82 million.

The absorption of excess liquidity in the economy through the sale of SIP II funds reduced inflation and alleviated excess demand in the parallel market, with the premium stabilizing around 200% over the following few months. This re-established consistency between macroeconomic policies and exchange rate policy. This scheme operated from July to September 1989.

Special Import Programme III (SIP III)

This programme was operated from February 1990 to March 1991 as a complement intended to further narrow the foreign exchange premium. The SIP III was similar to SIP II, following the good performance of the latter in absorbing resources. Eligibility of goods to be financed was in principle on the basis of IDA's negative list (this negative list defined items that would not be financed using IDA resources), although in practice there was a pre-screening at the Ministry of Commerce on the basis of its own negative list. All firms and sub-sectors were eligible.

Foreign exchange sales under this programme were transacted at the official exchange rate and, in contrast to SIP II, importers were allowed to seek bank credit from their commercial bank in order to finance their import bills. However, the central bank monitored the levels of commercial bank advances to ensure that they adhered to their statutory limits.

The launching of SIP III followed closely the enlargement of the open general license

scheme in January 1990 to cover more industrial sub-sectors. The implementation of SIP III and the expanded OGL scheme had the effect of reducing excess demand for foreign exchange in the parallel market. The operation of SIPs led to some impacts in the economy. For example, it is noted that they maintained the flow of goods and services and assisted in controlling monetary expansion resulting in a fall in the annual rate of inflation to only 26.9% by end-June 1990 from a level of 163% in December 1987 about the time they were launched. A more comprehensive analysis of the special import programmes is contained in Kasekende, Rweikiza and Katarikawe (1994).

Liberalization of export-ilmport procedures

The liberalization of foreign exchange surrender requirements moved progressively from 100% surrender, through dual licensing, to 100% retention and operation of foreign exchange accounts by bona fide exporters of goods and services, and transactions through forex bureaus. Additionally, the procurement and marketing of export products were liberalized through the abolition of the monopoly previously enjoyed by the statutory marketing boards. In the same vein, the licensing schemes were replaced by certification schemes for both exports and imports which has greatly reduced the bureaucratic red tape. The following sections describe the key features in liberalizing trade procedures and foreign exchange retention.

Between 1988 and 1990 a dual licensing scheme was operated as a move to promote exports of non-traditional commodities. Exporters were permitted to retain all their earnings for importation of any commodity not on the government's negative list. Under the scheme, the private sector exporters would effectively engage in barter trade, simultaneously applying for an export and import license of equivalent value. Shortly after, the scheme was extended to encompass all non-coffee exporters. In 1989/90, a total of US$33 million worth of imports were financed through this channel, but this declined to a miserable US$10.84 million in 1990/91. The main problem with the scheme was that it tended to tie up the working capital of the exporters for long periods. In addition, the system operated on the assumption that exporters were at the same time importers, which is not necessarily the case. As a result, the dual license became increasingly unpopular and, in replacement, foreign accounts were introduced when forex bureaus were established in mid 1990.

The government introduced a retention account scheme in March 1989 in an attempt to overcome the problems inherent in the dual licensing scheme. Under this scheme, an exporter was allowed to open an account designated in foreign exchange into which export earnings could be deposited. The exporter would use the retention account to open letters of credit to import commodities.

Liberalization of trade licensing

Specific import licensing was abolished and replaced by a more liberalized certification system under which importers are free to obtain an import certificate, valid for six months,

for importation of any goods of their choice not on the negative list. Import documentation has also been simplified and reduced considerably. The main restrictions on importation during this period related to the letter of credit requirement and the need for pre-shipment inspection of imports. With the adoption of the inter-bank system of allocating foreign exchange, the letter of credit requirement was waived; importers can now determine what mode of payment they wish to use. The other restrictions concerned exchange control regulations and the kind of documentation required in the importation process. This documentation includes the following: final invoice, Form E, packing list, bill of lading and certificate of origin of goods. Apart these documentation requirements, donors also restricted the type of imports that could be funded using certain donor resources.

Table 11: SIP III: Approvals by month February 1990 to end March 1991 (in us $ m financed under donor facilities)

Months	SIP III ordinary	OGL	Monthly totals
1990			
February	3.029	-	3.029
March	19.357	2.989	24.252
April	11.144	2.989	14.133
MAY	5.221	1.623	6.844
June	8.370	0.849	9.219
July	1.523	1.171	2.694
August	0.831	0.642	2.473
September	3.782	0.484	4.266
October	7.692	0.192	7.884
November	7.322	6.319	13.641
December	10.933	2.111	13.044
1991			
January	6.507	0.941	7.448
February	4.783	0.063	4.846
March	8.317	1.267	9.584
Total	99	25	123

Source: Bank Of Uganda.

Legalization of foreign exchange bureaus and introduction of auctioning

The parallel market was legalized in July 1990 by permitting foreign exchange bureaus to buy and sell foreign exchange at rates freely determined by market forces. Additionally, the surrender requirement of all foreign exchange inflows from non-coffee exports and private transfers was eliminated. All foreign exchange earners (apart from coffee exports, which were then retained by the Bank of Uganda) had the option of either depositing the proceeds in a foreign exchange account or directly selling the foreign exchange to an authorized dealer bank or bureaus. Resources kept in foreign exchange accounts could

Figure 5: Foreign exchange graph

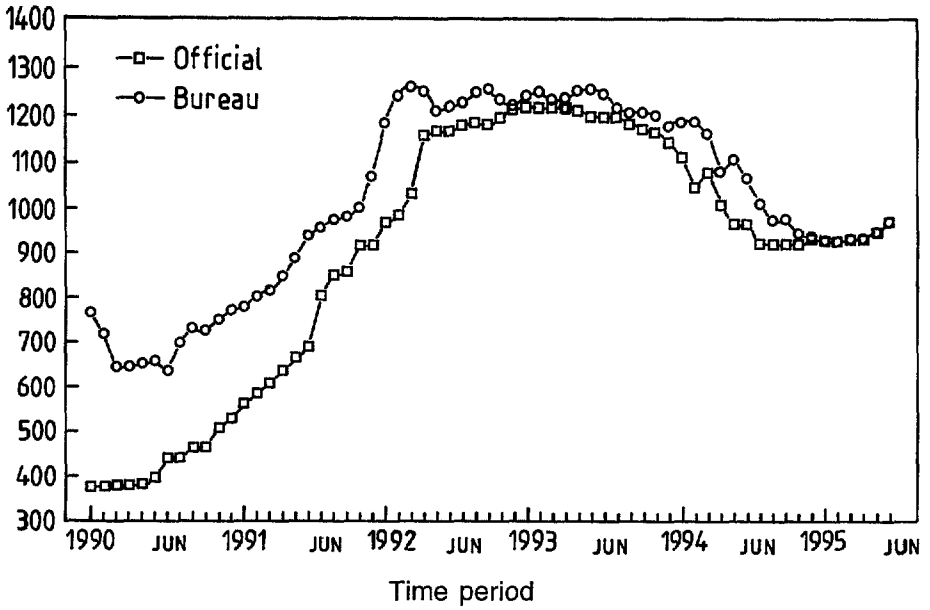
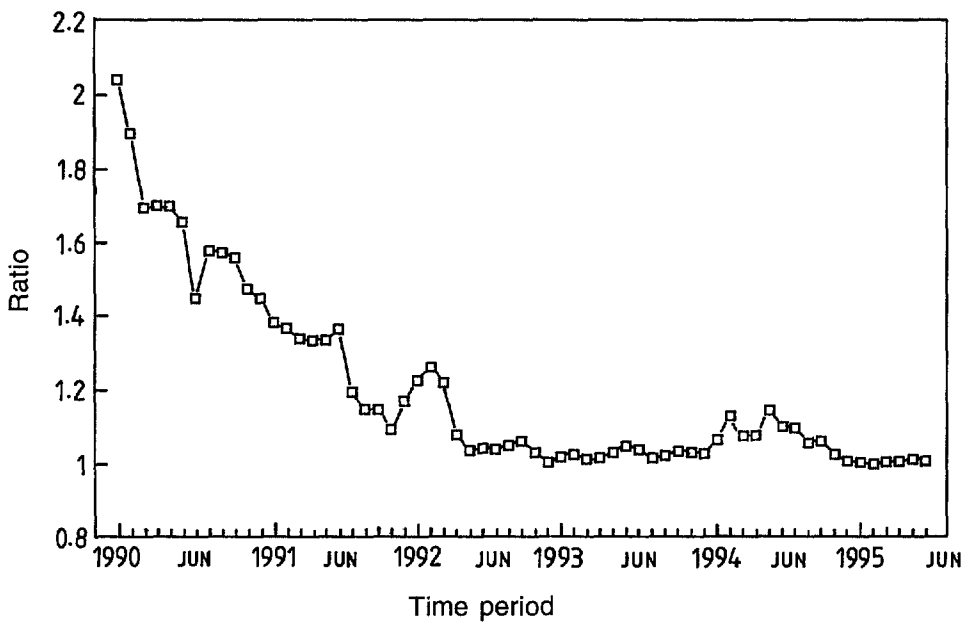


Figure 6: Parallel/official rate



be used to import goods that were not on the country's negative list, or for invisible payments. Importers were free to choose between the official and bureaus channels - but could finance invisible payments only through the bureaus. The two main objectives of this measure were to make policy implementation more effective by allowing the monetary authorities to monitor activity in the foreign exchange market, and to provide higher and more attractive incentives to Uganda's exporters.

Salutary performance was recorded in the functioning of the bureaus market. Import transactions financed through the bureaus, for instance, increased steadily and significantly. The volume of business transacted by the bureaus increased from US$3 million per month at the inception to US$5.8 million by October 1994. In 1991/92, the imports through the bureaus amounted to US$83.43, and it is estimated that in 1992/93 they amounted to about US$186.8 million. There was also a reduction and stabilization of the premium between the bureaus and official exchange rates from 44.9% to 6.0%, respectively, over the same period.

An auction system was instituted towards the end of January 1992 and operated until October 1993. The main objective was to further liberalize the exchange and payments regime while permitting market determination of the official exchange rate. The auction system was supported by a pool of resources from several donors and creditors.

A Dutch auction system, whereby all bidders must pay their bid rate if successful, was used in the weekly wholesale auction market. Participation in the auction was initially limited to all authorized dealer banks, provided they were in good standing with the Bank of Uganda. The dealer banks were held accountable for the use of funds won through the auction within a specified time period. The acceptance or rejection of bids was strictly on the grounds of their bid rates, though successful bids had to be used in accordance with a short negative list agreed between the government and the World bank.

At inception, the rate that exhausted the bid amount at an auction — the marginal clearing rate—was adopted as the official exchange rate until the following auction. Government requirements for the foreign exchange to pay for, say, oil imports and debt service, were initially financed at the marginal clearing rate. Government announced the availability of over US$200 million at the inception of the auction to be used to finance eligible imports. Given the availability of these substantial resources to finance a wide range of imports at a lower shilling cost than the bureaus rate, the expectation was that the auction would divert some pent-up demand from bureaus to the official channel.

The expectations were not fulfilled, in spite of measures government adopted to further liberalize the auction market. The measures included extending the accounting period from 2 to 12 weeks; allowing bureaus to place bids directly on behalf of their clients; permitting the immediate transfer of funds to successful bidders; and relaxing pro forma invoice requirements.

The performance of the auction market in terms of weekly sales turned out to be quite dismal. Of US$35 million declared in the first ten auctions, only US$23.5 million was sold, implying an average weekly sales of only US$3.5 million. The marginal clearing rate depreciated by only 3.1% from the first to the tenth auction. Later, in March 1992, in an effort to encourage coffee exporters, the government adopted the weighted average

bureau rate for travellers cheques to be the official exchange rate. In the period March to October 1992, the premium of the bureau rate over the auction clearing rate fell from 22.2% to 18.2%. Thereafter, it fluctuated in the first half of 1993 before closing at 2.7% in October 1993. Meanwhile, the average weekly sales of US$2.53 million recorded in March 1992 fell drastically, to US$1.39 million in August 1992, then fluctuated in the following months before reaching an average of US$2.25 million during the first two months of 1993.

Three major factors continued to constrain the absorption of auctioned foreign exchange, in spite of the liberal measures enacted by government. The first was the restrictions imposed on the use of donor funds, including exclusion of some commodities and some modes of payment. The second was the tight domestic monetary policies pursued by government in 1992/93, which in turn constrained government expenditure and credit to the private sector. The annual growth in liquidity, measured by the broader monetary aggregate M3, which stood at 71% by end June 1992, declined progressively during the financial year 1992/93 to 42.1% by end June 1993. The third was the continuing segregation of the forex markets because bureau market participants remained wary of the residual supervisory and monitoring roles by the Bank of Uganda and the Uganda Revenue Authority on documentation for imports financed through the auction. The use of the bureau market was often motivated by tax evasion through under-declaration of imports, which was difficult through the auction because importation through the auction left traceable evidence.

The unified foreign exchange market and its sustainability

In spite of the pro-market reforms, Uganda's foreign exchange market continued to be segmented even up to October 1993. This segmentation was in terms of the official foreign exchange cash flow and the donor import-support funds allocated through the weekly Dutch auction system. These resources were transacted at the official auction-determined rate. The foreign exchange bureau imports were financed by private sector inflows. The segmentation resulted in a differential between the two market-determined rates, namely the auction and forex bureau rates. By end October 1993, there still remained a premium of 5.25% between the auction and the bureau rates, resulting in efficiency costs to the exchange system. Thus, despite the introduction of the auction system, exchange convergence remained elusive. Moreover, the official cash flow was administratively segregated from other foreign exchange channels (Nanyonjo and R. Rweikiza, 1994).

In November 1993, government decided to introduce an inter-bank foreign exchange market system to eliminate the segmented nature of the exchange system and to bring about a convergence of the exchange rates. A market-based floating exchange rate system was expected to provide a more efficient and reliable way to determine the official rate and allocate scarce foreign exchange resources. Apart from institutional considerations, the inter-bank system was also chosen because it is more consistent with a market approach

and minimizes the scope for administrative involvement.

The requirement of surrendering coffee export receipts to the Bank of Uganda was waived and the weekly foreign exchange auction of donor resources was abolished under the inter-bank system. Consequently the daily foreign exchange market at the Bank of Uganda was eliminated, and so was the requirement for commercial banks to surrender their excess invisible receipts to the Bank of Uganda. It should be noted, however, that even in the new foreign exchange regime, foreign exchange bureaus continued to operate along with the inter-bank market largely to cater for smaller customers.

The system provides that each authorized dealer, including bureaus, is free to set the rates at which it is willing to buy or sell foreign exchange. Under the new system, the Bank of Uganda stopped setting an official exchange rate and instead relies on rates set in the inter-bank market. The average mid-rate is now determined by computing an average of all the dealers' weighted bid and offer rates; weights are assigned according to each dealer's relative size in the market. Any purchases or sales of foreign exchange by the Bank of Uganda in the inter-bank market are solely at its discretion and are intended either to smooth wide fluctuations in order to stabilize market conditions, or to achieve clearly defined policy objectives.

The establishment and operation of the inter-bank foreign exchange market has been characterized by exchange rate appreciation. The appreciating trend is attributed to an excess supply of foreign exchange emanating largely from the improvement in the international coffee prices, unanticipated accelerated coffee pre-finance inflows and private transfers triggered by the return of the private sector's confidence in Uganda's exchange system. Coffee pre-finance inflows, in particular, account for most of the increased supply of foreign exchange rising from only about US$4 million in November 1993 to over US$30 million in October 1994. It should be realized, however, that pre-finance inflows are of a temporary nature. Such inflows are unlikely to be sustained since exporters must sooner or later make shipments to pay for their receipts. Meanwhile, the problem of appreciation is compounded by the fact that even non-coffee exports are also getting pre-finance dollars from foreign sources. The recent appreciation in the external value of the Uganda shilling is threatening the programme of promoting balance of payments viability. A number of export products are no longer competitive. The alternative of depreciating the exchange rate has associated costs relating to domestic price stability that make it unattractive. The main development regarding the premium indicates that it reduced drastically, from 16.02% in June 1993 to 1.11% in June 1994, after the introduction of the inter-bank market in November 1993. Segmentation of the foreign exchange market, therefore, has largely been eliminated. This development is shown in Figures 5 and 6.

Sustainability of the unified market-based exchange rate and lessons to be learned

The distortions in the economy arising from the fixed exchange rate were of such magnitude that they warranted allocative efficiency to be the key objective in moving

from a fixed to a market-based exchange rate. Provided that other markets are developed and functioning competitively under an appropriate institutional framework, the efficiency objective should be the major focus of exchange rate policy. However, in a development context like Uganda's, the factors discussed earlier call into question the sustainability of the unified marked-based exchange rate, unless accompanied by development policy measures beyond static efficiency.

During the period of over-valuation, the foreign exchange market offered differentiated products to suit customer preferences. Those customers who preferred speedy transactions and minimum administrative procedures opted for the parallel market, despite the higher premium and the risk of being caught. Large-scale transactors, on the other hand, who wanted a lower price, and were prepared to pay for the extra costs of red tape documentation, opted for the official market.

The distorted foreign exchange market, therefore, did not sell a homogeneous product in the eyes of market participants. Exchange rate unification acted on the price, but not on the other dimensions of product differentiation. In order to make foreign exchange homogeneous, the foreign exchange market must address the additional questions of speed, minimum documentation and freedom from tax harassment.

Appreciation and structural change

A unified, market-based, but appreciated, exchange rate raises the fundamental question of the extent to which governments should refrain from intervening in the foreign exchange market. Appreciation taxes exports and subsidizes imports. This makes attainment of external equilibrium unfeasible. Had Uganda not been recently lucky to experience the coffee boom, the current account balance would have remained persistently negative. The country relied on donor funds to finance external requirements, a state that is not sustainable since it builds up external debt.

The key issue here is for a country to identify temporary causes for exchange rate movements that must be ironed out by intervention to prevent the exchange rate from taxing exports and subsidizing imports, over the long-term. Table 12 indicates that diversification of Uganda's sources of foreign exchange has proceeded very slowly since 1987, as non-coffee exports have appeared. The move toward a market-based exchange rate, while necessary, does not appear sufficient to address this structural problem. Investments in productivity, quality improvements, market information and infrastructure are essential to diversify Uganda's export base in order to ensure an increasing stream of foreign exchange earnings.

On the import side, programmes like the special import programmes, while assisting in exchange rate unification, unfortunately perpetuated import-intensive import-substitution (started under the implicit subsidy offered under a fixed exchanged rate) by making foreign exchange available at a rate below that in the parallel market. When the exchange rate was fully liberalized, manufacturers interviewed ranked lack of working capital (48.0%) and securing of raw materials (40.8%) their top problems. The underlying issue was that at the market-based exchange rate, the working capital requirements to

secure raw materials for full-capacity utilization in import-intensive manufacturing processes rose appreciably.

Exchange rate unification policies, therefore, should include a development component to encourage technological innovations and adaptations to reduce the import-intensity of import substitution to levels closer to a country's comparative advantage.

Institutional reform

Table 13 shows that over the period 1986/87 to 1992/93, when the exchange rate regime was being liberalized, government had to change the tax structure, especially to reduce the contribution of the coffee export tax (39.9% to zero). However, the tax structure, overall, is still heavily dependent on trade taxes (from, e.g., (39.9 + 46.4) = 86.3% in 1986/87, to 78.5% in 1992/93). Broadening the tax base, and improving tax administration, required creation of a brand new institution, the Uganda Revenue Authority, in 1991. To-date, Uganda still relies on donor funds to cover her budgetary deficit while her tax collection grows slowly. Without these funds, she would have had to resort to borrowing from the central bank, which is inflationary and inconsistent with exchange rate stability. The design and timing of complementary institutional reform therefore, at least in the case of Uganda, appears to be an important ingredient in the exchange rate reform policy package.

Table 12: Foreign exchange earnings from total exports and from major exports (US $'000)

Commodity	1987	1988	1989	1990	1991	1992
Coffee	307,535	265,279	262,811	140,384	117,641	95,372
Cotton	4,097	2,968	4,020	5,795	11,731	8,218
Tea	1,900	3,079	3,195	3,566	6,780	7,721
Tobacco	–	58	569	2,868	4,533	2,329
Beans	–	1	2,894	4,150	4,274	2,782
Maize	–	324	–	3,138	4,188	3,894
Simsim	–	324	124	5,234	10,517	6,478
Fish & products	–	474	1,822	1,386	5,313	6,498
Cocoa beans	–	–	–	504	374	281
Total exports	313,531	327,610	279,890	178,770	184,763	177,658

Source: Ministry of Finance and Bank of Uganda

Table 13: Sources of recurrent revenue: A comparison of the percentage contribution of each item to total recurrent revenue 1986/87 and 1992/93

	Source of Revenue	1986-87	1992-93
1.	Income tax	11.4	13.2
	PAYE	0.7	3.4
	Other	10.7	9.8
2.	Export taxes/coffee	39.9	0.0
3.	Trade taxes:	46.4	78.5
	Customs duty	11.9	42.8
	Excise duty	6.8	6.1
	Sales tax	25.3	26.8
	Commercial transaction Levy	1.4	2.8
	Freight charges	1.0	0.0
4.	Unallocated	–	1.1
5.	Other tax revenue	2.4	4.9
6.	Non-tax revenue	–	2.3
	Total	100	100

Source: Ministry of Finance and Bank of Uganda.

VI. Summary and policy lessons

In this study we reviewed the theoretical and empirical literature on foreign exchange in general with particular focus on Ghana, Nigeria and Uganda. Specific attention was paid to the choice between fixed and flexible exchange regimes, the management of the transition, the possibility of convergence, and the sustainability of the unified exchange rates in both the official and the parallel sub-markets. We also addressed the institutional requirements and the theoretical conditions vital for the effective management of exchange in order to achieve the convergence of the parallel and the official rates. The major conclusions from the theoretical and empirical literature as well as the country cases include the following.

The exchange rate regime/policy is a part of the overall macroeconomic policy and the nature of macroeconomic policy, in turn, has bearing on the effectiveness of exchange rate policy. Thus, fiscal deficits, expansionary monetary policy, trade deficits and a high debt service ratio have adverse consequences on exchange rate stability irrespective of the choice of the exchange rate regime. The theoretical literature focuses on two major mechanisms: government and market. The government mechanisms may dominate the market and fix the rate of exchange. This is more likely to be the case in control regimes. Where the government allows the market institution free reign, the exchange rate is market-determined. There are two extreme views on the regime debate.

It has been argued on theoretical grounds that the fixed exchange rate regime is distortionary. The distortions are believed to be manifested as either over-valuation or under-valuation of national currencies. Over-valuation has negative effects on export supply, while encouraging imports, and inflows; under-valuation has the opposite effects. Either way, distortions lead to disequilibrium in the foreign exchange market and in trade balances. The over-valued rate subsidizes imports, which become cheaper since consumers pay less per unit of foreign currency. At the same time, over-valuation imposes an implicit tax on exports as exporters receive less when they convert their foreign exchange earnings into local currency at the over-valued rate.

Exchange rate controls were the dominant policy pursued in Ghana, Uganda and Nigeria before reform. This policy seems to have been adopted based on the arguments that exchange control ensures the stability of the currency. While some researchers emphasize this attribute of a fixed exchange rate regime, others argue that given the structure of developing countries' economies, the optimal exchange rate policy is a fixed rather than flexible one. Some other proponents of the fixed regime make the point that

flexible exchange rates are not thought to be desirable especially in the third world because they are unpredictable and susceptible to foreign and domestic currency speculation. Such unpredictable fluctuations can wreak havoc on both short- and long-range development plans.

The proponents of flexible exchange rates, on the other hand, deny the propositions that fixed regimes generate exchange rate stability and economy-wide benefits. They argue that a fixed exchange rate regime cannot guarantee stability since the rates must be adjusted from time to time. Others assert that pegged currencies often float against other currencies and that the cost of controls and the rules governing foreign exchange allocation generate very high inefficiencies in the foreign exchange market and, hence, the economy.

The inference from the exchange-rate regime debate suggests that it does not matter which regime is adopted provided it is consistent with the economy-wide macroeconomic policy. However, where the domestic currency is over-valued (due to both internal and external shocks, or expansionary fiscal and monetary policies, etc.), it is more appropriate to adopt a flexible regime that will respond to the fundamentals of the economy. The shift from a fixed to a flexible regime is, therefore, a response to these realities.

Indeed, the shift in exchange rate policy from controls to deregulation has made the market mechanism dominant in the management of foreign exchange in two of the three countries under study; the third, Nigeria, reversed its policy in 1993. The over-valuations, which exhibited huge divergence between the official and the parallel or black market rates prior to the reform, were gradually reduced by the use of auctioning of foreign exchange as transition measures in Ghana and Uganda.

The reform of exchange rate policy sought to bring about a competitive exchange rate for the domestic currencies. The desirability of a competitive exchange rate rested on the theoretical prediction that it would lead to a more efficient allocation and use of economic resources within economies and, as a result, improve external competitiveness. Consequently, the desire to improve the internal competitiveness of the economy and its competitiveness in international markets as well as to achieve the convergence of the official and the parallel markets are the key justifications for the exchange rate reform.

We also argued that the concept of convergence does not insist on equality of all the exchange rates in the various exchange rate markets. There may be a divergence of more or less 6% as was the case in Ghana and more or less 12% in Uganda. It is crucial to note that cognizance must be taken of all transaction costs as well as the influence of macroeconomic policies (including fiscal and monetary) and/or balance of payments on unification and the credibility of exchange rate policy. The institutional costs include transferability costs, late delivery costs and documentation, which underscore why perfect equality may not be achieved for unification to hold. In a three sub-market analysis, using the example of the Nigerian triconomy in which there are three markets, namely, official, export proceeds and the parallel/bureau markets, the definition must be extended to take into consideration the following: transferability costs; late delivery costs; documentation cost; time limit costs; communication costs; miscellaneous costs; and the over-valuation factor.

It is apparent that if these institutional and other costs were zero, the exchange rates in all the markets would converge to the parallel market rate. Therefore, the size and

trend of institutional costs are major influences on exchange rate convergence. An equally fundamental implication is that the *difference between the official and parallel market rates is not a precise indicator of the extent of over-valuation*. This framework implies that the difference or gap - what is commonly referred to as the premium - must be adjusted for the sum of institutional costs to generate a precise value for currency over-valuation. It is for this adjustment that the estimate of over-valuation was about 50% of the rate differential between the official and parallel markets in Nigeria. However, it has been noted that the lower the transactions costs (the premium), the more efficient the market; hence the use of the theoretical condition of 6% degree of divergence.

In answer to the question of whether convergence is possible, our answer is that it is possible under certain conditions. First, institutional barriers must be uniform and hence non-discriminatory. In the alternative, the costs generated from these barriers should approach zero over time. Second, exchange rate policy should be more informed and more stable. Third, the macroeconomic policy environment should lead to a rise in foreign exchange supply and a decline in its demand. Increase in export earnings, better accountability and decline in debt service would lead to an increase in supply, while fiscal and monetary restraint and increased stability in the auction market would reduce demand. A combination of these factors would lead to an efficient and sustainable exchange rate policy in an economy. To a large extent, these have eluded Nigeria.

We also investigated the issue of sustainability of convergence. As pointed out, this is the most worrisome issue. Unlike the feasibility consideration, which has to do mainly with the stabilization phase of the reform process and the achievement of static efficiency, sustainability relates to more fundamental structural changes that will lead to growth and development so that the economy is able to strengthen and expand its capacity to increase export earnings in order to support debt servicing as well as to finance current imports of goods and services. The issue of sustainability of convergence remains a worrisome one in all three countries, even though Ghana and Uganda have achieved convergence. The explanation may be in the "policy (in)credibility" behaviour inherent in the policy regime and whether there were other exogenous circumstances beyond policy makers, particularly in Nigeria. The implications of the unification of sustainability are of great concern to all less developed countries. If sustainability is not attainable, is it wise to pursue the convergence? Might Nigeria have been wiser to avoid unification altogether? Why did Nigeria fail to achieve unification? This set of questions demands answers, however tentative.

From the country cases, it could be deduced that Ghana and Uganda achieved convergence because of the harmony between fiscal, monetary and exchange rate policies as well as the credibility and transparency of the reform process. Nigeria could not achieve convergence because of the absence of credibility and transparency, in particular because of fiscal indiscipline, macroeconomic policy (in)credibility and inconsistency, rampant interference in the foreign exchange market, and too many sub-markets and institutional barriers. The convergence attained on 5 March 1992 was forced by the political (and monetary) authorities. Sooner rather than later the gap widened again. It is, therefore, doubtful that it was wise for Nigeria to abandon the process.

The question of the sustainability of unification compels us to investigate the main

sources of foreign exchange and whether they are induced or autonomous. The main sources identified are exports earnings, capital inflows such as loans and unrequited transfers (private and official), and direct foreign investment (DFI). The legitimate question that may be asked is whether the capital inflows, unrequited transfers and DFI are autonomous or induced. If they are autonomous then developing countries may not suffer much set-back should the inflows dry up and the IMF and the World Bank pull out, provided that people's expectations during the period of exchange rate unification are changed to regard the new exchange rate regime as credible - that is, the unified system and its continued existence for capital inflow and DFI must be expected to continue. But if the capital inflows are induced, then as soon as the inducing factors (such as the presence of the IMF and the World Bank that provide the credibility cover) come to an end these countries may be in serious trouble. The difficulty will be more serious if the process of unification and stability of the foreign exchange market has not been able to change people's expectations. From the country cases it could be inferred that the greater part of the inflows are from exports as well as from both multilateral and bilateral sources. It is doubtful whether convergence can be sustained, especially in Ghana and Uganda, unless the current inflows lead to expansion and diversification of the export base of these countries.

For sustainability, therefore, there is also the need to consider the institutional cum regulatory system and the response of the export supply, as well as how temporary increases in foreign exchange supply are managed to avoid unnecessary appreciation of the exchange rate. A strong lesson that may be drawn from the Ugandan experience is that the removal of disparities in institutional constraints facing the parallel and the auction sub-markets (for example, the distinction between the use of funds and pre-shipment requirements) paved the way for convergence of the two exchange rates. The Nigerian reform process had to grapple with three (or even four) separate sub-markets with different characteristics and institutional restrictions. These institutional constraints have to be carefully sequenced and eliminated for effective functioning of the market as a whole to build further confidence in the foreign exchange policy.

With regard to appreciation of the exchange rate, it is conclusive that there is appreciation in the exchange rate especially in Uganda resulting in the "Uganda disease syndrome"; this is also happening in Ghana to some extent. The primary objective of exchange rate policy is to achieve a stable real exchange rate. The recent rapid appreciation in the external value of the Uganda shilling (and the Ghanaian cedi) is a threat to the programme of export development and the promotion of balance of payments viability. A number of export products are no longer as competitive as they should be. The alternative of depreciating the exchange rate has associated costs relating to domestic price stability that make it unattractive.

The main developments, particularly in the context of Uganda (and to some extent in Ghana), call into question the sustainability of the unified marked-based exchange rate, unless accompanied by development policy measures and going beyond static efficiency. We need to strive for a dynamic efficiency that will propel the development of our economies. A unified, market-based, but appreciated, exchange rate raises the fundamental question of the extent to which governments should refrain from intervening in the foreign

exchange market. Appreciation taxes exports and subsidizes imports. This makes attainment of external equilibrium unfeasible. Had Uganda not recently been lucky enough to experience the coffee boom, the current account balance would have remained persistently negative. The country relied on donor funds to finance external requirements, a state that is not sustainable since it builds up external debt. The same picture holds for Ghana and Nigeria.

The key issue here is for the country to identify temporary causes in exchange rate movements that must be ironed out by intervention to prevent the exchange rate from taxing exports and subsidizing imports over the long term. In Ghana and Uganda, where convergence has been attained, diversification of sources of foreign exchange has proceeded very slowly since the adoption of the market-based exchange rate policy. The move towards a market-based exchange rate, while necessary, does not appear sufficient to address this structural problem. In addition to these "price" factors, there is need to focus on "non-price" factors, as well as institutional considerations. Investments in productivity, quality improvements, market information and infrastructure have been identified as essential to the diversification of the export base in all three countries in order to ensure an increasing stream of foreign exchange earnings.

Notes

1. For our purpose we shall focus on the nominal exchange rate and/or real exchange rate unless otherwise stated. Such other concepts as equilibrium nominal and real exchange rates will be explained as and when necessary.

2. This section draws heavily and directly from Dordunoo (1994 October and 1994 June)

3. The Global Coalition for Africa, 1992, *1992 Annual Report*, page 26.

4. The Global Coalition for Africa, 1992, *1992 Annual Report,* page, 40.

5. Note the implied or assumed symmetry between policy and policy effects. Note further that success of reform could depend on the validity of the premise.

6. This underscores the fact that final users of foreign exchange have to overcome CBN institutional checks before authorized dealers can allow them access to officially sourced foreign exchange.

7. Note, however, that the CBN did not have a precise or empirically valid and theoretically consistent value of what rate was realistic.

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