

ABSTRACT

Exchange Rate Policy and Implications for Agricultural Market Integration in West Africa

by

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This paper examines the history of exchange rate policy in the Communaute Financiere Africaine (CFA) zones of West Africa and offers an assessment of the current official position of the CFA franc with respect to its equilibrium level. It begins with a brief description of the CFA zones' history and institutional structure in Section I. Section II examines the theoretical literature on the linkage between exchange rate and agricultural development policies, on definitions of exchange rate overvaluation, and on the use of exchange rate policy to effect macroeconomic stability. Section III applies this literature to West Africa and presents an empirical analysis of the apparent degree of overvaluation of the CFA franc. Finally, Section IV assesses the implications of alternative exchange rate regimes for agricultural market integration in West Africa.

The report concludes that:

- (1) the CFA franc (CFAF) is overvalued by 50%;
- (2) this has important costs for CFAF countries;
- (3) with 50% devaluation, prices would remain as at present, but there would be budgetary implication;
- (4) without devaluation, non-CFAF countries would have to raise tariffs about 50% or CFAF countries would have to lower tariffs an equivalent amount to allow free trade.
- (5) subsequent variation in exchange rate should create no problem as long as these just offset differing rates of inflation; and
- (6) to the extent that exchange rate variations occur for other reasons, there would be a need to adjust external trade barriers or to abandon internal free trade.

EXCHANGE RATE POLICY AND
IMPLICATIONS FOR AGRICULTURAL MARKET INTEGRATION
IN WEST AFRICA

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Any efforts to increase economic integration in West Africa, such as those being discussed as part of the CILSS/Club du Sahel study, must incorporate relationships between different exchange rate regimes. This is particularly important in West Africa because of the divergence between the countries included in the CFA franc currency areas, which have maintained a fixed rate of exchange with the French franc, and the other countries, which have pursued independent monetary and exchange rate policies. As this last group has moved towards greater exchange rate flexibility in recent years, the price changes that have occurred because of exchange rate movements have given rise to an increasingly distorted structure of incentives across countries. If the West African region were to eliminate internal barriers to the flow of agricultural trade, these distortions would have a major impact on resource allocation as long as the CFAF countries maintain their currency at its current parity with the French franc. At the same time, the construction of external trade barriers to protect the region would have to take into account levels and variations of exchange rates.

This paper examines the history of exchange rate policy in the Communauté Financière Africaine (CFA) zones of West Africa and offers an assessment of the current official position of the CFA franc with respect to its equilibrium level. It begins with a brief description of the CFA zones' history and institutional structure in section I. Section II examines the theoretical literature on the linkage between exchange rate and agricultural development policies, on definitions of exchange rate overvaluation, and on the use of exchange rate policy to effect macroeconomic stability. Section III applies this literature to West Africa and presents an empirical analysis of the apparent degree of overvaluation of the CFA franc. Finally, section IV assesses the implications of alternative exchange rate regimes for agricultural market integration in West Africa.

I. Background

Since independence from colonial rule in West and Central Africa, many former French colonies have belonged to a regional monetary union known as the Communauté Financière Africaine (CFA).¹ Countries in West Africa are part of the West African Monetary Union (UMOA), whose monetary policy is implemented by the Banque Centrale des Etats de l'Afrique de l'Ouest (BCEAO), while central African countries are members of the Banque des Etats de l'Afrique Centrale (BEAC).² The Community maintains fixed parity of the domestic currency, the CFA franc (CFAF), with the French franc (FF) at a 50:1 rate. This rate has been in effect since 1948. Its modification, however, is not juridically excluded by the CFA.

Convertibility of the CFAF with foreign currency is assured on current account transactions. Each member country is required to hold 65% of its foreign exchange reserves in an operating account of the French Treasury. In return, each country can overdraw the account by up to 20% of expected earnings in order to finance temporary current account disequilibria. In theory, in the BEAC zone, monetary growth is controlled via traditional bank credit instruments (discount rates, reserve requirements) vis-à-vis private sector banks and enterprises as well as the central bank, while in the BCEAO zone, monetary policy governing the private sector is determined residually after the public banking sector satisfies its own monetary requirement. These distinctions probably not as sharply defined in reality. Details of this arrangement are described elsewhere (Devarajan and de Melo, 1987a; Vallée, 1989).

Some limits govern currency transactions relating to tourism, salary transfers, forward exchange market transactions, and foreign currency repatriation. Export receipts from sales both within and outside of the franc zone are to be held in a bank of the exporting country. Also, franc zone banks cannot hold foreign exchange reserves in excess of their operating needs (Guillaumont (1988), p. 68).

Countries participating in the CFA were once the epitome of monetary stability. The union afforded member countries balance of payments credits from France, domestic monetary and fiscal policy stability, and a credible rate of exchange with other foreign currencies. These qualities of the currency union in turn were to foster international capital inflows and thus more rapid economic development. In contrast, economic stability in neighboring countries was threatened by their independently managed policies which led to greater

¹ For a more detailed discussion of the institutional structure governing the CFAF-FF relationship, see Vallée (1989), Guillaumont (1988), and Bhatia (1985).

² BCEAO countries include Benin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Senegal, and Togo, while BEAC regroups Cameroon, the Central African Republic, the Congo, Gabon, Equatorial Guinea (since 1985), and Chad. Madagascar and Mauritania left the Community in 1973. Mali was a member from 1962 to 1967 and rejoined again in 1984. Guinea-Conakry left the CFA upon independence.

variability of domestic monetary, fiscal, and exchange rate policy, and thus higher rates of inflation and slower rates of growth.

As a result, the markets of many of the non-CFA countries came to be characterized by a dual price structure in which prices on the free market, including the market for foreign exchange, were much higher than official prices prevailing in the public distribution network, where goods were allocated by administrative decisions rather than in response to changes in relative prices. This often gave rise to extensive rent-seeking activities, to the detriment of more directly productive economic activity. Institutional structures and business procedures, in consequence, became seriously distorted.

Since the early 1980s many African countries have undertaken comprehensive structural adjustment programs, involving a package of institutional and pricing reforms. These have often comprised some combination of 1) devaluation, 2) movement towards a more flexible exchange rate, 3) reduction or elimination of export taxes, 4) easing or elimination of import controls, 5) reduction in the magnitude and variability of import tariffs, 6) privatization or reform of government parastatals, 7) elimination of price controls and restrictions on private marketing, and 8) reduction of public sector employment. These reforms have altered the structure of incentives in the direction of opening the economy to international trade and increasing the relative importance of the private sector. The ultimate goal has been to increase economic growth.

The first two of these reforms - - devaluation of the domestic currency and the institution of more flexible exchange rate regimes - - have not been available to countries in the CFA zones. Therefore, to the extent that the fixed peg to the French franc no longer reflects the equilibrium level of the CFA franc, patterns of comparative advantage in CFA zone countries currently may not be reflected in relative prices. For example, an overvalued CFA franc would make the domestic price of nontradables, particularly labor, relatively more expensive in CFA countries compared with countries using a more equilibrated rate of exchange. At the same time, the domestic price of tradable goods, such as imported agricultural inputs, would be relatively cheaper. Such skewing of the tradables/nontradables price ratio would encourage increased use of costly production techniques that are intensive in the use of tradable inputs. It would also discourage production of goods for export and as substitutes for artificially cheap imports.

Distortions in the CFAF exchange regime have often introduced biases in cross-border activities. In the past, as a vehicle for gaining access to other foreign currencies, the assured convertibility of the CFAF at a fixed rate to the FF made it a desired exchange commodity for non-CFA zone traders in the region.³ Resources were thus diverted into non-productive activities, such as trading and speculation, whose primary objective was to earn CFAF.

³ See INRA-IRAM-UNB, Echanges céréaliers et politiques agricoles dans le sous-espace ouest: Quelle dynamique régionale? Version provisoire, 2 Janvier 1991.

As the CFA franc has become increasingly overvalued, however, demand for it has lessened at the official rate of exchange. Yet the continued backing of the CFA franc by the French Treasury has maintained its convertibility. As a consequence, imports into the CFA franc countries from its neighbors have increased rapidly. Many of these flows are illegal re-exports from the non-CFA franc countries. This has the effect of undermining the trade policies of the CFA franc countries and of depriving them of much tariff revenue. It also results in substantial resource losses through rent-seeking behavior on the part of traders.

There is some indication that the CFA franc may be devalued. The convertibility of the currency coupled with speculation as to its overvaluation has led to a large transfer of banknotes out of the zone.⁴ Rising debt burdens of some CFA franc countries now also threaten their perceived creditworthiness, resulting in plunging values of their debt on secondary markets. The price of Ivorian debt, for example, fell to 6% of its face value in early 1990.⁵ Commercial creditors of the Côte d'Ivoire have in the recent past made rescheduling of outstanding loans conditional on a CFA franc devaluation of some 90%.⁶ Thus it is important to look at the degree of exchange rate change that might take place and the implications that this would have for economic integration in West Africa.

II. Brief Survey of the Theoretical Literature

In this section we first examine the effect of exchange rate policy on agricultural sector development. We then review several pertinent theoretical concepts, including the process by which a currency becomes overvalued and the effects of exchange rate overvaluation on domestic production and trade incentives, on domestic fiscal policy, and on regional commercial relationships.

Exchange rates and agriculture

Exchange rate policy is directly relevant to agricultural development. Schuh recognized immediately after the dismantlement of the Bretton Woods system the pivotal role of exchange rate movements on agricultural trade (Schuh, 1974). Yet exchange rate movements do not simply affect the flow of goods; their

⁴ 47% of all CFA franc notes issued in 1988, for example, flowed to the French treasury (77% of all notes in the Central African Monetary Union BEAC zone and 30% of all notes in the West African Monetary Union BCEAO zone), to be converted into foreign currency. Africa Analysis, Number 99, June 8, 1990.

⁵ Africa Analysis, Number 88, January 5, 1990.

⁶ Africa Analysis, Number 99, June 8, 1990.

variability determines international capital flows as well, which are rapidly growing in magnitude relative to international goods flows.⁷

Recent research has suggested that domestic trade and exchange rate policies affect resource allocation to a far greater degree than do sectoral pricing policies (Krueger, Schiff, Valdés, 1988; Oyejide, 1986; Dorosh and Valdés, 1990). In a comparative study on the political economy of agricultural pricing policy in sixteen developing countries from 1960 to the mid-1980s it was shown that "indirect intervention," i.e. exchange rate, trade, and investment policy, has a greater effect on incentives to producers in the agricultural sector than do sectoral pricing and investment policies ("direct intervention"). Exchange rates, protection to industry, and other policies not aimed specifically at agriculture lead to distortions that effectively tax agriculture, and especially agricultural exports, at a level which is two to three times greater than the level of direct taxation of the sector. Yet these indirect effects are frequently not taken into account by policy makers (Just, 1988).

In addition, as the world becomes increasingly interdependent economically, the macroeconomic policies pursued in country A can have an important effect on the agricultural development of country B. U.S. dollar appreciation in the early 1980s had a detrimental effect on its agricultural exports, particularly to middle income developing countries. Yet rising dollar prices for U.S. agricultural exports and other international commodities whose prices are quoted in dollars improves the competitiveness of commodities produced in Africa, while a depreciating dollar accentuates falling international reference prices and reduces the competitiveness of these products.

Nowhere is this interdependence more acute than in francophone Africa, where the economic competitiveness of the zone vis-à-vis the rest of the world is formally tied to the French franc. Furthermore, as the year 1992 approaches, the strengthening political economic alliances of Europe will imply new changes for the monetary relationships between France and its former colonies.

Exchange rate policy and macroeconomic stability

Any country can decide what institutional form its exchange rate regime should take. Options are to float its currency independently against all foreign currencies or institute some form of fixed or flexible (managed) exchange rate. The choice of regime reflects the country's preferences for domestic economic stability and for independence in determining the appropriate mix of macroeconomic targets (inflation vs. unemployment).

It is often said that for developing countries a fixed peg or flexible (managed) float is preferable to a free float. There are several factors which affect such a choice (Wickham, 1985). One is the extent to which capital markets are integrated into the international system. A fully integrated market, with

⁷ Schuh (1988) notes that, in 1984, total international financial flows amounted to US \$42 trillion, swamping international trade flows of US \$2 trillion.

sufficient depth, forward exchange facilities, markets for stocks and securities, etc. will allow capital to be shifted relatively easily between domestic and foreign assets, resulting in a fairly stable floating exchange rate. The underdevelopment of financial markets, common in developing countries, argues in favor of a fixed peg or managed exchange rate system.

By defining a peg with respect to a single currency, a country is in effect defining itself to be part of an "optimum currency area." Factors critical to such a definition have been identified, including a high degree of factor mobility within the currency area (Mundell, 1961), a high degree of openness of the economy (McKinnon, 1963), limited product diversification in trade (Kenen, 1969), similarity of inflation rates, and a fairly high degree of macroeconomic policy coordination.

Benefits to a pegged system include 1) securing of the monetary value of the domestic currency, which might otherwise be eroded by excessive domestic price volatility, 2) more stable relative prices and overall domestic price levels, and 3) a greater arsenal of tools from which to design overall macroeconomic policy. On the other hand, it has been argued that a peg implies 1) a lack of flexibility for domestic monetary and fiscal policy, 2) the importation of inflation, 3) loss of exploitation of a different seignorage rate on the domestic currency.

As the degree of overvaluation of the CFA franc has increased, some of the disadvantages associated with a common currency area have become more evident. Given the inability to move the exchange rate, adjustment has had to depend on macroeconomic restraint coupled with increases in the productivity of nontradable factor inputs. The former depends on strict controls to limit the supply of money and credit to the private sector, as well as the avoidance of large government budget deficits. To the extent that governments are not able to control their fiscal situation, but monetary controls remain in place, the supply of credit to the private sector is diminished further. This may have a very adverse effect on the level of business activity.

Macroeconomic restraint is likely to make it more difficult to increase the productivity of factor inputs. This is added to the more general problems that exist in West Africa of increasing factor productivity through capital investment and technological innovation. As a result, adjustment through macroeconomic restraint is likely to be a slow and painful process, which may do much to inhibit economic growth.

Maintenance of an overvalued exchange rate may be favored by government because it provides an implicit source of "revenue" to the state (Pinto, 1990). In order to finance its operations, a government has recourse to several fiscal tools. It can explicitly tax economic actors through a variety of trade, income, property, etc. taxes. In most sub-Saharan African countries, however, income and property tax options are quite limited and taxes on trade tend to incur smuggling, tax evasion, and other rent-seeking behavior. A government can also implicitly collect taxes through the monetization of fiscal deficits, i.e., by printing money and allowing inflation to erode real income. Finally, producers and consumers can be taxed indirectly via exchange rate policy.

This "indirect" source of government revenue is in the form of a tax on the foreign exchange earned by exporters, which must be converted into domestic currency at the official exchange rate. The government pays less for the exporter's dollars than it otherwise would, i.e., the government's access to foreign exchange is subsidized. The effect is to reduce dependence on explicit taxation or inflation as a means to cover the government's fiscal deficits.⁸

This linkage between exchange rate "taxation" and government spending implies that unification of official and parallel market exchange rates through devaluation without prior fiscal policy reform will fail. Unless a government makes credible efforts to bring government spending in line with explicit tax revenues, it will be forced to rely on inflation as a means of paying for its fiscal deficit. A surge in nominal domestic price levels will only revive the previous disequilibrium in the foreign exchange market, rendering previous devaluations ineffective. Also, surges in domestic inflation lead to increased political discontent, making the elimination of such heavy burdens on government budgets as consumer subsidy programs even less likely.

Exchange rate overvaluation⁹

The exchange rate is a price which reflects the cost of foreign exchange to the domestic economy. When the exchange rate market is in equilibrium, balance is achieved on both external and internal accounts. External balance is achieved when any imbalance on the trade, or current, account, is matched by sustainable capital flows in the opposite direction. A current account deficit, for example, wherein the value of imports (M) is greater than the value of exports (X), may be offset by inflows of capital. Thus there is neither excess demand for nor excess supply of foreign exchange in the country. Internal economic balance is achieved when the domestic nontradable goods market both clears in the current period and is expected to clear in the future period.

Markets for foreign exchange are not always allowed to operate freely. In many countries, official exchange rates are set by central bank authorities at levels which may not reflect the shadow price or opportunity cost of foreign exchange. When the official rate (measured in units of domestic currency per unit of foreign currency) is below its equilibrium value, the official rate is said to be overvalued. This may occur as a result of one or more sustained macroeconomic disequilibria. According to Dornbusch (1988, p. 80), "the main causes of overvaluation are expansion in domestic demand (possibly as a result

⁸ The ability of the government to collect this tax on foreign exchange is somewhat more complicated than suggested here because the exchange rate premium is acquired by the central bank or other exchange authorities rather than by the central government treasury. Nevertheless, the government is likely to have priority access to foreign exchange at the overvalued official rate. Furthermore, government access to central bank credit will be less inflationary to the extent that the real value of that credit in terms of foreign currency will be greater than at the official exchange rate.

⁹ This section draws heavily on (Edwards, 1989a) and (Helmers, 1988).

of increased government spending), loss of export revenue (because of a drop in the price of commodity exports), and deficits in external balance (because of increases in import costs)."

Overvaluation of the exchange rate means that demand for foreign exchange exceeds supply as the price of tradables expressed in domestic prices declines relative to the price of nontradables. This discourages production of and encourages expenditures on tradable goods, which results in a current account deficit ($M > X$). This may be matched by a capital inflow, incurring an increase of private or public debt, or by a foreign exchange reserve draw down.

Alternatively, excess demand for foreign exchange at the official exchange rate may be taxed via import tariffs or it can be rationed in one of several ways. Import licenses may be required, with or without exchange controls. Available in limited quantity, these often are allocated via administrative fiat. The residual excess demand for imports at artificially depressed prices then spills over into secondary markets for goods, and for foreign exchange where there are exchange controls. The prices in these markets reflect scarcity values adjusted for a risk premium where the secondary markets are illegal.

When tariffs, import restrictions, and exchange controls decrease the demand for foreign exchange, the value of the domestic currency appreciates. The supply of foreign exchange at the official price is therefore reduced, as exporters are reluctant to be penalized by selling their goods abroad at the official exchange rate.

At the same time, domestic import-substitution activities (production of tradable goods and inputs) also suffer. Imports of competing commodities and inputs are encouraged via the overvalued exchange rate because they are sold in domestic currency at a lower domestic price than would be the case in the absence of exchange market distortions. This may be offset, however, by the effects of tariffs, import restrictions, and exchange controls, which act to raise the prices of importable goods on secondary markets. The fact that import-competing activities benefit from trade protection whereas export activities generally do not implies a further bias against exports beyond that directly due to currency overvaluation.

The effects of these distortions are felt in domestic factor markets as well as the markets for goods and services. The demand for labor, for example, is redirected from tradable into nontradable activities. In West Africa, this translates into a "retreat of the peasantry" away from agricultural export (cotton, cocoa, palm oil, coffee, etc.) and import-substitution (rice) activities and into the production of nontradable agricultural commodities (millet/sorghum, cassava, plantain, yams) for home or local consumption. Furthermore, these nontradable activities are pursued with a much higher tradable component of total production costs than would otherwise be the case, due to the relatively cheap price of fertilizer, pesticides, machinery, etc.

Over the longer run, sustained overvaluation leads to capital outflows resulting from disinvestment and speculation to hedge against devaluation. Sustained overvaluation also increases the costs of the eventual adjustment, and

becomes an even greater political target due its high visibility once devaluation finally does take place.

In order to achieve economic equilibrium, governments have a variety of tools from which to choose (Helmets, 1988). Expenditure-changing policies, such as fiscal and monetary policies, affect the levels of domestic output and expenditures, while expenditure-switching policies, such as trade and exchange rate policies, redirect economic activity between tradable and nontradable sectors. Usually, some combination of changing and switching policies is implemented in order for economic activity to be redirected with a minimum of recession or inflation.

Countries that attempt to implement trade reform in order to switch expenditures without undertaking successful exchange rate reform frequently are unable to maintain momentum in their reform program (Bienen, 1990). Devaluation of the official exchange rate is expected to induce both a domestic export supply response and, in the absence of capital controls, a foreign capital supply response. Exporters are encouraged to sell their goods abroad because of the increased domestic price received for their sales abroad. Foreign capital is attracted into the country because it becomes cheaper to produce domestically relative to abroad (and concurrently, imports of those goods produced abroad are now more expensive). Both lead to an inflow of foreign exchange at the same time that devaluation also lessens the outflow of foreign exchange used to buy imports. Success depends, however, on both the devaluation and the accompanying stabilization package being convincing in their redressment of the problem of currency overvaluation. If not, domestic capital will flee abroad in the face of depreciating domestic assets.

Devaluation generally shifts the intersectoral terms of trade in favor of agriculture. The domestic price of agricultural tradables rises, and this generally offsets the effects of any reduction in trade protection, encouraging both export and import-substitution activities. Devaluation also favors a return to activities that are more intensive in their use of domestic factors of production as opposed to imported inputs. To the extent that agricultural production is more factor-intensive than industrial production, the agricultural sector benefits relatively more from the devaluation.

Measures of exchange rate overvaluation

Economists seek to measure the distortion of the official exchange rate relative to its equilibrium rate using one of several techniques. These can generally be classified as some version of either the purchasing power parity approach or the elasticity approach.

Purchasing power parity approach

The real exchange rate (RER) focuses simply on changes in relative price levels between country X and its trading partners. The RER is estimated using the purchasing power parity (PPP) approach. Purchasing power parity theory is derived essentially from a monetary approach to the balance of payments. To the

extent that domestic monetary and fiscal policy expansion generates a more rapid rate of inflation than exists in the country's trading partners, the domestic prices of nontradables rises more rapidly than the prices of tradables, causing consumers to shift towards the consumption of the latter and producers to move towards production of the former. The current account moves into deficit under such conditions. To the extent that this shift is not sustainable over the longer run through capital flows or transfers, the official exchange rate is no longer in equilibrium. While this approach provides no indication of relative incentives across tradable and nontradable sectors within an economy, it does correct the official exchange rate for relative price movements. It is of practical interest in that it is easily estimated.

To estimate the RER, the official (or nominal) exchange rate, OER, is adjusted by the ratio of the foreign (P_f) to the domestic price (P_d) levels, i.e., $RER_t = OER_t * (P_{ft} / P_{dt})$, where RER_t is the real exchange rate in time t . As a measure of P_f , the foreign wholesale price index, which has a larger share of tradables than the consumer price index, is generally used. As a measure of the domestic price of nontradables, the domestic consumer price index is usually used, although it does include the prices of some tradables.

When there is a diversity of trading partners, the RER rate is usually expressed as a trade-weighted index, accounting for the various shares in total trade held by each of the country's major trading partners. In this case, $RER_t = OER_{it} * \sum_i (P_{fit} / P_{dit})(w_{it})$, where the nominal exchange rate with each trading partner (OER_{it}) is adjusted by changes in the two relative price indices, weighted by the relative trade shares, or w_i . RER calculations thus require data regarding trade shares with major trading partners, the foreign exchange rates of country X and its trading partners with respect to one comparator, usually the U.S. dollar, the domestic consumer price index of country X, and the wholesale price indices of its trading partners.

An increase in P_d relative to P_{ft} results in a decrease of the real exchange rate. A decrease over time in the RER indicates that the official exchange rate is becoming overvalued in the absence of exogenous changes in the demand for and supply of foreign exchange.

Alternatively, the equilibrium exchange rate (EER) can be estimated using the purchasing power parity approach by adjusting the OER in a year when that rate was also the EER for movements in the prices of tradables and nontradables, i.e., $EER_t = OER_0 * (P_{dt} / P_{ft})$. EER_t may then be compared with OER_t to see the extent of overvaluation of OER_t .

Estimation of the equilibrium exchange rate using the purchasing power parity approach suffers from a number of important limitations. Essentially, this approach assumes that disequilibrium occurs because of movements in the relative prices of tradable compared with nontradable goods and services. These occur principally because of differing rates of inflation at home and abroad, requiring adjustments of the exchange rate to maintain equilibrium. But these adjustments may be required even if domestic and foreign rates of inflation are identical.

Four major possibilities exist. First, external prices may vary, causing movements in a country's terms of trade. Both Mali and Senegal, for example, have experienced substantial deterioration of their terms of trade because of a decline in the prices of groundnuts and cotton and a rise in the prices of imports, especially of petroleum products. Although the Ivory Coast has seen less of a long term decline, it has experienced substantial cyclical fluctuations of its export prices, especially those of cocoa.

Second, structural changes within the economy are likely to result in shifts in the demand for and supply of foreign exchange. Growth of per capita income, for example, is normally accompanied by an increase in the demand for tradable foods, such as wheat and rice. Exhaustion of a "vent-for-surplus" period of export growth reduces the rate of expansion in the supply of foreign exchange. Each of these effects should be relatively important for the Ivory Coast, which has experienced substantial increases in per capita income based principally on the expansion of agricultural exports.

Third, cyclical changes within the economy also affect the exchange market. The most important of these, particularly for the Sahelian countries, is drought. During the 1970s and early 1980s, sustained drought in the Sahel resulted in a decline in local food production. Although this reduced incomes and thus the demand for food, this decline was mitigated by donor assistance and transfers from the less vulnerable nonagricultural sectors of the economy. Food aid, although it increased the availability of food locally, did so by increasing capital inflows in a way that was not sustainable. Thus the net demand for imports consistent with a sustainable inflow of capital was increased as a result of the increased demand for food in relation to its supply. The reverse has been true since 1985-86 in view of the return of the rains and increased agricultural production.

Finally, the amount of capital inflow that is sustainable may change over time, altering the exchange rate at which equilibrium is maintained inclusive of this inflow. A major factor determining the capital inflow that is considered sustainable is the external debt situation and degree of investor confidence in the economy. This has deteriorated over the last few years, in the CFAF countries especially, as a result of mounting debt burdens and debt service payments.

The direction of these effects is uniformly towards overvaluation of the CFA franc. It is evident, therefore, that the PPP approach to estimating the equilibrium exchange rate underestimates the degree of overvaluation that exists in the CFAF countries.

It is possible to correct the EER, calculated using the PPP approach, for these effects. To do this, however, requires not only estimates of the elasticities of demand for imports and of supply of exports but also time series data on changes in the terms of trade, structural changes in the domestic demand for and supply of foreign exchange, and any important cyclical factors that may be present.

Short-term deficits in some years which are compensated by surpluses in other years (as in short-term terms of trade movements) would not be considered

a persistent imbalance in the external accounts. Moreover, current account deficits which represent a relatively small portion of total gross domestic product and which are expected to be matched regularly by offsetting capital transfers from "donor" countries are considered "sustainable" and therefore do not reflect a disequilibrium situation.

Elasticities approach

Alternatively, the elasticities approach calculates the EER by adjusting the OER for unsustainable external imbalances and trade distortions (trade taxes or subsidies, price controls, and quantitative restrictions on imports and foreign exchange), using estimated elasticities of demand and supply of foreign exchange.

Assuming there are no distorting trade policies in effect, the EER using the elasticities approach is equal to the following:

$$\begin{aligned} \text{EER} &= \text{OER} + \text{OER} * (\text{DEF} / (e_s * C + e_D * D)), \text{ or} \\ &= \text{OER} * (1 + (\text{DEF} / (e_s * C + e_D * D))) \end{aligned}$$

where DEF is the unsustainable portion of the external deficit registered at the official exchange rate, C is the existing level of current account credits (exports of goods and services plus any inflow of private unrequited transfers), D is the existing level of current account debits (import of goods and services plus any outflow of private transfers), e_s is the price elasticity of supply of foreign exchange, and e_D is the price elasticity of demand for foreign exchange.

In addition, to the extent that distortionary trade taxes or their equivalent quantitative restrictions affect the domestic price of tradables, the EER adjustment must take these into account as well. Thus, the free trade equilibrium exchange rate, EER^* is equal to:

$$\text{EER}^* = \text{OER} * (1 + ((\text{DEF} + \text{ADJ}) / (e_s * C + e_D * D))),$$

where ADJ is an additional adjustment term reflecting the excess demand for or supply of foreign exchange under free trade at the free trade equilibrium exchange rate. It is equal to:

$$\text{ADJ} = \frac{t_m * D * e_D}{(1 + t_m)} - \frac{t_x * C * e_s}{(1 - t_x)}$$

where t_x is the unit tariff equivalent rate on exports and t_m is the unit tariff equivalent rate on imports.¹⁰

¹⁰ For a discussion of the estimation of unit tariff equivalents, see Alberto Valdes, "Estimation of Equivalent Tariff," Note 2, World Bank Comparative Study on the Political Economy of Agricultural Pricing Policies, January 23,

Few empirical estimates of demand and supply elasticities for foreign exchange exist in sub-Saharan Africa. In one analysis of the equilibrium exchange rate for Mali's CFAF, the values of $e_s = 1.0$ and $e_D = 2.0$ were assumed,¹¹ although in retrospect these values seem unduly high. An econometric foreign exchange supply and demand model for Ghana estimated the price elasticity of demand for foreign exchange to be 1.66, the price elasticity of supply of foreign exchange from cocoa exports to be 0.22, and the price elasticity of supply from non-cocoa exports to be 0.35.¹² In the analysis that follows, the following elasticity parameters are used:

	<u>Mali</u>	<u>Senegal</u>	<u>Côte d'Ivoire</u>
e_D	1.0	1.0	1.5
e_s	0.5	0.5	0.5

Different demand parameters are assumed, given each country's relative per capita incomes, and thus the relative sensitivity of each country's demand for imports or foreign exchange. It is assumed here that demand for imports in Côte d'Ivoire, as the wealthiest of the three countries, is more sensitive to changes in price, while that in Mali and Senegal is less so.

III. Empirical Analysis of CFAF Overvaluation

Background data

In examining the degree of openness and direction of trade of the CFAF economies compared with those of non-CFAF African countries, CFAF countries appear relatively more open than the latter. Whereas imports represent over 30% of GDP in Senegal, Mali, and Côte d'Ivoire, comparable figures are 16% to 24% for Guinea, Nigeria, and Ghana (see Table 1).

1986, mimeo.

¹¹ See J. D. Stryker et al., Incentive System and Economic Policy Reform in Mali (Somerville, MA: Associates for International Resources and Development, June 1987).

¹² J. Dirck Stryker et al., Trade, Exchange Rate, and Agricultural Pricing Policies in Ghana (Washington, DC: World Bank, 1990).

TABLE 1: MEASURES OF DEGREE OF OPENNESS OF ECONOMY
(Imports of Goods and Services/GDP)

Year	Côte d'					France	USA	Germany	
	Senegal	Mali	Ivoire	Guinea	Ghana				
1960	41%		31%		35%	15%	11%	4%	17%
1961	35%		36%		36%	15%	11%	4%	17%
1962	33%		33%		28%	12%	11%	4%	17%
1963	32%		31%		27%	12%	12%	4%	17%
1964	28%		30%		24%	14%	12%	4%	18%
1965	28%		30%		27%	14%	12%	4%	19%
1966	26%		29%		20%	13%	12%	5%	19%
1967	29%	25%	29%		20%	15%	12%	5%	18%
1968	29%	19%	28%		21%	14%	13%	5%	19%
1969	32%	20%	27%		20%	14%	14%	5%	20%
1970	32%	19%	29%		23%	10%	15%	5%	21%
1971	33%	22%	28%		20%	12%	15%	6%	21%
1972	34%	21%	29%		15%	10%	16%	6%	20%
1973	39%	24%	33%	18%	16%	13%	17%	7%	21%
1974	49%	43%	38%	15%	22%	13%	22%	9%	24%
1975	42%	31%	37%	18%	20%	20%	18%	8%	23%
1976	44%	22%	36%	25%	16%	21%	20%	8%	25%
1977	50%	21%	36%	19%	12%	23%	20%	9%	25%
1978	44%	32%	37%	21%	10%	21%	19%	9%	24%
1979	42%	31%	38%	23%	11%	17%	21%	10%	26%
1980	45%	35%	40%	22%	9%	17%	23%	11%	29%
1981	61%	32%	42%	25%	5%	23%	24%	10%	30%
1982	50%	32%	39%	27%	3%	20%	24%	9%	30%
1983	51%	39%	38%	27%	9%	15%	23%	10%	29%
1984	51%	41%	34%	23%	8%	12%	23%	10%	31%
1985	44%	55%	33%	22%	12%	11%	23%	10%	31%
1986	35%	41%	27%	33%	18%	13%	20%	10%	27%
1987	44%	33%	28%	30%	23%	27%	21%	11%	26%
1988*	41%	39%	31%	29%	21%		21%	11%	27%
1989*	41%	35%	32%	26%	28%		23%	11%	29%

Source: World Bank, African Economic and Financial Database (African countries)
International Monetary Fund, International Financial Statistics
(France, US, Germany)

Note: Where blank, data not available.

* For African countries, denotes World Bank estimates.

Furthermore, the percentage of total official trade (imports plus exports) with France, measured from 1978 through 1989, remains significantly greater for the CFAF countries, as compared with trade concentration among the non-CFAF African countries (Table 2).

TABLE 2: MEASURES OF TRADE CONCENTRATION, 1978-89

..... Percentage of Total Official Trade with:

	United States	France	Germany	United Kingdom	Côte d'Ivoire	Nigeria
Senegal	4 %	33 %	3 %		5 %	5 %
Mali	3 %	27 %	8 %		19 %	1 %
Côte d'Ivoire	9 %	25 %	5 %	3 %		4 %
Guinea	20 %	21 %	9 %	4 %		
Ghana	12 %	2 %	10 %	19 %	1 %	11 %
Nigeria	24 %	11 %	10 %	9 %	1 %	

Source: International Monetary Fund, Direction of Trade Statistics

Table 3 on the following page compares the variability of the value of the domestic currency with respect to the U.S. dollar. When indices of the official exchange rate, as measured in dollars per unit of local currency, are compared across countries, one first observes that, unlike the Guinean, Ghanaian, and Nigerian currencies, the official value of the CFAF has appreciated twice relative to the U.S. dollar, first over the 1970s, after which the dollar appreciated significantly, and then again over the 1980s. The coefficient of variation (C.V.)¹³ of the \$/CFAF index from 1968 to 1989 is 20%, while those for the three non-CFA countries included here are 45%, 73% and 37% respectively. By contrast, the \$/deutsche mark C.V. is 24% and the FF/DM C.V. is 32%. The coefficient of variation of the U.S. dollar to the SDR has been 10% over the same period. Thus the nominal or official rate of exchange between the CFAF and the dollar has been even more stable than that between the French franc and the German deutsche mark.

¹³ The coefficient of variation equals a series' standard deviation divided by its mean.

TABLE 3: OFFICIAL EXCHANGE RATE INDICES (\$/local currency) (1989=100)

Year	CFA Zone	Guinea	Ghana	Nigeria	France	Germany	France/ Germany	SDR
1968	129	2410	26486	1030	129	47	275	78
1969	123	2410	26486	1030	123	48	258	78
1970	115	2410	26486	1030	115	51	224	78
1971	116	2420	26276	1032	115	54	214	78
1972	126	2622	20495	1118	126	59	214	85
1973	143	2876	23203	1118	143	70	203	93
1974	133	2890	23503	1170	133	73	182	94
1975	149	2876	23503	1196	149	76	195	95
1976	134	2782	23503	1174	134	75	179	90
1977	130	2821	23503	1142	130	81	160	91
1978	141	3022	17841	1159	141	94	151	98
1979	150	3116	9827	1221	150	103	146	101
1980	151	3133	9827	1346	151	103	146	102
1981	117	2848	9827	1199	117	83	141	92
1982	97	2657	9827	1093	97	77	125	86
1983	84	2577	7835	1017	84	74	114	83
1984	73	2470	765	963	73	66	111	80
1985	71	2450	500	825	71	64	111	79
1986	92	164	303	546	92	87	106	92
1987	106	139	184	184	106	105	101	101
1988	107	125	135	164	107	107	100	105
1989	100	100	100	100	100	100	100	100
Coefficient of variation	20%	45%	73%	37%	20%	24%	32%	10%

Source: International Monetary Fund, International Financial Statistics, 1990

Note: A decrease in the official exchange rate index indicates a depreciation of the domestic currency with respect to the numeraire (the US dollar or French franc).

Coefficient of variation = standard deviation/mean

But how has the record of official exchange rate stability compared with the zone's macroeconomic management record? Has the stability of the official rate been maintained at a cost to economic efficiency? How has price inflation in the CFA countries compared to that in industrial countries? How have current account balances and financing flows evolved in the CFA countries, with what implications for equilibrium exchange rates? What is the effect of rising foreign debt obligations on the value of the CFA? To the extent that official exchange rates do not reflect equilibrium values, has economic growth in the CFA countries suffered as a result? Finally, what has been the effect of exchange rate movements on the domestic price of nontradables, especially wage rates,

which influences the comparative advantage of producing agricultural commodities across countries in the West African region?

The evolution of credit availability in Senegal, Mali, and Côte d'Ivoire is presented in table 4 below.¹⁴ The credit figures indicate several things. First, claims on the central government became positive in all three countries by the 1980s (in Mali, this has always been the case), indicating that governments became net borrowers from the monetary system. The proportion of total credit extended to the public sector during the 1980s varies greatly, however, from only 12% in Côte d'Ivoire, to 23% in Senegal, and as much as 45% in Mali.¹⁵ Over the entire period (1962 to 1989), total credit (in nominal CFAF) grew by 5 to 7.5% per year, which is somewhat lower than the average rate of inflation in the CFA countries (see section below).¹⁶ Total credit expansion was most aggressively pursued in the 1970s (except in Mali, where it expanded most rapidly during the 1960s), as central banks were given greater discretionary credit creation powers. In the 1980s, however, while total credit expansion slowed to less than 3% per annum in all three countries, credit to the public sector was still being increased in Senegal and Côte d'Ivoire at a rate of more than 6% per year. This suggests that the effort to maintain macroeconomic equilibrium in the face of an overvalued currency may have had severe consequences for private business activity.

¹⁴ See Edwards (1989b) for a discussion of the relevance of the variables in Table 4 to the question of monetary management and exchange rate disequilibrium. One variable mentioned by Edwards, the ratio of the government fiscal deficit to GDP, is not treated here given the limited availability of government finance data for the countries in question.

¹⁵ This is comparable to Edwards' observations in Latin America, where the ratio of public sector domestic credit to total domestic credit ranged from 7.7% in the first quartile to 25.5% in the median group and 45.6% in the third quartile in the year when the currency was devalued, compared with 11.4% in the median of the control group of non-devaluing developing countries. (Edwards 1989b, p. 466).

¹⁶ Edwards found much higher annual rates of credit growth in his study: 19 to 45% (in the year of devaluation) for total credit and 24 to 114% (year of devaluation) for credit to the public sector. (Edwards 1989b, p. 466).

TABLE 4: AVAILABILITY OF DOMESTIC CREDIT (billions CFAF)

	Cote d'Ivoire			Mali			Senegal		
	Domestic credit	Claims Central Govt	%Govt/ Tot	Domestic credit	Claims Central Govt	%Govt/ Tot	Domestic credit	Claims Central Govt	%Govt/ Tot
1962	29.2	-.4	-1.4%	7.0	3.2	45.9%	23.5	-10.8	-45.7%
1963	30.3	-6.3	-20.8%	9.3	4.2	44.7%	23.6	-10.7	-45.2%
1964	41.1	-6.3	-15.3%	13.0	5.4	41.2%	26.3	-8.9	-34.0%
1965	38.5	-6.2	-16.1%	14.7	8.7	59.3%	27.9	-6.7	-23.8%
1966	40.9	-7.3	-17.8%	18.9	12.4	65.5%	22.1	-8.8	-39.7%
1967	51.2	-3.6	-7.0%	27.1	19.5	72.1%	22.6	-4.5	-20.0%
1968	55.2	-10.3	-18.7%	24.8	18.3	73.8%	30.2	-2.4	-7.9%
1969	70.2	-8.8	-12.5%	30.9	21.2	68.4%	34.9	.2	.5%
1970	76.4	-16.2	-21.2%	33.2	21.4	64.6%	37.5	.0	-.1%
1971	95.1	-16.2	-17.0%	36.7	22.8	62.2%	39.9	.1	.1%
1972	122.7	-10.2	-8.3%	40.8	23.8	58.4%	47.2	.0	-.1%
1973	150.2	-25.2	-16.8%	47.8	26.2	54.7%	65.7	2.2	3.3%
1974	205.6	-38.1	-18.5%	63.8	29.7	46.5%	90.7	1.0	1.1%
1975	267.2	-25.3	-9.5%	84.0	32.9	39.2%	108.8	1.9	1.7%
1976	370.4	-21.6	-5.8%	97.3	36.0	37.0%	137.0	14.0	10.2%
1977	529.5	-76.0	-14.4%	100.6	47.2	46.9%	162.7	16.7	10.2%
1978	588.8	-107.5	-18.3%	116.7	50.9	43.6%	213.4	16.0	7.5%
1979	677.8	-114.0	-16.8%	131.2	55.1	42.0%	250.6	18.8	7.5%
1980	835.1	-54.7	-6.6%	137.9	55.9	40.5%	293.6	28.7	9.8%
1981	1028.0	61.5	6.0%	149.0	61.6	41.3%	368.9	51.6	14.0%
1982	1098.2	77.0	7.0%	170.9	75.9	44.4%	441.0	98.3	22.3%
1983	1312.0	210.7	16.1%	193.0	91.3	47.3%	477.1	116.3	24.4%
1984	1318.4	235.6	17.9%	162.4	83.9	51.7%	489.9	131.1	26.8%
1985	1287.6	221.8	17.2%	184.5	89.1	48.3%	530.8	150.7	28.4%
1986	1342.9	244.7	18.2%	200.4	87.6	43.7%	535.7	153.5	28.7%
1987	1363.2	177.5	13.0%	188.9	83.8	44.4%	538.9	146.0	27.1%
1988	1441.6	264.5	18.3%	148.5	68.6	46.2%	576.3	151.9	26.4%
1989	1334.9	229.9	17.2%	148.7	58.4	39.3%	532.0	127.2	23.9%
Average,									
1962-69	5.1%		-15.5%	9.2%	12.8%	60.7%	1.7%		-24.3%
1970-79	11.2%		-14.7%	7.2%	4.9%	49.5%	9.8%		4.2%
1980-89	2.0%	6.3%	12.4%	0.4%	0.4%	44.7%	2.6%	6.3%	23.2%
1962-89	7.5%			5.2%	4.7%		6.5%		

Source: International Monetary Fund, International Financial Statistics

Notes: 1) Domestic Credit (IFS, line 32)

2) Claims on Central Government (net) (IFS, line 32an)

Where + = asset, i.e. government owes the central bank

and - = liability, i.e. central bank owes the government

3) % Claims on Central Government to Total Domestic Credit (col. 2 / col. 1)

As seen in table 5 on the following page, consumer prices rose on average 8-9% per annum in the three CFA countries over the period 1968 to 1989.¹⁷ This average annual rate is comparable to that of France, at 8%. A comparison in figure 1 of actual year-to-year changes, however, indicates that there have been years of substantial difference between CFA and French inflation rates, particularly during the early 1970s when the West African central bank was given greater monetary authority by the French treasury. More importantly, while the average level of inflation in CFA countries may have been somewhat higher than in other industrial economies, it has been markedly lower than in non-CFAF African countries where double-digit figures have not been uncommon.

One implication of this analysis is that any overvaluation of the CFA franc that exists is probably not due to more rapid inflation in the CFAF zone than in its major trading partners. Thus overvaluation would have to have been caused by changes in the terms of trade, shifts in the demand for and supply of foreign exchange, and sustainability of capital inflows rather than by purely monetary factors. This contrasts, of course, with the non-CFAF countries in which monetary factors were much more important but were eventually offset by changes in exchange rates.

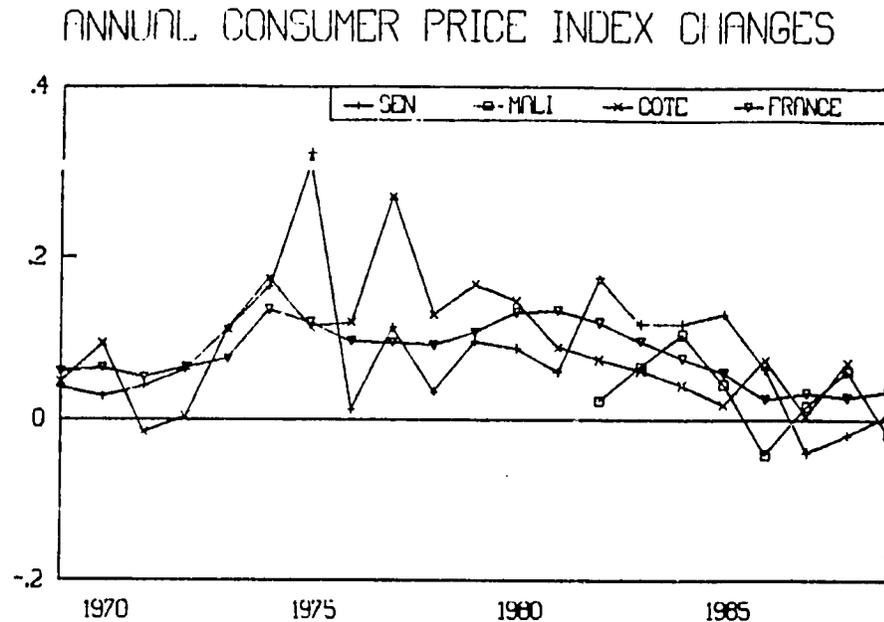
¹⁷ Data for Mali indicate a much lower rate of inflation, though the series is much shorter, and reflects a different source than that used for the other two CFA countries, making the figure of 3.1% per year somewhat less reliable.

TABLE 5: ANNUAL VARIATION IN CONSUMER PRICES FOR SELECTED COUNTRIES

Year	CFA Countries			Non-CFA African Countries			Industrial Countries		
	Senegal	Mali	Cote d'Ivoire	Guinea	Ghana	Nigeria	France	USA	Germany
1969	3.9%	-4.7%	4.7%		6.7%	9.5%	5.8%	5.6%	1.9%
1970	2.8%	-0.1%	9.3%		3.8%	14.1%	6.3%	5.9%	3.5%
1971	4.1%	15.0%	-1.6%		9.6%	16.2%	5.1%	4.2%	5.2%
1972	6.2%	7.8%	.4%		9.9%	3.3%	6.4%	3.5%	5.5%
1973	11.2%	23.4%	11.1%		18.0%	5.6%	7.4%	6.2%	7.2%
1974	16.4%	6.5%	17.4%		18.6%	12.8%	13.5%	10.9%	6.8%
1975	31.7%	9.2%	11.4%		29.3%	33.3%	11.9%	9.2%	5.9%
1976	1.2%	6.2%	11.9%		56.4%	24.5%	9.6%	5.8%	4.3%
1977	11.3%	21.2%	27.6%		116.3%	13.7%	9.5%	6.4%	3.8%
1978	3.5%	24.9%	12.9%		73.0%	21.9%	9.1%	7.6%	2.6%
1979	9.6%	-1.1%	16.7%		54.4%	11.6%	10.7%	11.4%	4.1%
1980	8.8%	21.6%	14.6%		50.1%	9.9%	13.2%	13.5%	5.5%
1981	5.8%	12.2%	8.8%		116.5%	21.0%	13.4%	10.3%	6.3%
1982	17.4%	2.3%	7.4%		22.3%	7.6%	11.8%	6.2%	5.2%
1983	11.7%	6.5%	6.0%		122.8%	23.2%	9.6%	3.2%	3.4%
1984	11.7%	10.5%	4.2%		39.6%	39.6%	7.5%	4.3%	2.4%
1985	13.0%	4.4%	1.8%		10.4%	5.5%	5.7%	3.5%	2.1%
1986	6.2%	-4.4%	7.3%		24.6%	5.4%	2.5%	1.9%	-1.1%
1987	-4.1%	1.7%	.4%	37.0%	39.8%	10.2%	3.3%	3.7%	.2%
1988	-1.9%	6.0%	7.1%	27.0%	31.3%	38.2%	2.7%	4.0%	1.3%
1989	.5%	-1.8%		28.2%	25.2%	40.9%	3.5%	4.8%	2.8%
Average	6.1%	8.0%	9.0%	30.7%	41.8%	17.5%	8.0%	6.3%	3.8%
Avg, 80-89	6.9%	5.9%	6.4%		48.3%	20.2%	7.3%	5.5%	2.9%

Source: International Monetary Fund, International Financial Statistics, except
Mali = 1969-1981, Based on cost of living index presented in Lecaillon and Morrisson,
Economic Policies and Agricultural Performance: The Case of Mali, 1960-1983
(Paris: OECD, 1986), p.34.
1982-1989, World Bank, President's Report, Structural Adjustment Loan, 1990
(Based on private consumer price index)
Guinea = World Bank, Country Economic Memorandum, 1990
(Conakry CPI)

Figure 1



Equilibrium exchange rate estimation

Because monetary factors do not appear to have played a major role in causing the EER to deviate from the OER in the CFAF countries, attention here is focused on the consequences of structural changes in the terms of trade and in the demand for and supply of foreign exchange. It is very difficult, however, to estimate these changes quantitatively since this would require time series analysis that is impossible to perform with the available data. As a consequence, overvaluation was estimated using the elasticities rather than the purchasing power parity approach.

The elasticities approach requires, in addition to the elasticities themselves, estimates of the 1) sustainable current account deficit and 2) the unit tariff equivalent on imports and exports. Each of these is discussed below.

Sustainable current account deficit

Individual CFAF countries may run current account deficits and/or surpluses each year. Many African economies have been able to depend to a certain degree on inflows of official development assistance to cover some portion of their deficits. Such inflows may obviate the need for the domestic economy to resort to exchange rate adjustments to close the external account gap (the "overall balance"). The CFAF zones' arrangement with the French treasury allows in part

for just such contingencies. Other countries and multilateral organizations have in the past also regularly pledged a combination of loans, concessional financing, and debt forgiveness to cover a further portion of the external imbalance.

The recent CFA zone experience with persistent trade and current account deficits raises the issue of their sustainability. Table 6 presents balances on trade (RB), official unrequited transfers (OT), current (CA), and capital (CP) accounts for Côte d'Ivoire, Mali, and Senegal, all as a percentage of GDP.

TABLE 6: RESOURCE BALANCES, CURRENT, AND CAPITAL ACCOUNTS (as % of GDP)

YearCote d'Ivoire.....					Mali.....					Senegal.....					
	X	M	RB	OT	CA	CP	X	M	RB	OT	CA	CP	X	M	RB	OT	CA	CP
1960	40%	31%	8%										40%	41%	-1%			
1961	41%	36%	6%										35%	35%	0%			
1962	40%	33%	7%										32%	33%	-2%			
1963	39%	31%	8%	2%	-2%	0%							28%	32%	-4%			
1964	40%	30%	10%	2%	-2%	0%							26%	28%	-2%			
1965	37%	30%	7%	2%	-4%	4%							24%	28%	-4%			
1966	36%	29%	8%	2%	-5%	3%							26%	26%	0%			
1967	36%	29%	7%	1%	-5%	5%	12%	25%	-14%				26%	29%	-3%			
1968	41%	28%	13%	2%	-2%	0%	11%	19%	-8%				21%	29%	-7%	5%	-10%	2%
1969	37%	27%	10%	2%	-2%	1%	12%	20%	-8%				24%	32%	-8%	5%	-11%	5%
1970	36%	29%	7%	2%	-5%	6%	13%	19%	-6%	6%	-7%	-6%	27%	32%	-5%	6%	-8%	4%
1971	32%	28%	4%	2%	-9%	5%	14%	22%	-7%	5%	-8%	1%	26%	33%	-7%	8%	-11%	4%
1972	33%	29%	4%	3%	-8%	2%	11%	21%	-10%	6%	-8%	-1%	31%	34%	-4%	8%	-7%	0%
1973	36%	33%	3%	2%	-11%	9%	11%	24%	-13%	10%	-15%	3%	29%	39%	-10%	6%	-14%	6%
1974	46%	38%	7%	2%	-4%	4%	13%	43%	-30%	21%	-28%	2%	42%	49%	-7%	6%	-11%	4%
1975	37%	37%	0%	1%	-11%	7%	10%	31%	-21%	12%	-20%	2%	37%	42%	-5%	5%	-9%	4%
1976	42%	36%	5%	1%	-6%	5%	12%	22%	-11%	5%	-9%	2%	36%	44%	-8%	5%	-10%	4%
1977	43%	36%	6%	1%	-4%	5%	14%	21%	-7%	6%	-6%	-6%	44%	50%	-6%	5%	-8%	4%
1978	37%	37%	-1%	1%	-11%	13%	12%	32%	-19%	9%	-17%	3%	31%	44%	-13%	5%	-16%	8%
1979	35%	38%	-3%	0%	-15%	12%	13%	31%	-18%	7%	-15%	3%	32%	42%	-10%	4%	-14%	9%
1980	34%	40%	-6%	0%	-18%	11%	16%	35%	-19%	7%	-14%	1%	29%	45%	-16%	5%	-18%	11%
1981	35%	42%	-7%	0%	-17%	10%	15%	32%	-18%	7%	-17%	2%	40%	61%	-21%	7%	-26%	14%
1982	36%	39%	-3%	0%	-14%	9%	15%	32%	-17%	7%	-17%	-2%	35%	50%	-15%	7%	-17%	2%
1983	37%	38%	-2%	0%	-14%	6%	19%	39%	-19%	9%	-19%	-5%	37%	51%	-14%	6%	-19%	8%
1984	46%	34%	11%	0%	-2%	1%	22%	41%	-19%	8%	-19%	0%	40%	51%	-11%	6%	-18%	8%
1985	46%	33%	13%	0%	1%	2%	21%	55%	-34%	19%	-31%	3%	31%	44%	-13%	5%	-18%	8%
1986	39%	27%	12%	1%	-4%	3%	16%	41%	-24%	12%	-23%	2%	27%	35%	-8%	5%	-12%	5%
1987	34%	28%	6%	1%	-9%	7%	17%	33%	-17%	10%	-16%	1%	25%	44%	-19%	5%	-11%	3%
1988	32%	31%	1%	1%	-15%	8%	18%	39%	-21%	12%	-16%	5%	26%	41%	-15%	5%	-9%	8%
1989	35%	32%	3%	1%	-15%	11%	18%	35%	-17%	11%	-14%	8%	27%	41%	-14%	5%	-8%	5%
Averages:																		
Total	38%	33%	5%	1%	-8%	6%	15%	31%	-16%	9%	-16%	1%	31%	40%	-7%	6%	-13%	6%
1980-89	37%	35%	3%	1%	-11%	7%	18%	38%	-20%	10%	-19%	2%	32%	46%	-11%	6%	-15%	7%

Sources: Exports and imports of goods and non-factor services - World Bank, African Economic and Financial Database, 1989
 Official unrequited transfers, current, and capital account balances - International Monetary Fund, International Financial Statistics
 For 1987-1989, latest World Bank macroeconomic estimates

Notes: X = exports of goods and non-factor services
 M = imports of goods and non-factor services
 RB = resource balance (= X-M)
 OT = official unrequited transfers
 CA = current account balance, net of official unrequited transfers
 CP = capital account balance (= Direct Investment, Portfolio Investment, Other Long-Term Capital, Net Errors & Omissions, Counterpart Transfers)

The Côte d'Ivoire's balance of trade in goods and non-factor services has largely been in surplus over the post-colonial period, amounting to an average 5% of GDP, while Mali's and Senegal's have usually been in deficit. The average trade

deficit in Mali has run about -16% of GDP, while that in Senegal has been somewhat lower, at about -7.5% of GDP.

By the 1970s, current account deficits as a percentage of GDP were in double-digits, which was an important element leading to the introduction of structural adjustment programs. Over the 1980s, deficits averaged -11% of GDP in Côte d'Ivoire, -19% in Mali, and -15% in Senegal. However, balance of payments patterns have been distinct in each country:

- In Côte d'Ivoire, large debits of non-merchandise trade, representing largely payments to foreign workers, result in a negative balance, on average, on current account (-11% of GDP), which is offset to some extent by inflows on capital account (7% of GDP). Official transfers are virtually non-existent (1% of GDP), leaving a deficit in the overall balance of 4% of GDP.
- In Senegal, the current account deficit (-15% of GDP) is covered to a large extent by official transfers (6% of GDP) and a capital account surplus (7% of GDP), although an overall balance deficit of -2% of GDP still exists as well.
- Mali enjoys the highest average inflow of official transfers of the three countries, amounting to 10% of GDP, which covers about half of the high current account deficit (-19% of GDP). The capital account, on average over the 1980s, has contributed but 2% of GDP to offset this. This means that Mali also has the largest average residual financing gap of the three countries, with an overall balance deficit equal to -7% of GDP.

Deficits in the overall balance (current plus capital accounts) for each country are generally met by some combination inter alia of IMF credits, recourse to foreign exchange reserves, changes in debt arrears, and debt rescheduling.

Following the elasticities methodology described above, tables 7 through 10 make an adjustment to the official exchange rate in Senegal, Côte d'Ivoire, and Mali for the unsustainable portion of the current account deficit net of official unrequited transfers. These transfers represent official development assistance (ODA) to the country, including debt forgiveness, and payments for technical assistance. The calculations use different assumptions in each country regarding what percentage of GDP represents an unsustainable current account deficit. In Mali, a relatively resource-poor country, it is assumed that ODA will continue to sustain a current account deficit of 10% of GDP. On the other hand, Côte d'Ivoire's relatively high resource endowment suggests that over the long run a deficit of 5% of GDP is sustainable, to be financed largely by private capital inflows. In the case of Senegal, both scenarios are presented: a 10% deficit, because Senegal's resource base is more comparable to that of Mali and Senegal has traditionally been a high ODA recipient, and an alternative 5% deficit scenario because there appears to be growing reluctance on the part of

donors to continue the higher level of transfers in light of Senegal's poor adjustment record.¹⁸

Unit tariff equivalent

The OER is also adjusted for distortions due to trade policy. Unit tariff equivalents were estimated on the basis of the average level of import tariffs. These averages are unweighted and do not take into account the effects of any quantitative restrictions, which are not generally very important in the CFAF countries. Export taxes and subsidies were assumed to be nil.

TABLE 7: SENEGAL: EQUILIBRIUM EXCHANGE RATE
(assuming sustainable current account deficit of -5% GDP)

Year	Official Exchange Rate (CFAF/\$)	Unsustainable CA deficit (% GDP)	OER Corr. Current Account Deficit	OER'/ OER (%)	Equilibrium Exchange Rate (CFAF/\$)	EER/ OER (%)
1970	277.71	-2.7%	311.73	12.3%		
1971	277.13	-5.5%	341.11	23.1%		
1972	252.48	-1.9%	273.99	8.5%		
1973	222.89	-9.4%	295.07	32.4%		
1974	240.70	-5.8%	283.53	17.8%		
1975	214.31	-4.4%	248.54	16.0%		
1976	238.95	-4.6%	277.84	16.3%		
1977	245.68	-3.1%	270.44	10.1%		
1978	225.66	-10.9%	302.95	34.2%		
1979	212.72	-9.0%	278.15	30.8%		
1980	211.28	-12.7%	296.07	40.1%		
1981	271.73	-20.9%	394.61	45.2%		
1982	328.61	-12.4%	445.26	35.5%		
1983	381.06	-13.4%	509.53	33.7%		
1984	436.96	-12.7%	580.66	32.9%		
1985	449.26	-12.6%	610.18	35.8%		
1986	346.30	-11.2%	472.24	36.4%		
1987	300.54	-5.9%	371.95	23.8%		
1988	297.85	-4.2%	351.78	18.1%		
1989	319.01	-2.8%	358.22	12.3%	522.09	63.7%

Note: Both adjustments assume demand elasticity equals 1.0 and supply elasticity equals 0.5.
Equilibrium exchange rate adjustment for trade policy distortions assumes an average import tariff level of 45%.

¹⁸ This is one of several donor options presented in Berg et al. (1990), pp. 225-229.

TABLE 8: SENEGAL: EQUILIBRIUM EXCHANGE RATE
(assuming sustainable current account deficit of -10% GDP)

Year	Official Exchange Rate (CFAF/\$)	Unsustnble CA deficit (% GDP)	OER Corr. Current Account Deficit	OER'/ OER (%)	Equilibrium Exchange Rate (CFAF/\$)	EER/ OER (%)
1970	277.71	.0%	277.71	.0%		
1971	277.13	-.5%	283.11	2.2%		
1972	252.48	.0%	252.48	.0%		
1973	222.89	-4.4%	256.61	15.1%		
1974	240.70	-.8%	246.37	2.4%		
1975	214.31	.0%	214.31	.0%		
1976	238.95	.0%	238.95	.0%		
1977	245.68	.0%	245.68	.0%		
1978	225.66	-5.9%	267.37	18.5%		
1979	212.72	-4.0%	241.76	13.7%		
1980	211.28	-7.7%	262.74	24.4%		
1981	271.73	-15.9%	365.23	34.4%		
1982	328.61	-7.4%	398.34	21.2%		
1983	381.06	-8.4%	461.42	21.1%		
1984	436.96	-7.7%	524.00	19.9%		
1985	449.26	-7.6%	546.14	21.6%		
1986	346.30	-6.2%	416.18	20.2%		
1987	300.54	-.9%	311.06	3.5%		
1988	297.85	.0%	297.85	.0%		
1989	319.01	.0%	319.01	.0%	482.88	51.4%

Note: Both adjustments assume demand elasticity equals 1.0 and supply elasticity equals 0.5.

Equilibrium exchange rate adjustment for trade policy distortions assumes an average import tariff level of 45%.

At the present time, the CFA franc in Senegal would appear to be from 50% to 65% overvalued, depending on which current account deficit scenario is deemed more likely. The bulk of the distortion is due to the high average level of import tariffs, however, rather than to a large current account deficit.

TABLE 9: COTE d'IVOIRE: EQUILIBRIUM EXCHANGE RATE
(assuming sustainable current account deficit of -5% of GDP)

Year	Official Exchange Rate (CFAF/\$)	Unsustainable CA deficit (% GDP)	OER Corr. Current Account Deficit	OER'/OER (%)	Equilibrium Exchange Rate (CFAF/\$)	EER/OER (%)
1970	277.71	.0%	277.71	.0%		
1971	277.13	-4.1%	299.93	8.2%		
1972	252.48	-3.4%	269.86	6.9%		
1973	222.89	-5.8%	246.09	10.4%		
1974	240.70	.0%	240.70	.0%		
1975	214.31	-5.8%	237.03	10.6%		
1976	238.95	-1.0%	243.56	1.9%		
1977	245.68	.0%	245.68	.0%		
1978	225.66	-6.1%	250.45	11.0%		
1979	212.72	-10.2%	249.55	17.3%		
1980	211.28	-13.0%	255.15	20.8%		
1981	271.73	-11.9%	325.76	19.9%		
1982	328.61	-8.6%	377.90	15.0%		
1983	381.06	-8.7%	439.33	15.3%		
1984	436.96	.0%	436.96	.0%		
1985	449.26	.0%	449.26	.0%		
1986	346.30	.0%	346.30	.0%		
1987	300.54	-4.0%	322.15	7.2%		
1988	297.85	-10.1%	351.03	17.9%		
1989	319.01	-10.5%	375.07	17.6%	471.17	47.7%

Note: Both adjustments assume demand elasticity equals 1.5 and supply elasticity equals 0.5.
Equilibrium exchange rate adjustment for trade policy distortions assumes an average import tariff level of 30%.

The level of overvaluation of the CFA franc for Côte d'Ivoire is approximately 50%, again due chiefly to the high average import tariff level rather than to the unsustainable current account deficit, which accounts for just over one-third of the overvaluation.

TABLE 10: MALI: EQUILIBRIUM EXCHANGE RATE
(assuming sustainable current account deficit of -10% GDP)

Year	Official Exchange Rate (CFAF/\$)	Unsustainable CA deficit (% GDP)	OER Corr. Current Account Deficit	OER'/ OER (%)	Equilibrium Exchange Rate (CFAF/\$)	EER/ OER (%)
1970	277.71	.0%	277.71	.0%		
1971	277.13	.0%	277.13	.0%		
1972	252.48	.0%	252.48	.0%		
1973	222.89	-5.6%	275.84	23.8%		
1974	240.70	-17.9%	359.29	49.3%		
1975	214.31	-9.6%	292.29	36.4%		
1976	238.95	.0%	238.95	.0%		
1977	245.68	.0%	245.68	.0%		
1978	225.66	-7.3%	293.24	29.9%		
1979	212.72	-4.6%	257.12	20.9%		
1980	211.28	-4.4%	250.24	18.4%		
1981	271.73	-7.4%	349.39	28.6%		
1982	329.61	-6.6%	414.55	26.2%		
1983	381.06	-8.8%	494.71	29.8%		
1984	436.96	-9.3%	566.95	29.7%		
1985	449.26	-21.2%	663.04	47.6%		
1986	346.30	-12.9%	480.61	38.8%		
1987	300.54	-5.9%	369.73	23.0%		
1988	297.85	-6.8%	375.49	26.1%		
1989	319.01	-5.3%	386.84	21.3%	475.04	48.9%

Note: Both adjustments assume demand elasticity equals 1.0 and supply elasticity equals 0.5.
Equilibrium exchange rate adjustment for trade policy distortions assumes an average import tariff level of 25%.

For Mali, the CFA franc is also overvalued by about 50 percent, but here the unsustainable deficit is more important, accounting for about 44% of the overvaluation.

Analysis of CFA zone debt burden

One important issue is the probability that a 5% or 10% gap is sustainable. Any higher rate is certainly unlikely on at least two grounds. First, donors are becoming increasingly unwilling on political grounds to sustain a high level of capital inflow to developing countries in the face of poor economic performance in spite of structural adjustment. Second, there is growing evidence of a "debt-Laffer curve" (Cohen, 1990), wherein increasing amounts of nominal debt only serve to reduce the creditworthiness of a country, which reduces the market value

of that debt on the secondary market and may have serious negative growth effects.¹⁹

Total debt of African IDA countries rose over 21% per year from 1970 to 1980, more rapidly than in Latin America.²⁰ As seen below in table 11, foreign debt has been rising in each of the three CFA countries. While there is some disagreement on the appropriate benchmark for the measurement of debt, the total debt burden, whether measured as a percentage of GDP or of exports, rose to dramatic levels by 1987: 78% of GDP and 282% of exports in Senegal, 103% of GDP and 620% of exports in Mali, and 133% of GDP and 392% of exports in Côte d'Ivoire.

¹⁹ The international debt crisis is discussed in further detail elsewhere. Here we are concerned with the effect of rising debt and rising debt service burdens on the CFA franc exchange market. See, for example, Jeffrey D. Sachs, ed., Developing Country Debt and the World Economy, National Bureau of Economic Research Project Report (Chicago: University of Chicago Press, 1989).

²⁰ The World Bank classifies low-income countries as "IDA countries," referring to those countries which are eligible for loans with the most generous terms of borrowing from the Bank's International Development Association. See "The debt problem and its implications for import capacity," in World Bank, Financing Adjustment with Growth in Sub-Saharan Africa, 1986-90 (Washington, DC, 1986), pp. 49-56.

TABLE 11: FOREIGN DEBT (as % of Gross Domestic Product)

	Concessional external debt			Nonconcessional external debt			Private external debt			Total external debt		
	Côte d'Ivoire	Mali	Senegal	Côte d'Ivoire	Mali	Senegal	Côte d'Ivoire	Mali	Senegal	Côte d'Ivoire	Mali	Senegal
1975	6.2%	41.7%	6.7%	4.0%	1.8%	3.4%	16.0%	2.3%	7.8%	26.2%	44.8%	17.9%
1976	5.5%	37.8%	7.5%	4.4%	1.6%	3.9%	17.4%	1.9%	9.7%	27.3%	41.5%	21.1%
1977	4.9%	41.0%	9.7%	4.8%	1.4%	4.7%	23.3%	2.0%	10.4%	40.6%	46.5%	30.3%
1978	5.0%	42.0%	11.7%	5.2%	1.5%	7.1%	28.7%	2.5%	13.7%	48.2%	47.7%	38.9%
1979	4.8%	32.2%	11.5%	7.0%	1.1%	7.3%	30.7%	2.1%	13.8%	51.8%	36.9%	40.1%
1980	4.5%	38.9%	12.5%	7.0%	1.7%	10.4%	33.6%	2.1%	12.9%	55.2%	44.2%	43.2%
1981	5.1%	51.6%	19.5%	12.9%	1.8%	15.5%	46.5%	2.2%	12.2%	78.4%	60.9%	56.8%
1982	6.4%	63.4%	22.3%	19.0%	4.1%	22.6%	63.3%	2.4%	10.8%	103.3%	71.4%	63.6%
1983	7.1%	81.2%	28.2%	26.3%	6.1%	32.0%	68.5%	4.4%	8.9%	114.1%	93.6%	76.8%
1984	7.0%	101.8%	33.3%	31.7%	8.6%	32.9%	76.2%	4.3%	8.6%	124.5%	121.3%	86.1%
1985	9.4%	118.9%	35.8%	36.6%	10.3%	41.0%	84.5%	4.7%	10.2%	140.9%	140.3%	95.2%
1986	9.0%	94.5%	33.8%	32.4%	7.8%	31.3%	69.1%	3.6%	8.2%	118.9%	111.1%	80.6%
1987	10.8%	89.0%	36.9%	41.4%	6.0%	28.3%	68.7%	3.1%	6.4%	133.4%	102.9%	78.3%

FOREIGN DEBT (as % of exports)

	Concessional external debt			Nonconcessional external debt			Private external debt			Total external debt		
	Côte d'Ivoire	Mali	Senegal	Côte d'Ivoire	Mali	Senegal	Côte d'Ivoire	Mali	Senegal	Côte d'Ivoire	Mali	Senegal
1975	17.0%	398.8%	18.3%	10.8%	17.5%	9.4%	43.6%	22.5%	21.4%	71.4%	438.8%	49.1%
1976	13.2%	325.2%	20.8%	10.5%	13.6%	10.7%	41.6%	16.5%	26.6%	65.4%	357.3%	58.0%
1977	11.5%	303.0%	21.9%	11.3%	10.4%	10.7%	54.7%	14.9%	23.5%	95.3%	343.3%	68.7%
1978	13.8%	340.8%	37.5%	14.3%	12.0%	22.7%	78.4%	20.4%	43.7%	131.8%	387.3%	124.3%
1979	13.9%	256.1%	36.3%	20.1%	8.5%	23.0%	88.6%	16.9%	43.4%	149.7%	294.2%	125.8%
1980	13.1%	241.1%	43.7%	20.7%	10.3%	36.4%	98.7%	13.3%	45.0%	162.1%	273.8%	150.7%
1981	14.6%	350.7%	48.3%	36.8%	11.9%	38.4%	132.1%	14.9%	30.3%	222.8%	413.4%	140.8%
1982	17.7%	413.8%	64.3%	52.1%	26.6%	65.0%	173.7%	15.4%	31.2%	283.5%	466.5%	183.1%
1983	19.4%	425.2%	75.5%	71.9%	32.0%	85.9%	187.6%	22.8%	23.8%	312.5%	490.3%	206.1%
1984	15.3%	463.5%	84.1%	69.3%	39.1%	83.2%	166.4%	19.7%	21.8%	272.0%	552.4%	217.4%
1985	20.6%	571.4%	114.6%	79.8%	49.5%	130.9%	184.3%	22.7%	32.7%	307.3%	674.1%	304.5%
1986	22.9%	576.3%	123.2%	82.9%	47.9%	113.9%	176.7%	21.8%	29.9%	304.0%	677.8%	293.5%
1987	31.7%	536.3%	133.0%	121.7%	36.3%	102.0%	202.0%	18.8%	22.9%	392.0%	620.3%	282.3%

Source: World Bank, African Economic and Financial Database, 1989

The composition of total debt, however, varies markedly among the three countries (table 12). In Mali the bulk of the foreign financing comes from concessional sources (87%). In Senegal, financing was sought in almost equal proportions from private (45%) and official (55%) sources in the mid-1970s. By the late 1980s, the bulk of foreign financing shifted to official sources, under both concessional and non-concessional terms. Ivoirian capital needs have always been provided largely by the private capital markets (60%), although the percentage of total debt from official sources is now also on the rise (though

still on non-concessional terms). Côte d'Ivoire is also the only country of the three to be able to make use to any significant degree (11% on average) of short-term capital.

TABLE 12: COMPOSITION OF FOREIGN DEBT

	Cote d'Ivoire				Mali				Senegal			
	CLTED	NCFD	PFED	STED	CLTED	NCFD	PFED	STED	CLTED	NCFD	PFED	STED
1975	23.8%	15.1%	61.0%	0.1%	90.9%	4.0%	5.1%	0.0%	37.4%	19.1%	43.5%	0.0%
1976	20.2%	16.1%	63.7%	0.0%	91.0%	3.8%	4.6%	0.5%	35.8%	18.5%	45.9%	-0.2%
1977	12.1%	11.8%	57.3%	18.8%	88.3%	3.0%	4.3%	4.3%	31.9%	15.6%	34.2%	18.3%
1978	10.5%	10.9%	59.5%	19.2%	88.0%	3.1%	5.3%	3.6%	30.1%	18.3%	35.2%	16.4%
1979	9.3%	13.4%	59.2%	18.1%	87.1%	2.9%	5.8%	4.3%	28.8%	18.2%	34.5%	18.4%
1980	8.1%	12.8%	60.9%	18.3%	88.1%	3.8%	4.9%	3.3%	29.0%	24.1%	29.8%	17.1%
1981	6.6%	16.5%	59.3%	17.6%	84.8%	2.9%	3.6%	8.7%	34.3%	27.3%	21.5%	16.9%
1982	6.2%	18.4%	61.2%	14.2%	88.7%	5.7%	3.3%	2.3%	35.2%	35.5%	17.0%	12.3%
1983	6.2%	23.0%	60.0%	10.8%	86.7%	6.5%	4.7%	2.1%	36.6%	41.7%	11.6%	10.1%
1984	5.6%	25.5%	61.2%	7.7%	83.9%	7.1%	3.6%	5.4%	38.7%	38.2%	10.1%	13.0%
1985	6.7%	26.0%	60.0%	7.4%	84.8%	7.3%	3.4%	4.5%	37.6%	43.0%	10.7%	8.6%
1986	7.5%	27.3%	58.1%	7.1%	85.0%	7.1%	3.2%	4.7%	42.0%	38.8%	10.2%	9.0%
1987	8.1%	31.1%	51.5%	9.3%	86.5%	5.9%	3.0%	4.7%	47.1%	36.1%	8.1%	8.6%
Average	10.1%	19.1%	59.5%	11.4%	87.2%	4.8%	4.2%	3.7%	35.7%	28.8%	24.0%	11.4%

Source: World Bank, African Economic and Financial Database, 1989

Notes: CLTED = Concessional long-term external debt

NCFD = Non-concessional external debt

PFED = Private external debt

STED = Short-term external debt

The diversity in composition across countries reflects, to some extent, the creditworthiness of each country as perceived by the international capital markets. The Côte d'Ivoire, with its history of political stability, relatively rich resource endowment, and openness to foreign investors, has been more successful at attracting private capital, while Senegal and Mali, with their more limited resource bases and smaller, more closed economies have had to rely more heavily on official organizations, both bilateral and multilateral, for capital infusions.

Analysis of external debt service ratios (table 13) indicates that the most severe debt servicing burden is borne by Côte d'Ivoire. Payments to service long-term external debt are absorbing over 16% of annual GDP in Côte d'Ivoire, more than twice the rate in Senegal (over 7%). Nearly half of annual export receipts in Côte d'Ivoire goes to service its long-term foreign debt, as compared with one-fourth in Senegal and nearly one-fifth in Mali.

With debt service obligations reaching unprecedented levels, it is not surprising that rescheduling of bilateral debt payments has been negotiated

between creditors and debtors in a number of African countries.²¹ According to the IMF, only 12 sub-Saharan African countries have serviced their debts regularly since 1980 (IMF, 1988). In the 1980s, 25 sub-Saharan African countries rescheduled their debts with official and private creditors 99 times. Other actions include the conversion of concessional loans into grants, the outright forgiveness of debt, and the establishment of multi-country debt rescheduling initiatives for the poorest African countries. No such multilateral initiative yet exists for middle-income African countries.

According to the World Bank (1989b), declining net capital inflows and falling export revenues have worsened the problems of growing debt service payments:

Net disbursements of non-concessional debt, which accounts for the bulk of debt service obligations and payments, declined from an annual average of US\$7.4 billion during 1981-82 to only US\$1.2 billion during 1986-87. That decline has occurred almost entirely in private flows, in response to worsening economic performance in Africa, higher interest rates, and a tighter international financial environment. Official flows, including grants and non-concessional loans, have increased -- but not enough to make up the shortfall. (pp. 17-18)

TABLE 13: EXTERNAL DEBT SERVICE RATIOS

	Total LT external debt service (as % of GDP)			Total LT external debt service (as % of exports)		
	Côte d'Ivoire	Mali	Senegal	Côte d'Ivoire	Mali	Senegal
1975	3.7%	0.6%	2.3%	10.0%	6.3%	6.2%
1976	4.2%	0.9%	2.4%	10.2%	7.8%	6.6%
1977	4.7%	1.0%	3.0%	10.9%	7.5%	6.9%
1978	5.6%	0.8%	5.2%	15.4%	6.3%	16.5%
1979	7.3%	0.7%	5.0%	21.2%	5.8%	15.8%
1980	9.0%	0.8%	6.6%	26.4%	4.9%	22.9%
1981	12.6%	1.0%	4.4%	35.8%	6.5%	11.0%
1982	15.8%	0.9%	2.8%	43.5%	5.9%	8.1%
1983	17.4%	1.8%	3.4%	47.5%	9.2%	9.1%
1984	17.3%	2.5%	5.1%	37.7%	11.2%	12.8%
1985	19.9%	4.5%	5.9%	43.5%	21.8%	19.0%
1986	18.3%	3.7%	7.7%	46.8%	22.6%	28.1%
1987	16.3%	3.0%	7.6%	47.8%	18.2%	27.5%

Source: World Bank, African Economic and Financial Database, 1989

²¹ Multilateral debt is currently ineligible for rescheduling.

As a result of these debt service obligation, there is pressure to devalue the CFAF. Rising debt portfolios have decreased the perceived creditworthiness of some countries, resulting in the plunge in resale values of debt issues on secondary capital markets, as mentioned earlier in this paper. Further debt rescheduling in Côte d'Ivoire, especially with private creditors, may even be contingent on devaluation of the CFAF. In addition, overall economic growth is hampered in two ways (Claessens and Diwan, 1990). First, an illiquidity effect results from the crowding out of the domestic capital market by government borrowing to service the debt. Second, a disincentive effect is created, whereby expectations of future debt burdens tend to reduce the incentives for current investment and adjustment, resulting in capital flight and decapitalization of the economy.

The debt burden that hangs over each of the CFAF countries exacerbates the existing disequilibrium in the balance of payments. Because these countries are unlikely to be allowed to pile up much further debt, they will be dependent more than ever on donor grants. No one knows ultimately what these will be, but the assumptions used in this paper are probably relatively conservative.

Growth effects of CFAF exchange rate regime

If the official CFAF-FF parity has represented a distortion from equilibrium growth rates during certain periods, has economic growth in the CFAF countries suffered as a result? Tables 14 and 15 below present real GDP and real GDP per capita figures from 1960 to 1987 for Côte d'Ivoire, Mali, Senegal, Ghana, Guinea, and Nigeria.

TABLE 14: GROWTH OF GROSS DOMESTIC PRODUCT - Côte d'Ivoire, Mali, and Senegal (1980 US\$)

Cote d'Ivoire.....			Mali.....			Senegal.....				
	GDP	GDP	GDP Per cap	GDP Per cap	GDP	GDP	GDP Per cap	GDP Per cap	GDP	GDP	GDP Per cap	GDP Per cap	
	per cap	per cap	Growth	Growth	per cap	per cap	Growth	Growth	per cap	per cap	Growth	Growth	
1960	2,422,000,128		641						1,904,000,000		544		
1961	2,663,000,064		684	10%	7%	836,999,872		189	1,994,000,000		557	5%	2%
1962	2,793,999,972		695	5%	2%	838,000,128		186	2,056,000,000		561	3%	1%
1963	3,265,999,872		783	17%	13%	838,000,128		183	2,135,000,000		569	4%	1%
1964	3,863,000,064		893	18%	14%	892,000,000		190	2,196,999,936		572	3%	1%
1965	3,822,000,128		849	-1%	-5%	934,000,128		195	2,278,000,128		580	4%	1%
1966	4,172,000,000		891	9%	5%	971,000,128		198	2,348,999,936		584	3%	1%
1967	4,366,000,128		896	5%	1%	1,003,000,000		200	2,316,999,936		563	-1%	-4%
1968	5,063,000,064		997	16%	11%	1,037,000,000		203	2,464,999,936		585	6%	4%
1969	5,447,998,976		1,030	8%	3%	1,077,000,000		197	2,300,000,000		533	-7%	-9%
1970	5,862,998,016		1,064	8%	3%	1,095,000,064		205	2,497,999,872		566	9%	6%
1971	6,550,999,040		1,141	12%	7%	1,116,000,000		205	2,502,000,128		554	0%	-2%
1972	6,981,001,216		1,168	7%	2%	1,172,999,936		211	2,655,000,064		574	6%	4%
1973	7,318,999,040		1,176	5%	1%	1,134,000,000		200	2,512,000,000		531	-5%	-7%
1974	7,771,000,832		1,199	6%	2%	1,106,000,000		191	2,609,999,872		539	4%	2%
1975	8,561,999,872		1,268	10%	6%	1,260,000,000		213	2,808,999,936		566	8%	5%
1976	9,056,002,048		1,286	6%	1%	1,432,000,000		237	3,056,999,936		600	9%	6%
1977	9,040,998,400		1,232	0%	-4%	1,528,999,936		248	2,979,000,064		568	-3%	-5%
1978	10,296,000,512		1,345	14%	9%	1,488,000,000		236	2,800,999,936		519	-6%	-9%
1979	10,597,000,192		1,327	3%	-1%	1,650,000,000		256	3,064,000,000		552	9%	6%
1980	10,513,999,872		1,263	-1%	-5%	1,628,999,936		247	2,969,999,872		521	-3%	-6%
1981	10,965,999,616		1,263	4%	0%	1,704,000,000		253	2,952,999,936		503	-1%	-3%
1982	11,139,000,320		1,230	2%	-3%	1,818,000,000		264	3,396,000,000		563	15%	12%
1983	11,004,999,680		1,166	-1%	-5%	1,736,999,936		246	3,487,000,064		562	3%	0%
1984	10,520,000,512		1,069	-4%	-8%	1,767,000,064		245	3,336,000,000		523	-4%	-7%
1985	11,493,000,192		1,121	9%	5%	1,762,000,000		238	3,460,999,936		527	4%	1%
1986	11,909,000,192		1,118	4%	0%	2,072,000,000		274	3,612,000,000		534	4%	1%
1987	11,557,999,616		1,044	-3%	-7%	2,150,000,128		277	3,780,999,936		543	5%	2%
<u>Growth rates</u>													
1965-73	8.6%	4.5%			2.7%	0.6%			1.6%	-0.7%			
1973-80	4.7%	0.4%			6.3%	4.1%			2.3%	-0.5%			
1980-87	2.2%	-2.0%			3.4%	1.0%			3.3%	0.4%			

Source: Base data - World Bank, African Economic and Financial Database, 1989
 Growth rates - World Bank, From Crisis to Sustainable Growth (1989a)

TABLE 15: GROWTH OF GROSS DOMESTIC PRODUCT - Ghana, Guinea, and Nigeria (1980 US\$)

Ghana.....			Guinea.....			Nigeria.....			
	GDP	GDP	GDP Per cap		GDP	GDP	GDP Per cap		GDP	GDP	GDP Per cap	
	per cap	per cap	Growth	Growth	per cap	per cap	Growth	Growth	per cap	per cap	Growth	Growth
1960									39,459,000,320		765	
1961	3,212,999,936	461			884,999,872	277			39,587,999,744	748	0%	-2%
1962	3,323,000,064	463	3%	0%	943,000,128	238	7%	5%	41,171,001,344	759	4%	1%
1963	3,460,000,000	468	4%	1%	1,014,000,000	252	8%	6%	44,769,001,472	804	9%	6%
1964	3,612,000,000	475	4%	1%	956,999,872	235	-6%	-7%	47,111,999,488	826	5%	3%
1965	3,692,000,000	472	2%	-1%	1,021,000,000	247	7%	5%	49,457,999,872	846	5%	2%
1966	3,543,000,064	444	-4%	-6%	1,092,999,936	260	7%	5%	47,608,999,936	794	-4%	-6%
1967	3,648,000,000	448	3%	1%	1,114,000,000	261	2%	0%	40,215,998,464	654	-16%	-18%
1968	3,649,999,872	440	0%	-2%	1,150,000,000	265	3%	2%	39,838,998,528	633	-1%	-3%
1969	3,863,000,064	457	6%	4%	1,184,999,936	268	3%	1%	49,380,999,168	765	24%	21%
1970	4,248,000,000	493	10%	8%	1,220,999,936	272	3%	1%	62,248,001,536	941	26%	23%
1971	4,477,002,240	507	5%	3%	1,264,000,000	276	4%	1%	71,386,013,696	1,052	15%	12%
1972	4,394,999,808	484	-2%	-5%	1,300,000,000	278	3%	1%	74,539,991,040	1,072	4%	2%
1973	4,479,001,088	478	2%	-1%	1,328,000,000	279	2%	0%	78,790,983,680	1,106	6%	3%
1974	4,807,000,064	500	7%	5%	1,419,000,064	292	7%	5%	87,746,019,328	1,201	11%	9%
1975	4,164,999,936	424	-13%	-15%	1,472,999,936	297	4%	2%	84,851,032,064	1,133	-3%	-6%
1976	4,020,000,000	401	-3%	-5%	1,619,000,064	320	10%	8%	92,939,026,432	1,211	10%	7%
1977	4,092,999,936	401	2%	0%	1,654,000,000	320	2%	0%	98,585,018,368	1,255	6%	4%
1978	4,495,000,064	433	10%	8%	1,704,999,936	323	3%	1%	93,203,013,632	1,157	-5%	-8%
1979	4,420,001,792	419	-2%	-3%	1,706,000,000	317	0%	-2%	99,891,019,776	1,209	7%	4%
1980	4,445,000,192	414	1%	-1%	1,764,000,000	322	3%	2%	103,311,998,976	1,219	3%	1%
1981	4,315,000,832	388	-3%	-6%	1,776,000,000	316	1%	-2%	97,388,003,328	1,113	-6%	-9%
1982	4,035,000,064	351	-6%	-10%	1,808,000,000	314	2%	-1%	97,194,999,808	1,075	0%	-3%
1983	3,855,000,064	324	-4%	-8%	1,830,000,000	311	1%	-1%	91,170,013,184	976	-6%	-9%
1984	4,191,000,064	340	9%	5%	1,780,999,936	296	-3%	-5%	84,415,021,056	875	-7%	-10%
1985	4,379,000,832	344	4%	1%	1,871,000,064	304	5%	3%	90,865,008,640	912	8%	4%
1986	4,599,001,088	349	5%	1%	1,964,999,936	311	5%	2%	92,947,996,672	901	2%	-1%
1987	4,800,000,000	353	4%	1%	2,080,999,936	322	6%	4%	88,706,973,696	831	-5%	-8%
<u>Growth rates</u>												
1965-73	3.4%	1.1%			3.2%	1.4%			8.4%	5.9%		
1973-80	-0.3%	-2.1%			4.1%	2.1%			3.4%	0.9%		
1980-87	1.4%	-2.0%			2.1%	-0.3%			-1.7%	-5.1%		

Source: Base data - World Bank, African Economic and Financial Database, 1989
 Growth rates - World Bank, From Crisis to Sustainable Growth (1989a)

A crude comparison of growth rates during the 1980s between the three CFA countries and the three comparators, Ghana, Guinea, and Nigeria, suggests that the Ivoirian record has not been dissimilar from those in countries whose economies have ostensibly undergone much greater upheaval. Mali and Senegal, on the other hand, distinguish themselves with a low but positive per capita GDP growth rate (1% and 0.4%, respectively).

Two studies by Devarajan and De Melo (1987) and (1990) examine income growth rates from 1960 to 1982 and again from 1982 to 1989 for CFA and non-CFA countries. Their results show that: 1) over the earlier period, CFA countries grew significantly faster than non-CFA sub-Saharan African countries (3.69% versus 3.29% per annum), but slower than the larger comparator group of developing countries (3.69% per annum versus 4.51%), including the non-CFA sub-Saharan group, ²² and 2) after 1981, the failure of CFA countries to adjust as much as they needed led to their GDP growth rates lagging behind those of comparator countries, including other African states. The authors conclude that while "a change in external circumstances does not necessarily mean that the original commitment to a fixed exchange rate was unwise,..., the very institutional arrangement which enabled these countries to enjoy faster and more stable growth in the 1970s is preventing them from adjusting to the external and internal shocks of the 1980s." (pp. 25-26)

While a comparison of the growth of GDP in CFAF and non-CFAF countries is interesting in order to look at the longer term implications of monetary union and exchange rate stability, this comparison has important limitations. First, it shows relatively little, if nevertheless statistically significant, differences in average rates of growth. So if monetary union and exchange rate stability help, they do not help much, and the variation in experience of different countries within each group is much greater than that between groups.

Second, the data do not permit a comparison of GDP growth after the mid-1980s, which was the time at which most non-CFA countries were freeing up their exchange rates and undertaking other types of economic reform. Although the record is far from in, there is some evidence that growth in these countries has accelerated, albeit from a very low base. Therefore, any judgements regarding the advantages of monetary union and exchange rate stability must be based on experience prior to the recent period of policy reform -- a period during which many new insights in economics have been applied, especially in relation to the biased structure of incentives introduced by overvalued currencies.

IV. Implications of the Analysis

As can be seen from the tables above, all three countries would appear to have distortions on the order of 50% in their official exchange rates. These estimates reflect both the effect of unsustainable current account deficits and important trade policy distortions.

In comparison, since 1982 many non-CFA sub-Saharan African countries have substantially revised their exchange rate regimes. Several countries, including Guinea, Ghana, and Nigeria, have moved to managed auction systems wherein foreign

²² It should be noted, however, that while "fast-growing" (*op. cit.*, p. 490) Ivory Coast, Cameroon, and Gabon are included among the CFA countries, Nigeria is not included among the comparator group, despite the fact that it satisfied both selection criteria (per capita income below US \$3000 in 1980 and a population over one million in 1965). It is unclear how significant the comparison would have been if Nigeria's experience had been considered.

exchange is allocated by the central bank to the highest bidders (Quirk et al., 1987).²³ The result of such movement toward a competitive market for foreign exchange has resulted in drastic devaluations of the national currencies (see table 3, page 16). Such a currency depreciation has usually been introduced as part of an overall stabilization cum structural adjustment package in order to redirect the economy's resources toward growth industries. While large comparative studies on the growth effects of these changes remain unwritten,²⁴ it is clear that these currency realignments have significantly altered the patterns of competitiveness with which sub-Saharan African countries produce both agricultural and non-agricultural goods. One key indicator is the wage rate.

Comparative wage rates

Although export competitiveness has been determined historically in West Africa by its comparative advantage in primary products such as coffee, cocoa, timber, oil palm, groundnuts, cotton, livestock, and minerals, the scope for increasing or even sustaining exports of these natural resource-abundant products is narrowing as good land and mineral deposits are being exhausted. Further growth of exports in Africa will depend increasingly on labor-intensive production of non-traditional products, such as those of horticulture and industry. This implies that the wage rate will become an increasingly important variable in determining comparative advantage.

At present, there are substantial disparities in wage rates between different African countries when these are measured at the official exchange rate. Some comparisons are presented for daily rural wage rates in table 16.

²³ In developing countries elsewhere, foreign exchange may be allocated by the commercial banking system.

²⁴ A clearer picture across West Africa should emerge by the end of the second year of AIRD's research program with the Club du Sahel.

TABLE 16: COMPARATIVE DAILY RURAL WAGE RATES

Country	Wage Rate Local Currency	Exchange Rate	Wage Rate U.S. Dollars
Ghana	400 cedis/day	350 cedis/\$	\$1.14
Guinea	700 GF/day	700 GF/\$	\$1.00
Ivory Coast	800 CFAF/day	280 CFAF/\$	\$2.86
Mali	650 CFAF/day	280 CFAF/\$	\$2.32
Senegal	600 CFAF/day	280 CFAF/\$	\$2.14

Source: World Bank, field surveys, and Wall Street Journal

It is clear from this table that the CFA countries suffer a substantial disadvantage vis-à-vis the non-CFA countries. The former's wage rates, measured in terms of US dollars, are two to three times the latter's. Yet productivity differences between these countries are slight. Over the longer term, the implied differences in wage costs are bound to have an extremely detrimental effect on the CFA countries' exports.

One factor that has improved the situation in recent years has been the return of reasonably normal rainfall, especially in the Sahel. This has greatly decreased the prices of coarse grains, which are not imported to any great extent so that their prices are largely determined by conditions of domestic demand and supply. Since these cereals are an important wage good, this has put downward pressure on nominal wages and helped to decrease the disequilibrium in the balance of payments. Labor markets all over West Africa are linked by migratory flows, however, so that the benefits have been felt in non-CFA countries as well as in those whose currencies are linked to the French franc.

Options regarding the CFA franc

In analyzing alternative scenarios for greater economic integration in West Africa, it is important to consider the options that exist regarding the CFA franc. These include:

1. Continue the existing policy mix of import protection, macroeconomic restraint, and capital inflows.
2. Tighten macroeconomic policy and increase productivity in order to slow inflation to a rate that is less than that which exists in the major trading partners.
3. Increase the degree of import protection through higher tariffs.

4. Devalue the CFA franc.

Each of these is discussed below.

Continue existing policy

The major problem with continuing existing policy mix is that it does not appear to be sustainable. The earlier section on debt suggested that foreign lenders are increasingly impatient with the slow pace of adjustment and the amount of continued borrowing that is taking place to support the CFA franc. Borrowing on commercial terms is extremely expensive, if not virtually impossible, given the large discount at which existing debt is being traded on secondary markets. Although the bilateral and multilateral donors offer much more favorable terms than do private lenders, especially in Mali and Senegal as compared with the Ivory Coast, the accumulation of debt by each of these countries is also reaching its limits.

Another disadvantage of the existing policy mix is that it leads to relatively large trade distortions in an effort to stem the flow of imports. The field studies that have been carried out as part of this project have provided abundant evidence of the types of distortions involved in the cereals trade. These lead not only to efficiency and consumer losses, but also to substantial resource costs in the form of "rent-seeking" behavior. As a result, agricultural marketing costs are much higher than they need to be, and the pattern of trade is seriously distorted.

Finally, the macroeconomic restraint that is being imposed to try to maintain equilibrium in the balance of payments and in the domestic economy imposes costs on the marketing of agricultural products. First, the squeeze on money and credit makes it difficult for traders to have access to the working capital that is necessary to operate efficiently. Second, given the absence in these countries of indirect instruments for controlling the money supply, credit rationing is generally resorted to in ways that do not benefit the most efficient entrepreneurs. When credit is in short supply, for example, it is often the public sector that retains priority in its allocation to the detriment of the private sector.

Tighten macroeconomic policy and increase productivity

The major policy option that the CFA countries are attempting to pursue involves tightening supplies of money and credit, reducing government budget deficits, and increasing productivity. The objective is to slow inflation to a rate that is less than that which exists in the major trading partners. This would increase the relative prices of tradable compared with nontradable goods and services, in a manner similar to a devaluation, while maintaining the advantages of a common currency area.

The major questions relate to whether the objective of this policy mix can be achieved, over what period of time, and at what cost. Certainly, the high rates of inflation in all of these countries during the 1970s and in Mali and

Senegal from 1982 to 1985 have been slowed (see table 5). But high inflation existed all over the world during the 1970s, and the slowing of inflation in the Sahel during the latter half of the 1980s was probably due as much to good weather as to restrictive macroeconomic policy. There was some improvement in the fiscal performance of the CFA countries toward the end of the 1980s (see table 3), but whether this will be sustained is another matter. As for productivity gains, there is little evidence that these have occurred to any significant extent in the past, certainly not in the agricultural sector, and prospects for the immediate future do not look much brighter.

It appears, therefore, that adjustment using this policy option will be a slow process, given the extent of overvaluation involved. In the meantime, the costs of restrictive macroeconomic policy and of distorted price structures will continue to be incurred. This will give an important competitive edge to the non-CFA countries, especially in the expansion of exports both within and outside the West African region. For reasons discussed below, it will also severely complicate the process of regional economic integration.

Increased tariff protection

To the extent that macroeconomic restraint is not working and pressure to reduce balance of payments deficits is being applied, the CFA countries may be forced to increase their protection against imports. This is already happening in the rice subsector, where Mali effectively banned rice imports in 1990 and Senegal applied the equivalent of a 63% tariff rate. The result will be increasingly distorted economies and a strong bias against exports, especially of non-traditional products, which are quite sensitive to cost variations. Over the longer term, this will have a highly detrimental impact on economic growth.

The field surveys for this project have shown that these price distortions gave rise to cross-border trade within the region regardless of the barriers put in place to prevent it. The erection of these barriers, however, results in loss of efficiency, costs to consumers, and wasteful rent-seeking behavior. The goal of economic integration is to reduce the already high level these costs.

Devaluation

Devaluation is a complex policy involving simultaneous changes in many relative prices. Much has already been written about devaluation, and a detailed discussion of this option is beyond the scope of this paper. There are, however, several aspects of this policy option that must be mentioned because of their implications for regional economic integration.

The first of these has to do with the form that devaluation might take. One option might be a one-time change in the CFAF/FF exchange rate, leaving the rate between CFA countries as it is. This would be the simplest policy change from the perspective of leaving the system intact.

Another possibility would be for the CFAF system to be dismantled entirely, and for each country to gain control over its own monetary policy and exchange

rate. Aside from the problems that this might create for monetary discipline and increased transactions costs in intra-regional trade, the movement towards more flexible exchange rates would make it more difficult to achieve regional economic integration in important agricultural products. The reasons for this are discussed in the next section.

Implications of alternative exchange rate regimes for economic integration

Experience of the European Economic Community

The evolution of the Common Agricultural Policy (CAP) in the European Economic Community provides important insights into the implications of alternative exchange rate regimes for economic integration of the agricultural markets of West Africa. The CAP was created at a time when exchange rates were fixed within Europe, with the exception of realignments that were relatively infrequent. Thus exchange rate changes were not an issue.

What was an issue was the level at which prices were to be set internally in relation to world market prices. For about 70% of the value of agricultural production, these prices were to be maintained by a common variable import levy. Within the EEC, on the other hand, there were to be no barriers to trade in agricultural products. After much discussion, internal prices were set at relatively high levels, which covered the costs of most domestic producers.

In 1967 the French devalued the French franc. Shortly thereafter the Germans revalued the deutsche mark. In units of local currency, this would have raised the prices of tradable agricultural products in France and lowered these prices in Germany. Neither country was willing to do this. Instead they created what were, in effect, separate exchange rates for agricultural products. This was equivalent to imposing import subsidies and export taxes in France and import taxes and export subsidies in Germany. As far as agricultural products were concerned, free trade within the community ceased to exist.

Economic integration in West Africa

Similar problems face the countries of West Africa should they move to integrate the markets for their agricultural products. Each country has historically established a level of prices that reconciles the interests of producers, consumers, and the government budget. In Mali, for example, a long process of reform in the cereals subsector moved consumer prices for rice steadily upwards from relatively low levels. By 1989-90 an effective embargo on legal rice imports resulted in consumer prices in the 180-220 CFAF/kg range. In Senegal, rice prices to consumers were maintained at somewhat lower levels -- 169-176 CFAF/kg for equivalent quality rice²⁵ -- by the operations of the Caisse de Péréquation et de Stabilisation des Prix (CPSP). In Guinea and the

²⁵ Most of the rice imported into the other countries is 25-35% broken, which is sold at a world market price that is about 30% higher than Senegal's 100% broken. The price for broken in Senegal in 1989-90 was 130-135 CFAF/kg.

Gambia, prices to consumers were about 120 CFAF/kg, with a 10% tariff being applied to world prices converted at exchange rates that reflected equilibrium rates reasonably well.²⁶

The result of this price structure, as one might expect, was an illegal flow of rice from the Gambia into Senegal and from Guinea into Mali. Because of the overvaluation of the CFA franc, trade policy had to be used to restrict imports from the non-CFA to the CFA countries. These policies distorted the allocation of resources, and circumventing them was costly.

If the overvaluation of the CFA franc were eliminated, the prices established in these countries would be reasonably consistent with free trade between them.²⁷ Assume, for example, that the CFA franc were devalued by 50% and that the equivalent import tariff were reduced to 10%, as it is in Guinea and the Gambia. The price in Senegal of the quality of rice consumed in Guinea and the Gambia would then equal 175 CFAF/kg -- almost the same level that it is today.²⁸ Even the price in Mali of about 200 CFAF/kg would not be very different once transportation costs are taken into account. Thus, unlike in Europe at the time that the CAP was established, the price levels in the western subregion of West Africa appear to be reasonably consistent with one another, once exchange rate disequilibria are taken into account.²⁹

In the absence of devaluation, it would be impossible to maintain the price levels that currently exist in each of these four countries without restrictive trade policy. If free trade were permitted within the zone, this would require either that Mali and Senegal lowered their external trade barriers or that Guinea and the Gambia raised theirs. Each would require negotiation and compromise in the area of agricultural price policy, which is often politically difficult. The former policy would also cause balance of payments problems for Mali and Senegal, and budgetary problems for Senegal; the latter policy would go against most of the advice received from the donors, would result in losses of efficiency, and would be costly to consumers.

If such a customs union were to be created, the union would face the same problems as did the EEC if there were any further movement in exchange rates. This would almost certainly be the case because the non-CFA countries all have built in mechanisms for exchange rate adjustment. If free trade were to be

²⁶ Figures taken from Hibou (1990).

²⁷ The analysis here is very preliminary and is designed to illustrate the kinds of problems posed by different exchange rate regimes. The scenario paper presents the results of a more precise quantitative assessment.

²⁸ This calculation assumes that the current price of 120 CFAF/kg in Guinea and the Gambia is comprised of the CIF price of 100 CFAF/kg plus a 10% ad valorem tariff plus 10 CFAF/kg for handling and trading margins, which is not affected by the exchange rate change.

²⁹ The major cost of this policy, which is explored in more detail in the scenario paper, would be the loss of tax revenue and CPSP profits in Senegal.

maintained within the union, internal prices would have to be allowed to adjust with changes in exchange rates. Once initial agreement on a common external tariff barrier is reached, however, such movement might be possible. First, most of the non-CFA countries no longer have official consumer prices for agricultural products. Second, these price movements would probably be much less than the movements in prices of nontradable foods associated with fluctuating domestic supply conditions. Third, to the extent that these exchange rate movements reflected differing rates of inflation at home and abroad, the CFAF price would remain unchanged as long as the CFA countries maintained their rates of inflation in line with those of their trading partners.

Conclusions

1. CFAF is overvalued by 50%.
2. This has important costs for CFAF countries.
3. With 50% devaluation, prices would remain as at present, but there would be budgetary implication.
4. Without devaluation, non-CFAF countries would have to raise tariffs about 50% or CFAF countries would have to lower tariffs an equivalent amount to allow free trade.
5. Subsequent variations in exchange rates would create no problem as long as these just offset differing rates of inflation.
6. To the extent that exchange rate variations occur for other reasons, there would be a need to adjust external trade barriers or to abandon internal free trade.

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