

**Exchange Rate Policies in Africa
and the Requirements of Stabilization
and Structural Adjustment**

by

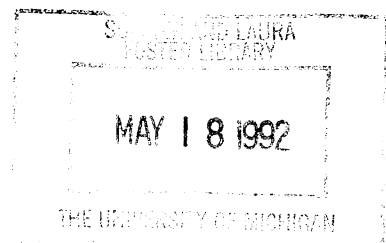
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ABSTRACTS

In the late 1970's, flexible exchange rate policies were presented as one of the most appropriate means to remedy the lack of dynamism in some African economies. The present article examines to what degree the African authorities have been convinced by devaluationist arguments, and what results the application of this recommendation have produced. Part One is devoted to a review of various exchange rate determination systems. Part Two deals with exchange rate policy indicators and their expected impact on the evolution of macroeconomic variables. Part Three has an empirical character. It evaluates the intensity of nominal and real depreciations of African currencies and analyzes their impact on price changes, GDP, export and import volume, current account balance and public finance.

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La flexibilité des politiques de change a été présentée à la fin des années 70 comme un des moyens les plus appropriés pour remédier au manque de dynamisme des économies africaines. Le présent article examine dans quelle mesure les autorités africaines ont été convaincues par les arguments dévaluationnistes et quels résultats a produit l'application de cette recommandation. La première partie est consacrée à une revue des divers systèmes de détermination du taux de change. La seconde partie traite des indicateurs de la politique de change et de ses effets prévisibles sur l'évolution des variables macroéconomiques. La troisième partie a un caractère empirique. Elle évalue l'intensité des dépréciations nominales et réelles des monnaies africaines et analyse leur impact sur l'évolution des prix, du PIB, du volume des exportations et des importations, du solde des opérations courantes et des finances publiques.

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In the late 1970s, flexible exchange rate policies were presented as one of the most appropriate means to remedy the lack of dynamism in some African economies. With the second oil shock and the worsening of balance of payments deficits, the IMF and the World Bank have widely recommended in favor of a more active policy in this respect. These institutions have attempted to demonstrate that exchange rate adjustments would have the advantage of making a return to financial equilibrium possible without impeding lasting economic growth. The present article examines to what degree the African authorities have been convinced by devaluationist arguments, and what results the application of this recommendation have produced.

Part One is devoted to a review of various exchange rate determination systems.

Part Two deals with exchange rate policy indicators and their expected impact on the evolution of macroeconomic variables.

Part Three is empirical. It evaluates the intensity of nominal and real depreciations of African currencies and analyzes their impact on price changes, GDP, export and import volume, current account balance and public finance.

1. THE DIVERSITY OF EXCHANGE RATE SYSTEMS

After the collapse of the fixed exchange rate system that controlled the world monetary system between 1945 and 1973, developing countries have adopted various political systems that are reflected in the diversity of exchange rate systems in Africa. According to the most popular characterization, countries where the currency is maintained by a fixed exchange rate but that is adjustable by means of a single standard or a basket of currencies are compared to countries that have opted for a system of free or controlled fluctuation. An intermediary case also merits attention, that of countries that have put into practice a system of multiple exchange rates that generally lead to a de facto or de jure coexistence of fixed and floating exchange rate mechanisms.

1.1. Pegging the Exchange Rate

In an environment where disparate inflation rates have given rise to serious exchange rate variations between principle foreign currencies, a considerable number of African countries have chosen to peg their exchange rates to a basket of currency rather than to one single foreign currency. For convenience, the monetary authorities had first given preference to pegging Special Drawing Rights, then in the 1980s, a growing interest was expressed for pegging exchange rates to a basket of currencies representative of a country's foreign trade structure.

This second system is a priori more satisfactory in that it takes into consideration the particularities of an economy in terms of international exchange. Pegging exchange rates to Special Drawing Rights nevertheless responds to a similar economic logic since that unit of account reflects,

by its composition, the world demand structure and consequently, the absorption of primary products exported by developing countries.

At the end of the 1970s, the technique of pegging to a basket was considered desirable and destined for generalized practice. Upon reading Table 1, it nevertheless appears that in 1988 almost two dozen countries continued to maintain a fixed exchange rate determined by one single foreign currency; this is approximately the same number as in 1978. Even more surprising, certain countries have returned to the principle of pegging to a single monetary standard after an experience of pegging to a basket of currency was judged unsatisfactory. The cases of Ethiopia, Uganda, or Zambia can be cited as examples that in this domain, dispositions are not as irreversible as certain authors might once have believed.

Presently, two foreign currencies share the role of the monetary standard for pegging exchange rates, although for very different reasons; they are the U.S. dollar and the French franc. The attraction that the dollar possesses is naturally dependent on the dominant weight of the United States in the functioning of the world economy. It is moreover the principle reason why the power of attraction of American currency has been maintained in spite of unruly fluctuations in American exchange rates that were successively over-appreciated (1980-1985) before depreciating in no less perceptible proportions (1985-1989). Although the dollar standard is no longer as undisputed as was the case before 1971, it remains a privileged instrument of measurement and billing in international exchanges of raw materials.

The stability of the role of the French franc in Africa is indissociable with the area of economic and monetary cooperation that constitutes the "Zone franc" or franc area (Guillaumont, P. and S., 1984). After the independence of its colonies, France has maintained close relations of cooperation with those territories desiring it. The installation of a monetary system with a guarantee of unlimited convertibility of national currency has been the most spectacular element of this cooperation. Whether it be in West Africa or Central Africa, the CFA francs are issued by the Central Bank of the West African States (B.C.E.A.O.) and the Bank of the Central African States (B.E.A.C.) at the fixed exchange rate of 0.02 FCFA for one unit of french francs. At this rate of exchange, unmodified since 1948, thanks to the commitment of the French Treasury to unlimited conversion via the mechanism of transaction accounts, economic agents can execute their international transactions without concerning themselves with the foreign currency holdings of the Central Banks.

The "Zone franc" constitutes a community at the heart of which economic solidarities can manifest themselves at any moment, as well between members of the same monetary union, as, should the occasion arise, between France and its African partners. Consequently, this economic ensemble differs substantially from the former British monetary community, which was a flexible association

Table 1
Formulas for Pegging African Currencies
(1978-1988)

For the countries having adopted a double or multiple exchange rate market,
the exchange rate system indicated is the one in operation on the principal market.

Franc français	Dollar US	Livre sterling	DTS	Panier sur mesure	Autres monnaies
Au 31 décembre 1978					
Bénin	Botswana	Gambie	Ethiopie	Cap Vert	Ghana
Cameroun	Burundi	Seychelles	Guinée	Mauritanie	(livre et dollar)
Centrafrique	Djibouti		Guinée-Bissau		Guinée-
Comores	Libéria		Kenya		équato.
Congo	Nigéria		Malawi		(Peseta esp.)
Côte d'Ivoire	Rwanda		Maurice		Lesotho
Gabon	Somalie		Ouganda		(rand sud-afr.)
Haute Volta	Soudan		Sao Tomé &		Swaziland
Madagascar			Principe		(rand sud-afr.)
Mali			Tanzanie		
Niger			Zaïre		
Sénégal			Zambie		
Tchad					
Togo		Sans rattachement :			
		Sierra Leone			

Franc français	Dollar US	Livre sterling	DTS	Panier sur mesure	Autres monnaies
Au 30 juin 1988					
Bénin	Djibouti	-	Burundi	Botswana	Lesotho
Burkina-Faso	Ethiopie		Guinée	Cap-Vert	(rand)
Cameroun	Libéria		Guinée-	Kenya	Swaziland
Centrafrique	Ouganda		Bissau	Madagascar	(rand)
Comores	Sierra Leone		Rwanda	Malawi	
Côte d'Ivoire	Soudan		Seychelles	Maurice	
Guinée-équatoriale	Zambie			Mauritanie	
Gabon				Mozambique	
Mali				Somalie	
Niger				Tanzanie	
Sénégal		Sans rattachement :			
Tchad		Gambie			
Togo		Ghana			
		Nigéria			
		Zaïre			

Source : S. Nana-Sinkam : *Les PCPD dans la jungle du nouveau système international des taux de change*, Paris, Economica, 1979, p. 83 et FMI : *Exchange Arrangements and Exchange Restrictions*, 1988 et *Bulletin du FMI*, 5/9/1988.

Source : JACQUEMOT (P) ASSIDON (E) : *Politiques de Change et Ajustement en Afrique* (1988) pp 19-20.

without a treaty or structure in which English custom played a determining role, until its progressive disintegration between 1967 and 1975.

In many respects, today's system of exchange rates pegged to the dollar is related to what was the sterling zone. The African monetary authorities in fact possess complete freedom to modify exchange rate standards according to national economic needs. In comparison, within the bounds of the "Zone franc" we see the survival of a fixed exchange rate mechanism. The link between the FCFA and the French franc is actually only adjustable in exceptional circumstances -- unanimity among all the members of a monetary union (U.M.O.A., B.E.A.C.) concerning devaluation and the choice of a new par value. This requirement makes monetary discipline a necessity. Moreover it makes indispensable the financial solidarity that permits a country to deal with transitory imbalances in its balance of payments beyond its available foreign currencies.

1.2. Floating Exchange Rates

Currently few African countries have allowed themselves to be seduced by an experience with floating exchange rates where the external value of the currency is determined by the free confrontation of supply and demand. The brief experiences of Nigeria, Tanzania, and most recently Zaire constitute the rare exceptions. Such a system of exchange rates is undoubtedly disinclined to satisfy small undiversified economies with an external marketing discontinuous with their primary commodities.

The adhesion to a system of "pure flotation" implies accepting a high degree of variation in the national currency market with considerable exchange risks of hindering the development of international transactions. Of course, the monetary authorities can intervene in the currency market to reduce the variability and guide the market towards a middle term equilibrium of balance of payments. They can also create mechanisms of forward cover so that operators can protect themselves against erratic movements of the exchange rate. But these interventions remove one of the principle advantages of a floating exchange rate, the fixation of an equilibrium rate without administrative costs and the expenses of managing a stock of exchange reserves.

1.3. Multiple Exchange Rates

Most often a hybrid solution of the two preceding exchange systems is necessary. In the context of a foreign currency gap, the monetary authorities determine an exchange rate at which the level of imports and exports considered necessary for the functioning of the economy will occur. The profitable completion of transactions at the fixed rate requires that the central bank maintain an adequate stock of reserves. Non essential imports are permitted; but their price in national currency depends on the opportunity cost of the foreign currency determined by the black market, the parallel

market (de facto multiple exchange rate) or by the auction market (de jure multiple exchange rate) periodically organized by the Central Bank. (For an analysis of the experiences of Madagascar and Guinea between 1971 and 1983, c.f.: GUILLAUMONT, S., 1985.) The quantity of foreign currencies supplied is then fixed and the demands are satisfied in competition for that supply in descending order of submission price. At the end of 1987, such a system of "administrated bidding" for non priority commercial transactions was functioning in several African countries. This was notably the case in Ghana, Guinea, Nigeria, and Zambia (JACQUEMOT, P. and ASSIDON, E., 1988).

The principle remark that can be formulated concerning this method of exchange rate determination is that in spite of a reduction of the costs of authoritative allocation of foreign currencies (corruption, privileges unduly granted to the parastatal sector...) the bidding system does not eliminate the formation of a black market as long as demand remains unsatisfied for a fixed quantity of foreign currency.

2. THE INDICATORS AND EXPECTED RESULTS OF EXCHANGE RATE POLICIES

2.1. Indicators

In an environment where the principle foreign currencies fluctuate in relationship to one another, the national currency market in relation to one single foreign currency has a very limited economic significance, including economies where a large portion of foreign trade is conducted with the country whose currency is used as a standard for pegging. In such an environment, it is the movement of an index on the effective exchange rate (TEN) that one should consider. The TEN is defined as a weighted average of bilateral exchange rates; the weighting element is most often the import structure of the country for which the index is calculated. In itself, the TEN gives even more limited information on the variations of competitive positions of an economy. In fact, its movement can only reflect inflation differences with the principle trading partners. This is the reason that this index is generally interpreted after having been adjusted for relative price variations. This indicator is called the Real effective exchange rate (TER). The formula is given below.

$$TER^{t_{ij}} = \frac{TEN^{t_{ij}}}{PRE^{t_{ij}}} \times 100$$

$TER(N)^{t_{ij}}$: Real effective exchange rate (nominal) of country (i) with the country of importation (j).

$PRE^{t_{ij}}$: Relative price index of country (i) with country (j).

$$TEN^{t_{ij}} = \frac{\sum_{j=1}^n \frac{TC^{t_{ij}}}{TC^1_{ij}} W_{ij}}{\sum_{j=1}^n W_{ij}} \times 100$$

$$PRE^{t_{ij}} = \frac{\sum_{j=1}^n \frac{PR^{t_{ij}}}{PR^1_{ij}} W_{ij}}{\sum_{j=1}^n W_{ij}} \times 100$$

W_{ij}: Relative importance of country (j) for country i.

TC_{ij}: Bilateral exchange rate of the currency of country (i) in relation to country (j).

PR_{ij}: Bilateral consumer price relationship between (i) and a country (j).

The meaning of the TER differs according to the price index considered. In Table 2, it is the consumer prices that are used. There, the indicator translates first the real variations in purchasing power. But, under certain hypotheses, it equally constitutes an index of the aptitude of an economy to produce internationally exchangeable goods (exportable goods or substitutable to imports). In fact, if the price of these goods is exogenous, that is, fixed by world markets and common in foreign currency to all of the producers, the TER varies essentially by the intermediary of the internal relationship between relative prices of exchangeable and non exchangeable goods. The appreciation of an index signifies that the price system in local currency favors the substitution of domestic goods (PNT) for tradable goods (PT) at the level of production.

This interpretation of the TER, not in terms of relative international prices but in terms of relative internal prices (PT/PNT) is implicit when one is interested in the analysis of real prices for the producer of exportable raw materials. In deflating the price index paid to the producer by an African consumer price index whose movement is largely linked to the price of domestic goods and services, the underlying question is to know if, for a given fiscal claim, the real income of a local producer tends to improve or deteriorate.

2.2. Expected Results

Up until this point in the analysis the TER has been closely associated with the objective of a competitive economy. In that vision, the monetary authorities must be careful to diverge as little as possible from the equilibrium exchange rate on the base of relative prices. For several years the African countries have been confronted by a persistent weakness in their balance of payments. The causes of the imbalance are known (PLANE, 1988). They are a result of both the exterior context and the management of economic policies. By analogy with the notion of "fundamental imbalance" of the balance of payments (of which existence should command), in virtue of the agreements of Bretton Woods, a modification of the parity of a currency, the Washington institutions consider that the exchange rate should be linked not only to price competitiveness but to an objective of a viable exterior payments structure (GUITAN, 1985).

Concretely, the authors of these institutions refer to the current account balance and question the endurable nature of the deficit.

Otherwise stated, a current account with a negative balance cannot lastingly finance itself by a net influx of capital with the financial conditions (price, bidding...) in relationship with the internal

productivity of resources that would call for an adjustment of the external value of the currency. This confidence in the effectiveness of the exchange rate as a counterbalancing instrument of exterior accounts rests on optimistic hypotheses as well as the behavior of economic agents. These agents are supposed to favorably respond to price incentives, which implies that in the situation of a national currency depreciation one could expect a rise in the volume of goods exported and a reduction in the demand for imported goods. The internal supply of tradable goods is particularly elastic to price variations. In the situation where the exports of a "small economy" are of only marginal quantities in the satisfaction of world demand, the increase of export volume sales does not imply a decrease in international market rates.

The neo-structuralists oppose this diagnosis with much more pessimistic views. For these economists, the developing economies suffer from excessive specialization in primary products for which world demand is relatively inelastic to price and income variations. The quantities produced would be more influenced by climatic uncertainties than by price. The national import demand would be exposed to a certain price rigidity because of the need to import capital goods without which development would be hindered. As a result of these characteristics, it seems that improvement of the balance of payments can only be envisioned for the long term via a diversification of productive systems.

The impact of an exchange rate depreciation on principle macroeconomic variables appears equally uncertain. The current of neoclassic analysis that impregnates the philosophy of the Bretton Woods institutions counts on short term compensation for the effects of stabilization: - decreasing internal mergers - and structural adjustment - recovery of activity in the tradable goods sector by a return to annual export crops and mobilization of unused industrial production capacity - to preserve if not increase the growth of GDP.

On a more distant temporal horizon, the perspectives of a return to activity seem even better since on the one hand, the real depreciation of the exchange rate allows one to hope for a more efficient allocation of resources, an allocation more consistent with the principle of development on the base of comparative advantages and on the other hand, after a period of increase in production, the perennial crops will enter the phase of optimum yield.

In the matter of inflation and public finance, the impact of a nominal depreciation of the currency is a priori uncertain.

First, concerning inflation, the effect of a mechanical boost in prices of tradable goods could be diminished by a reduction in customs tariffs. Whatever it may be, it is for the economists of the IMF to decide, the accompanying monetary policy will finally determine the intensity of inflationary tensions in the period that follows the depreciation of the exchange rate.

Concerning public finances, there again the impact is difficult to capture in that it varies inevitably with the extent of the stabilization, the inflation level, related changes in the foreign trade policy (conversion of quantitative restrictions in tariffs, lowering of tariff barriers) and of course the burden of the debt service in foreign currency.

The neostructuralists hold to another reasoning. They express their fear that the depreciation of the exchange rate will result in the violent contraction of internal demand with an appreciable drop in the level of local production. (KRUGMAN and TAYLOR, 1978; TAYLOR, 1981). Moreover, they emphasize the argument that a simple monetary manipulation cannot modify the fundamental relationship between price and wages (KALDOR, 1983). The agent banks absence of monetary illusions will have the consequence of exacerbating cost inflationary tensions without entailing a real transfer of income from urban populations towards rural populations, from the worker towards the firm, from the producer of domestic goods towards the producer of tradable goods.

3. THE APPLICATION AND EFFECTIVENESS OF EXCHANGE RATE POLICIES

3.1. Developmental tendencies of effective exchange rates

In the policies of economic and financial recovery that inspire the institutions of Bretton Woods, the elimination of the over-evaluation of currencies occupies a central place. It is therefore normal that in the period considered, having adhered to the programs of the IMF and the World Bank, the African monetary authorities have shown themselves to be receptive to the installation of more active exchange rate policies than before.

For each country, Table 2 identifies the intensity of the efforts produced in the matter through the variations in the annual average growth rate of the effective nominal and real exchange rates. These two rates have been calculated in reference to ten principal non oil import countries according to the formula given above. The weight given to each partner reflects, on average, the relative importance of bilateral trade during the 1980-1986 period.

Upon reading the results, it is evident that in 75% of the countries in the sample, the African currencies tended to depreciate as much in nominal value as in real value. In more than 25% of the cases, the real depreciation was greater than 5% per year. The matter at hand shows radically different behavior than that observed in the 1970s when the refusal to devalue had the consequence in certain countries of an over-evaluation in which the Berg Report (1981) revealed the extent(p.29). The rallying for a more flexible exchange rate policy has been particularly spectacular in countries where resistance had been very strong up until now. It is thus than on average, the Ghanean Cedi has lost more than 50% of it external value each year between 1980 and 1987. The African leaders have

**Table 2: Developmental Tendencies of Nominal and
Real Effective Exchange Rates (1980-1987)**

(% de Variation annuelle moyenne)

(:		:		:)				
(	PAYS	:	NOMINAL	:	REELLE	:	PAYS	:	NOMINAL	:	REELLE)
(	BENIN	:	+ 2,3	:	- 0,1	:	LIBERIA	:	+ 5,9	:	+ 1,0)
(:		:		:		:		:)
(	BOTSWANA	:	- 4,0	:	- 4,0	:	MADAGASCAR	:	- 16,5	:	- 7,6)
(:		:		:		:		:)
(	BURKINA	:	- 1,4	:	- 2,1	:	MALAWI	:	- 3,6	:	- 0,2)
(:		:		:		:		:)
(	BURUNDI	:	+ 0,1	:	+ 0,2	:	MALI	:	- 1,2	:	- 3,2)
(:		:		:		:		:)
(	CAMEROUN	:	- 0,9	:	+ 1,3	:	MAURICE	:	- 2,0	:	- 2,9)
(:		:		:		:		:)
(	CAP VERT	:	+ 2,0	:	+ 1,6	:	MAURITANIE	:	- 3,4	:	...	)
(:		:		:		:		:)
(	CENTRAFRIQUE	:	+ 1,1	:	+ 2,9	:	NIGER	:	- 1,3	:	- 4,3)
(:		:		:		:		:)
(	COMORES	:	+ 1,3	:	...	:	NIGERIA	:	- 14,6	:	- 10,4)
(:		:		:		:		:)
(	CONGO	:	+ 4,7	:	+ 0,7	:	OUGANDA	:	- 52,4	:	- 13,7)
(:		:		:		:		:)
(	COTE-	:		:		:	RWANDA	:	+ 6,2	:	+ 4,5)
(:		:		:		:		:)
(	D'IVOIRE	:	- 1,8	:	- 2,9	:	SENEGAL	:	- 1,0	:	+ 2,2)
(:		:		:		:		:)
(	ETHIOPIE	:	+ 2,5	:	+ 0,9	:	SEYCHELLES	:	+ 6,1	:	...	)
(:		:		:		:		:)
(	GABON	:	- 1,7	:	- 0,3	:	SIERRA LEONE	:	- 37,8	:	- 1,2)
(:		:		:		:		:)
(	GAMBIE	:	- 16,5	:	- 4,6	:	SOMALIE	:	- 32,5	:	- 9,7)
(:		:		:		:		:)
(	GHANA	:	- 46,7	:	- 26,2	:	SOUDAN	:	- 21,5	:	...	)
(:		:		:		:		:)
(	GUINEE	:	- 26,5	:	...	:	SWAZILAND	:	- 11,8	:	- 5,5)
(:		:		:		:		:)
(	GUINEE-	:		:		:	TANZANIE	:	- 22,7	:	- 3,6)
(		:	- 26,6	:		:		:		:)
(	BISSAU	:		:	- 8,5	:	TCHAD	:	- 1,2	:	- 2,9)
(:		:		:		:		:)
(	GUINEE-	:		:		:	TOGO	:	- 2,2	:	- 3,4)
(		:	- 7,2	:		:		:		:)
(	EQUATORIALE	:		:	...	:	ZAIRE	:	- 34,4	:	- 16,2)
(:		:		:		:		:)
(	KENYA	:	- 9,1	:	- 3,5	:	ZAMBIE	:	- 26,7	:	- 14,1)
(:		:		:		:		:)
(	LESOTHO	:	- 7,5	:	...	:	ZIMBABWE	:	- 7,3	:	- 2,0)

N.B : le signe (+) indique une appréciation du cours nominal ou réel de la monnaie et vice versa pour (-).

Remarks:

The average annual growth rate was calculated by the least squares method. The calculated equation is the following:

$\log TE = a + bt + e$ with $b = \log (1 + r)$ the parameter that one is trying to estimate. If b^* is the estimate of b by the least squares method, then the average rate of annual growth r is obtained by the formula $[\text{antilog } (b^*)] - 1$.

Sources: Based on IFS, International Monetary Fund, 1989 and Data Bank of CERDI (Center for Study and Research on International Development).

demonstrated as much determination in Uganda (-52%), Sierra Leone (-37.8%), Somalia (-32.5%), Zaire (-34.4%). Since in all of these countries the depreciation has led to the putting in place of accompanying monetary measures, these nominal adjustments have stimulated an improvement of economic competitiveness.

A certain prudence imposes itself all the same in the commentary concerning the empirical relationship between the development of nominal exchange rates and the rhythm of inflation. The depreciation of the external value of African currencies remains a relatively recent experience, the middle of the 1980s. Taking into account a propagation effect of interior prices that rise in stages over several years, it is not out of the question that the impact of these depreciations on the inflation rate were only partly captured at the time they were studied.

Another interesting note to establish is that 8 of the 12 members of the franc area have seen their real effective exchange rates tend to depreciate, sometimes in sizable proportions : -3% on average per year for the Ivory Coast, Chad, Togo, Mali, and -4.3% for Niger. In the absence of a modification of the par value in relation to the French franc, this development has been produced by a reinforcement of monetary rigor (endogenous factor to the policy) and an autonomous weakening of French currency compared to the foreign currencies of importing countries of the area (exogenous factor to the policy).

3.2. A Contrasted Effectiveness

In its relationship with principle macroeconomic variables, exchange rate policy has had a mitigated effectiveness that has not definitively settled the "old debate" between the optimism of the neoclassicists and the pessimism of the neostructuralists.

Tables 3 and 4 suggest that imports have appreciably diminished in volume in the countries where the real and nominal depreciations have been the most accentuated. On average, the current account balances have nevertheless begun a clear return to equilibrium. In terms of GDP, the deficits have been reduced by around 6 to 7%. In these developments the "price effect" has not been the only factor at work. In spite of the phase of liberalization of exchanges at the end of the period, the import quotas and other quantitative restrictions have often been reinforced over the entire period, in connection with the exhaustion of net exterior capital inflows (outside of debt consolidation operations). The internal demand structure has also played a role in a decrease of imports through the revised decrease in foreign capital investment goods.

On the side of exports, it is clear that their volume has not progressed as much as had been hoped for. Against all expectations, and at a statistically significant 95 % level of confidence when one

**Table 3: Development of Macroeconomic Variables in Connection with
the Intensity of the Nominal or Real Exchange Rate
Depreciation (1980-1987)**

	Nb d'observations	Moyenne Simple	Ecart Type	Médiane
(Pays à faible dépréciation nominale (PFAN)				
(1) Croissance annuelle du PIB	19	2,5	2,4	2,4
(2) Croissance annuelle des prix	18	5,6	2,6	4,9
(3) Croissance annuelle des importations	17	0,7	4,7	2,0
(4) Croissance annuelle des exportations	17	3,3	5,1	3,4
(5) Variation de solde des Finances publiques	18	- 0,1	4,2	0
(6) Variation de solde du Compte courant	15	- 6,6	9,0	- 5
(Pays à forte dépréciation nominale (PFON)				
(1) Croissance annuelle du PIB	19	2,1	2,6	1,9
(2) Croissance annuelle des prix	15	30,2	23,9	24,9
(3) Croissance annuelle des importations	13	- 5,0	5,3	- 3,0
(4) Croissance annuelle des exportations	13	- 1,8	3,8	- 2,1
(5) Variation de solde des Finances publiques	19	1,2	7,7	- 0,7
(6) Variation de solde du Compte courant	15	- 7,4	5,7	- 7,7
(Pays à faible dépréciation réelle (PFAR)				
(1) Croissance annuelle du PIB	17	2,9	2,2	2,7
(2) Croissance annuelle des prix	17	8,9	11,1	7,5
(3) Croissance annuelle des importations	16	- 0,6	6,3	1,2
(4) Croissance annuelle des exportations	16	3,0	4,2	3,0
(5) Variation de solde des Finances publiques	16	- 0,7	4,3	- 1,0
(6) Variation de solde du Compte courant	14	- 7,8	9,0	- 6,5
(Pays à forte dépréciation réelle (PFOR)				
(1) Croissance annuelle du PIB	16	2,0	3,0	1,7
(2) Croissance annuelle des prix	13	26,8	26,4	17,4
(3) Croissance annuelle des importations	12	- 3,0	4,6	- 2,9
(4) Croissance annuelle des exportations	12	- 2,5	4,0	- 3,2
(5) Variation de solde des Finances publiques	16	0,1	7,1	0
(6) Variation de solde du Compte courant	13	- 6,2	6,1	- 5,5

Remarks and Sources:

Calculations established on the basis of:

(1) In volume to 1970 prices, in average annual % during the period 1980-1987 ; Data bank CERDI and World Tables, World Bank, 1989.

(2) Consumer price, in average annual % during the period 1980-1987 ; World Bank, World Development Report, 1989, table 1.

(3) and (4) Exports (FOB) and Imports (CAF) of merchandise in volume, in average annual % for the period 1980-1987; World Bank, World Development Report, 1989 table 10.

(5) Absolute variation of the average of public finance deficit reports (including the grants) to GDP between 1985-1987 and 1980-1982.

World Bank and United Nations : African Economic and Financial Data, 1989.

(6) Variation of average current account deficits expressed in terms of average GDP between 1985-86 and 1980-82.

World Bank and United Nations : African Economic and Financial Data, 1989.

**Table 4: Statistical Comparison of Macroeconomic Variables as a
Function of the Degree of Nominal or Real Depreciation of
Effective Exchange Rates**

The Wilcoxon Test

DEPRECIATION NOMINALE		DEPRECIATION REELLE	
NOMBRE D'OBSERVATION	W	NOMBRE D'OBSERVATION	W
Croissance économique	392	315	-0,93
Croissance des prix	173*	203*	-2,53*
Croissance des importations	328*	148	(...)
Croissance des exportations	327*	104,5*	(...)
Variation du solde des finances publ.	349	260	-0,15
Variation de solde du Compte courant	250	192	(...)

Remarks:

The Wilcoxon test allows one to test whether the distributions if taken two by two are identical or if one is larger (or smaller) than the other. The asterisk (*) designates a significant difference at a 95% level of confidence. The value of W is only important in the case that the sum of the observations furnished by the two distributions remains below 30.

applies the Wilcoxon test (Table 4) at two distributions, the exports have even had the tendency to diminish in the most considerable proportions in the countries where the real exchange rate depreciation had been the largest. These results imply a verification of neostructuralist views according to which, the climatic conditions, the structural rigidities of the supply of agricultural production, the foreign currency rationing that limits access to inputs or imported consumer goods, raising the agricultural producer's motivation to increase his monetary income, the specialization in primary products for which world demand augments slowly, are all so many potential obstacles in the observation of a response of productive systems to real exchange rate adjustments.

This article will not seek to identify what the contribution of each of these factors has been to the development of exports. In compensation, two other explanations will be put forward that, beyond this empirical analysis invite one to not underestimate the scope of neoclassical theory. In the circumstances, it is probable that before modifying their behavior (growth of production capacities but also substitution of tradable goods for goods produced for purely domestic use), the agents have preferred to test the lasting character of the new relative internal price structure ; it is incidentally one of the explications given for the fact that supply elasticities are generally higher in the long term than in the short term. Finally and most of all, the experience of exchange rate policies is to be replaced in the world economic context of the 1980s.

Throughout the decade, most of the developing economies have been under adjustment. The standardization of devaluationist policies has certainly permitted the augmentation of the volume of world exports of primary products. As a result of an international demand for these products that is relatively inelastic to variations of price and income, the augmentation runoff volume has resulted in an appreciable decrease in trade prices. To characterize this situation, the expressions "synthetic error" or "fallacy of composition" have been frequently used to signify that a price adjustment that could be effective in a "small country" generates perverse effects when a multitude of producer countries adopt the same therapeutic.

In this context of deflation that is reminiscent, in some ways of the unhappy experience of the "concurrent devaluations" of the 1930s, one can ask oneself if in spite of the active exchange rate policies that have been treated, Africa has retained a certain weakness of its competitive position with Asian and South American countries. In other words, have the real exchange rate depreciations been sufficient to assure the best conditions for the production of tradable goods ? Have they favored an amelioration of the real income of agricultural producers, taking into account the fall of world markets, of the maintenance of internal inflationary tensions and the fiscal requirements that don't always permit the relaxation of crop tax rates ?

Table 5 permits the evaluation of the more or less stimulating character of internal agricultural price policies through the development of official purchasing price expressed in real terms. Each time

**Table 5: Developmental Tendencies of Real Producer Prices
(Annual Average Growth Rate for the Principal Products)
Period of 1980-1987**

	COTON	SORGHO	MAIS	ARA- CHIDES	CAFE	CACAO	THE	RIZ
(BENIN (1)	2,1**							
(BOTSWANA		5,6*	5,3*					
(BURKINA	4,8	-4,3	-3,8					
(BURUNDI					-2,2		3,0	
(CAMEROUN	-0,4				-3,0	-2,9		
(CENTRAFRIQUE	-0,9				-3,4			
(CONGO			-1,0*		3,0*	-3,0*		
(COTE D'IVOIRE			-1,1		0	0		0,4
(ETHIOPIE		-3,3*	-1,0*		5,4*			
(GAMBIE	0,8*			2,8				
(GHANA						14,8		
(GUINEE-BISSAU				-4,2				-3,2
(KENYA			0,8				-4,2	
(LIBERIA					-4,9	-6,7		-5,1
(MADAGASCAR					-1,4*			
(MALAWI	2,6	5,6	-2,5	1,2				
(MALI	2,4	2,9*	2,2*					6,4*
(MAURITANIE		0*	-3,5*					1,1*
(NIGER				12,0				
(NIGERIA	-1,2*	-2,5*	-2,7*	2,8*		-2,2*		2,5*
(RWANDA							-5,7**	
(SENEGAL	-1,7	-2,3	-0,3	-0,1				
(SIERRA LEONE					3,5	-0,4*		
(SOMALIE		8,4*	12,4*					
(SOUDAN	-1,9*			-3,7*				
(TANZANIE	1,1	0,9	4,3		-1,0		1,9	3,1
(TCHAD	7,9*							
(TOGO	5,4**				6,9**	2,4**		
(ZAMBIE	1,5		5,4					
(ZIMBABWE	-2,8		-4,0					

Remarks:

The real price paid to the producer is the ratio of the official purchasing price and the consumer price.

* 1980-1986

** 1980-1985

(1) the GDP deflator is used instead of the consumer price index.

Source: based on World Bank and United Nations; African Economic and Financial Data (1989)
op. cit. - FMI, IFS (1989).

that the statistical data authorizes it, the tendencies have been established for eight principal Subsaharan products for the period 1980-1987. The results that one arrives at suggest a moderated judgement for the policies followed. Of the 77 tendencies calculated 37 are positive, 37 are negative, and three are equal to zero. Otherwise stated, even if it is fitting to surround the commentary with some precautions facing average annual growth rates of which development is only rarely statistically significant (Student's t non significant to 5%), on first reading, it seems that the policy of real prices to producers has been relatively neutral, that the incentives to produce more have been therefore more limited than desired.

The international environment is marked by a quasi general lowering of primary product export prices. This result nevertheless has an encouraging character and shows a certain willingness to support real price policies. The question that poses itself at this point is naturally to know whether stronger incentives would have been possible with more pronounced exchange rate movements, having understood that in the view of producer countries, a collective augmentation of African exports would have undoubtedly had the consequence of even further degrading the equilibrium conditions between the world supply and demand for products.

In spite of the decrease in import volume and the relatively deceiving development of African exports, on average, the countries in the sample have maintained, in the overall period, a positive GDP growth rate in the order of 2 to 3% per year. This rate represents a shrinkage of around a half point compared to rates recorded in the 1970s, witness to the possibility of a significant external financial recovery without such a brutal and lasting contraction that the neostructuralists might lead one to think. But it also bears witness to the inadequacy of such a rate as a "cruising rhythm" in that it does not permit the realization of the minimal objective of per capita maintenance of domestic product.

CONCLUSION

In an international environment of flotation more or less administered by the principal foreign currencies, a fair number of African countries have continued to peg their currency to a single monetary standard (French franc, dollar). It doesn't seem that this choice of exchange rate system has been an obstacle to a realistic exchange rate policy, including the member countries of the franc area where the fixed par value in relationship to the franc has not been modified since 1948.

In 75% of African countries, the currency has depreciated during the period studied (1980-1987) as much in real value as nominal. As a result of accompanying monetary policies, inflation has often only partially eroded the gains in competitiveness inherent to devaluations. The real exchange rate depreciations have contributed to a significant improvement of current accounts. This appreciable

amelioration has been principally attributable to the development in import volume however for the numerous reasons evoked in the article, the exports have only weakly responded to the variations of relative interior prices. In other terms, in spite of the lasting absence of a contraction of production, the effect of exchange rate stabilization seems to have surpassed the effect of structural adjustment ; this being understood as a process of stabilization of external accounts operating in the growth of GDP.

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