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Devaluation and Balance of Payments in ECOWAS Countries: A Study of Nigeria's Exchange Rate Policy

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DEVALUATION AND BALANCE OF PAYMENTS IN ECOWAS COUNTRIES: A STUDY OF NIGERIA'S EXCHANGE RATE POLICY

INTRODUCTION

As the price of a currency in terms of another, exchange rate plays a very important role in national and international economy.[1] To some policy makers it is a barometer which measures the relative strength of an economy overtime. When viewed in this light a depreciating rate implies a weakening of the competitive position of the economy whereas an exchange rate appreciation would lead them to believe that the economy is performing relatively well. To others, exchange rate is yet another instrument of economic policy to be deployed in response to the needs of the economy. In this view, the direction which exchange rate takes should not be of any concern provided that it is in line with the overall economic objectives set by national authorities.

Whichever view one takes whether a neutral or active exchange rate policy, it is a basic fact that a country's exchange rate is a matter of international concern. There is a limit to which a country can influence the course of its exchange rate. Apart from the effects of the underlying domestic economic and financial conditions on exchange rate, other factors such as structural changes in world trade, shifts in international demand, and international capital flows assume varying degrees of importance from time to time.

For developing countries, particularly countries of Africa, the pursuit of independent exchange rate policy has not been possible. These economies depend excessively on international trade, and in many cases on a few primary export commodities. The size of foreign sector is very large relative to gross national product. In addition, domestic supply capacity is weak, so that, the countries rely too heavily on imports and capital flows mainly on concessional terms. These factors, together with historical and economic heritage explain the earlier links of national currencies of most of the English speaking countries of Africa to pound sterling and those of the French speaking countries to French franc. For example, on attaining political independence from the United Kingdom, Nigeria joined the International Monetary Fund in March 1961, and declared a par value for the Nigerian Pound equal to US$2.80. Similarly the French speaking countries declared their par values in terms of the French franc and gold of equivalent value.

Since early sixties many countries of Africa have not introduced fundamental changes in their exchange rate policies. The Franc Zone continues to maintain its ties with the French franc, and Operations Account with the French Treasury. During the French Devaluation in 1969 all the

members devalued by 11.1 per cent, or the same percentage rate. However, countries in the sterling area adopted varying policies in response to the devaluation of pound sterling in 1967. For example, while Sierra Leone and the Gambia devalued by 14.3 per cent, being the full extent of the rates of the British devaluation, Nigeria did not devalue.

The Realignment of currencies in December 1971 following the breakdown of the Bretton Wood System provided another opportunity for exchange rate adjustments. Again, a great number of countries of Africa adjusted their exchange rates in line with the pound sterling or the French franc amounting to an appreciation of the order of 8.57 per cent in terms of United States' dollar. Nigeria accepted a neutral exchange rate action which also amounted to appreciation of 8.57 per cent. However, in February 1973, Nigeria devalued by 10 per cent, following the devaluation of the United States dollar by 10 per cent in the same month. Subsequently, Nigeria allowed the Naira to appreciate with respect to a number of major currencies such as the pound sterling, the French franc and the Japanese yen. However, the naira depreciated progressively with respect to the Deutsche mark and the Netherland guilder, and remained virtually stabilised to the United States dollar. In view of the growing risks of foreign reserve losses due to fluctuations in the exchange value of the pound sterling the Nigerian authorities decided to detach its peg from the pound sterling and peg to the United States dollar. This policy has now been changed in favour of determining the exchange rate in terms of a group of key currencies weighted by the shares of Nigeria's import trade with the issuing countries. Charts I and II show the movements of the naira in relation to key currencies as from 1973. These movements, based on currency ratios to the naira in February, 1973, indicate further that, as from 1976, the naira has been depreciating with respect to a large number of key currencies. Nevertheless, it is also clear that the average rates of depreciation remain small.

The purpose of this paper is to review Nigeria's exchange rate policy as outlined above, and in doing so, one finds it compelling, and hopefully rewarding, to take a general look at the exchange rate policies in selected African countries, focussing particularly on the effects of devaluation on balance of payments. Accordingly, the paper first presents an analytical framework in which a monetary approach is considered most useful. The next section introduces a simplified monetary model. Following that, there is a discussion of statistical testing and results. The final section considers the implications for policy in Nigeria, appraising in some detail the case for exchange rate depreciation.

The Theoretical Framework

Analysis of exchange rate change has traditionally been conducted with a bias toward devaluation. Attention has almost exclusively been focussed on the effects of devaluation

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[1] The role of exchange in modern economies has been explored in great detail. See for example, "The Role of Exchange Rate in the Adjustment of International Payments": A Report by the Executive Directors, International Monetary Fund, Washington, D.C. 1970. See also *The Reform of International Monetary System.* A Report by the Executive Directors, IMF., 1972.

CHART I
MOVEMENTS OF EXCHANGE RATES OF THE NAIRA IN TERMS OF KEY CURRENCIES, 1973–1978
(FEBRUARY 1973 = 100)
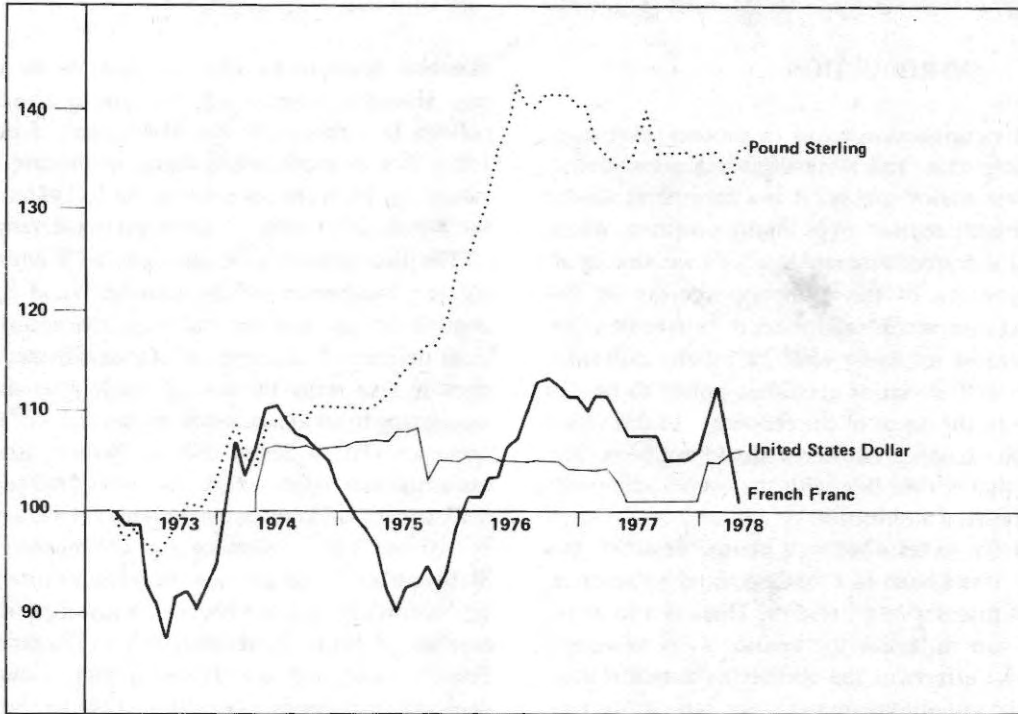
CHART II
MOVEMENTS OF EXCHANGE RATES OF THE NAIRA IN TERMS OF KEY CURRENCIES, 1973–1978
(FEBRUARY 1973 = 100)

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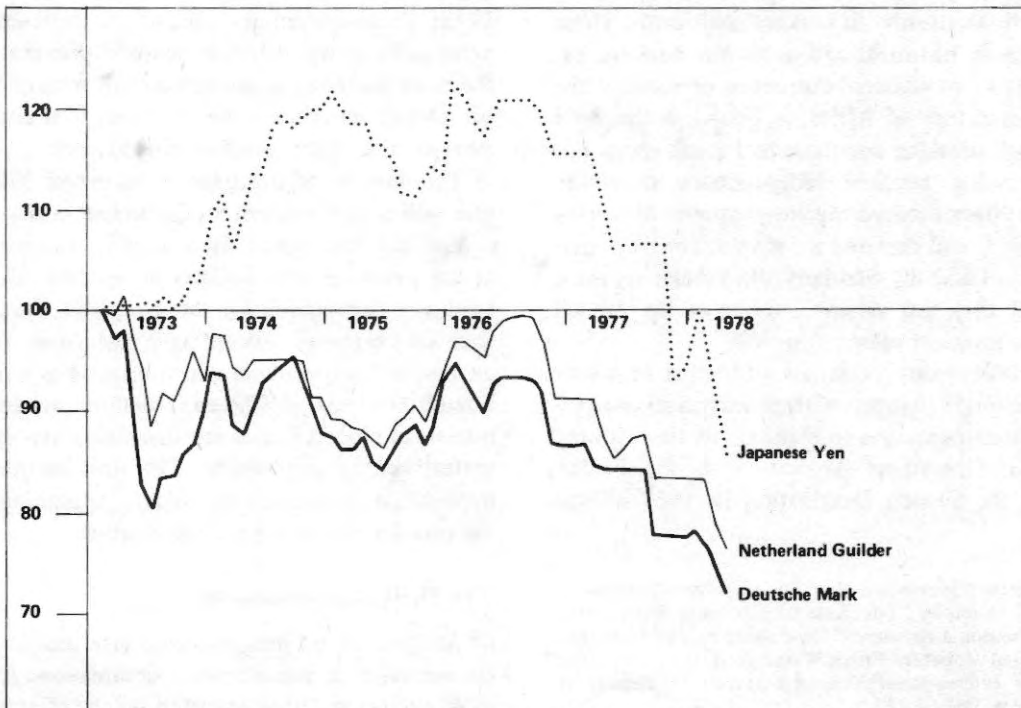
on balance of payments, with a large body of intellectual opinion in favour of the notion that exchange rate depreciation will, pro tanto, improve the balance of payments position.

Initially, the analysis was conducted in a framework of elasticities of supply and demand in international trade. According to Alfred Marshall and A. P. Lerner, starting from a position of equilibrium and assuming initial supply elasticities, devaluation will improve the trade balance if the sum of price elasticities of demand of a country's imports and exports exceeds unity.[1] Subsequently, the measurements of these elasticities gave rise to an "elasticity pessimism" which pointed up the practical difficulty of attaining the threshold value of elasticities that is required for a devaluation to yield desirable results. This pessimism is even more pertinent to primary producing countries with traditionally low demand elasticities for imports and weak supply responses. But, even on theoretical grounds, it is recognised that the assumption of initial conditions of trade balance, infinite supply elasticities, and exchange stability are unrealistic. Moreover, the partial equilibrium analysis abstracts from the fact of income-induced changes as well as the alteration of the prices of domestic goods arising from devaluation, all of which affect the demand conditions of internationally-traded goods.

The dissatisfaction with this framework of analysis led to the Absorption Approach.[2] Under this approach, balance of payments disequilibrium was attributed to an excess or deficiency of domestic expenditures (absorption) over domestic output. For convenience, suppose that Y = real income, A = absorption or total domestic expenditures (consumption and investments), B = trade balance; then, we can say that $B = Y - A$ which implies that, to improve the trade balance either real output should increase or the level of domestic expenditures should drop.[3] The difficulty of augmenting domestic output in the short-run places the burden of adjustment on

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[1] This is the so-called Marshall-Lerner condition as developed by subsequent economists. For an excellent summary of the state of devaluation analysis see Plister & Rothwell: *Theoretical Issues in International Economics*, Houghton Mifflin Co., Boston, 1967.

[2] See Sidney Alexander. Effects of Devaluation on Trade Balance. *IMF Staff Papers*, II No. 2, April 1952, pp. 263-78.

[3] Recall that the traditional national income identity is

$Y = C + I + (X - M)$

where
Y = National income
C = level of consumption
I = level of investment
X = value of exports
M = value of imports

Rearranging the terms

$X - M = Y - (C + I)$

or $B = Y - A$

where $B = (X - M)$, and $A = (C + I)$

Further if Y exceeds A, H(=hoarding) will take place, so that the equation becomes $B = Y - A = H$

or $\Delta B = \Delta Y - \Delta A = \Delta H$

where

Δ refers to "change in"

hence, for devaluation to become effective

$\Delta H > 0$

or $\Delta B > 0$

or $\Delta Y > \Delta A$

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absorption variables, and, accordingly, Harry Johnson proposed that devaluation should be accompanied by expenditure reducing and expenditure switching policies.[1] Now, expenditure reducing policies usually imply a sacrifice of domestic objectives such as high levels of employment and satisfactory growth rate which the national authorities are reluctant to undertake. Moreover, as a result of downward inflexibility of prices expenditure reducing policies do not often give rise to better price performance.

Hence, a new line of analysis was developed, namely the Monetary Approach to Balance of Payments.[2] This approach, which represents the current state of the arts in the analysis of devaluation effects is based on the assumption that balance of payments problems derive essentially from excessive credit expansion. From a given equilibrium with respect to the existing stock of money, M^s, and total monetary demand, M^d, a devaluation would have the effect of reducing the value of real balances. Initially, it raises the prices of traded goods by the amount of devaluation. Since the traded goods enter into the domestic price level, the latter rises, though by less than the amount of devaluation. The extent of the rise in the domestic price level is moderated by the fact that the prices of non-traded goods are largely unaffected by the devaluation, so that, they either remain stable or rise very little. It is clear, then, that with a given monetary stock and a higher price level, the value of real balances will decline, and hence, real absorption will decline, giving rise to an improvement in trade balance.[3]

Recognising the important role played by real balances, the monetarists may have opened up new approaches to balance of payments analysis. They ask: should monetary authorities alter the exchange rate in order to bring down the real balances to the desired level or should they rely solely on limiting the domestic monetary base either by increasing the reserve requirements or by reducing the domestic components of money supply? Should a combination of the two techniques be adopted pari-passu? The answer to these questions depends on a number of factors (a) the size of disequilibrium in money market, namely the difference between M^s and M^d: the wider the difference the greater the case for devaluation; (b) the extent of structural difficulty in reducing the money supply, for example, the fear of a decline in

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[1] See Harry Johnson. *Money Trade and Economic Growth:* Unwin University Books, London, 1964, pp. 19-21.

[2] See J. J. Polak: Monetary Analysis of Income Formation and Payments Problems. *IMF Staff Papers*, 1958, pp. 1-50.

[3] To see the relationship between real balances and real absorption more clearly, let us introduce additional variables. Let Dh = real dishoarding; K = desired ratio of money to income; and Z = coefficient of adjustment of actual and desired real balances. We may than say that:

$$A = Y + DH \quad \ldots \quad \ldots \quad (1)$$
$$DH = Z(M^s - M^d) = ZM - ZKY \quad (2)$$

Substituting (2) in (1)

$$A = (1 - ZK)Y + ZM^s \quad \ldots \quad (3)$$

Equation (3) represents the essence of monetarist argument. Since in the short-run Y, K, Z are constant, real absorption, A, will decline only if M^s declines, and with a given M^s the price level P rises, implying a decline in real money balances.

economic activity in a country which relies heavily on short-term domestic credits and where foreign accommodation is extremely restrictive; and (c) the rate of growth of domestic output: presumably, the lower the growth of output the greater is the need for devaluation because the growth of monetary demand would not rise to the extent required for rapid adjustment to the money supply conditions. Where a strictly monetary policy is adopted by, for example, limiting the growth of domestic credit, balance of payments improves through foreign reserve changes.

The monetary framework of analysis has also made it possible to explore the effects of devaluation on the structure of production. We recall that a devaluation raises the prices of traded goods by the same percentage, and the domestic price level by less than the extent of the devaluation. Now, if workers are not subject to money illusion they would claim an increase in money wages equal to the rate of domestic price increase. This would imply a rise in money wages in the foreign trade sector by less than the rise in prices of traded goods. Under these conditions profits would tend to rise in that sector thereby encouraging more investments there and attracting more resources from other sectors. The same is true in closely related sectors.

On the contrary, since money wages rise by more than the rise in the prices of non-traded goods the sector producing this category of goods suffers losses leading to a decline in investments and a search for more profitable investment outlets. Similarly, sectors making extensive use of foreign inputs would experience losses due not only to money wage increases but also to the rise in the prices of foreign factors of production by the amount of devaluation. Sectors utilising domestic inputs make profits.

Despite the elegance and theoretical appeal of this framework of analysis, Monetary Approach to Balance of Payments has several fundamental weaknesses.[1] The most obvious is the difficulty of establishing the time dimension within which monetary policies work themselves out. Even more important is lack of clarity with respect to the time path leading from one equilibrium position to another. The cost of that transition as well as the speed of adaptive processes are completely ignored. Furthermore, assumptions regarding the stability of income velocity can be seriously challenged by cyclical factors and ever-changing institutional arrangements, traditional practices, responses to industrialisation, urbanisation, gains in per capita incomes, and shifts in income distribution. It should also be said that the relation between external reserves and money supply is not a simple one. An increase in reserves may not necessarily lead to an increase in money supply if the monetary authorities deliberately sterilise the monetary effects. On the other hand, a decline in reserves may be offset by any maintenance of expansionary monetary policies. In addition, in a world in

which goods are hardly homogenous the assumption of perfect substitutability between traded goods, namely between imports and exports is unrealistic.

One is therefore led to the conclusion that, notwithstanding the consistency, in principle, of the Monetary Approach to Balance of Payments, there is the need to blend it with other forms of analysis. In particular, judgements with respect to price and income elasticities of internationally traded goods as well as the degree of effectiveness of real absorption variables will in many cases remain important. The final decision between monetary and non-monetary approach is an eclectic one based essentially on qualitative judgement.

A FORMALISATION OF THE MONETARY MODEL FOR DEVELOPING COUNTRIES

Recall that the main object of devaluation is to increase monetary demand more than the increase in domestic credit. Indeed, devaluation will improve the balance of payments unless matched by an equiproportionate expansion in domestic credit.

Money demand

We may posit a demand function for money:

$$M^d = kpy \quad \text{.................} \quad (1)$$

where   p = domestic price level
        y = level of permanent income
        k = a fraction of annual income which the public wishes to hold as cash balances.

suppose further that

$$p = rp^f \quad \text{....................} \quad (2)$$

where, r is the exchange rate and p^f the level of world prices, or an index of import prices, f.o.b. Here, we assume that domestic price level is constantly linked to foreign price level via the exchange rate.

Money supply

Let the stock of money M^s be a sum total of net holdings of foreign reserves and domestics. Then:

$$M^s = F + D \quad \text{.................} \quad (3)$$

where, F = net holdings of foreign reserves of the banking system
and   D = net holdings of domestic assets by the banking system (domestic credit).

Equilibrium Condition

$$M^d = M^s \quad \text{...................} \quad (4)$$

which implies that the economy adjusts in such a way that any payments imbalance is quickly corrected. Substituting (2) and (4) into (1) and into (3) after making use of the fact that $Y = p^f y$, the value of permanent income at world prices, and noting that change in reserves,

[1] Carl P. Blackwell. *"Reflections on the Monetary Approach to the Balance of Payments."* A paper presented at the Pacific Basin Central Bank Conference on Econometric Modeling held in Wellington, in November, 1977. Reprinted in IMF Survey, February 20, and March 6, 1978.

B = $\triangle F$ and further dividing by:

M (= $krp^f y$), we have

B/M = $(1 + g)\triangle r/r + g - \triangle D/M$

where, g is the rate of growth of permanent income valued at world prices.

Assuming a constant rate of growth of permanent income such that $g_t = g_{t-1} = g$

then, $$\frac{B_t}{M_t} - \frac{B_{t-1}}{M_{t-1}} = (I + g)\left(\frac{\triangle r_t}{r_t} - \frac{\triangle r_{t-1}}{r_{t-1}}\right)$$

$$-\left(\frac{\triangle D_t}{M_t} - \frac{\triangle D_{t-1}}{M_{t-1}}\right) \quad \dots \dots \dots \dots (5)$$

which says that the improvement of balance of payments expressed as a proportion of money stock, depends on the effects of nominal rate of devaluation and the rate of growth in domestic credit, also expressed as a proportion of money stock. The equation can be simplified further if there has not been any devaluation in the previous period such that:

$$\triangle\left(\frac{B}{M}\right) = (1 + g)\frac{\triangle r}{r} - \triangle\left(\frac{\triangle D}{M}\right)$$

This equation can be regressed with data covering as much time, possibly two years, as the adjustment in both prices and money stock is expected to take place. We would expect the co-efficient of domestic credit expansion to be −1 and the co-efficient of rate devaluation to be slightly more than 1.

DEVALUATION IN AFRICA: EMPIRICAL EVIDENCE

In Africa, exchange depreciations are almost always triggered by devaluations in the countries to which the bulk of their trades are traditionally tied. Nevertheless, it would be useful to explore statistically the effects of such depreciations on the external positions of African countries and to glean from them whether or not exchange rate policies have an important role to play in equilibrating international transactions in these countries. It would also furnish some preliminary information about the effectiveness of other monetary variables dominated by domestic credit expansion.

For that purpose a sample of 14 countries is taken, most of the countries belonging to the Franc Zone. Mali, Niger, Gabon, People's Republic of the Congo, Chad, Central African Republic, Cameroon, Malagasy Republic, Mauritania, Senegal, Ivory Coast and Dahomey each devalued by 11.1 per cent in 1969 following the devaluation of the French Franc in that year. Two other countries, namely Ghana and Sierra Leone which have longstanding trade relations with Britain devalued by 30 per cent and 14.3 per cent respectively following the devaluation of the pound sterling in 1967. Nigeria devalued by 10 per cent in 1973. For each country, data are

obtained relating to change in net foreign asset as a proportion of monetary stock $\triangle\left(\frac{B}{M}\right)$, and net change in credit expansion as a proportion of monetary stock $\triangle\left(\frac{\triangle D}{M}\right)$

The periods to which data are related divide into three, namely first year, second year and third year, and all the data are derived from the *International Financial Statistics*, a publication of the International Monetary Fund. To compute $\triangle\left(\frac{B}{M}\right)$ for the first period, we first subtract net foreign asset in the year before devaluation from the net foreign asset in the year of devaluation and divide the resultant figure by the money stock at the beginning of the year preceding the devaluation. Second, we subtract the net foreign asset in the year after devaluation from the net foreign asset the year of devaluation and divide the result by the money stock in the devaluation year. $\triangle\left(\frac{B}{M}\right)$ is then the difference between the first statistic and the second.

Similarly, to compute $\triangle\left(\frac{\triangle D}{M}\right)$ for the first year period, we first subtract the net foreign asset from the total money stock of the year before devaluation, the year of devaluation and the year after devaluation. The resultant figures, by definition, measure the domestic credit expansion. The net change in domestic credit expansion as a proportion of money stock is then obtained by first subtracting the domestic credit expansion in the year before devaluation from the domestic credit expansion the year of devaluation and dividing the result by money stock in the year before devaluation. Next, we subtract the domestic credit expansion in the year after devaluation from domestic credit expansion the year of devaluation and divide the result by the money stock in the year of devaluation. $\triangle\left(\frac{\triangle D}{M}\right)$ is then the difference between the two statistics.

The same procedure is followed for both the two-year period and the three-year period except that the relevant data are computed from two years and three years before and after devaluation as the case may be, dividing the resultant statistics by the total money stock at the beginning of each period. Note that money stock is here defined in a narrow sense, namely currency and demand deposits. After running the regression the following equations emerge:

For the One Year Period $\triangle\left(\frac{B}{M}\right) = 0.32 + 0.26\frac{\triangle r}{r} - 0.77\triangle\left(\frac{\triangle D}{M}\right)$

$R^2 = .40 \dots (1)$ (0.12)   (0.90)   (0.30)   F = 3.66

For the Two Year Period $\triangle\left(\frac{B}{M}\right) = 0.32 - 2.15\frac{\triangle r}{r} - 0.98\triangle\left(\frac{\triangle D}{M}\right)$

$R^2 = .63 \dots (2)$ (0.22)   (1.46)   (0.24)   F = 9.36

For the Three Year Period $\triangle\left(\frac{B}{M}\right) = 0.70 - 4.73\frac{\triangle r}{r} - 1.07\triangle\left(\frac{\triangle D}{M}\right)$

$R^2 = .69 \dots (3)$ (0.32)   (2.2)   (0.24)   F = 12.24

*The results are based on a cross-section study, and the figures in parenthesis are standard errors. (Nigeris is excluded from the sample because devaluation in 1973 was followed by an appreciation a year after.)

Looking first at the first year equation, it is clear that both the rate of devaluation and growth in domestic credit do not adequately explain the change in net foreign reserves, $R^2 = .40$. F test also shows that the effects of the co-efficients, taken together, are insignificant statistically. However, the effect of one of the variables is highly significant at 5 per cent level. The co-efficient of the credit expansion term is −0.7 which is close to the statistically expected value of −1. If we set up of a hypothesis of −1, t −0.766 as against the critical value of 2.201, so that, we cannot reject it. On the other hand, the exchange rate co-efficient is much less than 1 and not statistically significant at 5 per cent level. On inspection we would reject a hypothesis of 1, and since t = 0.29 we would readily reject the hypothesis that exchange rate depreciation makes a significant contribution to balance of payments.

For the two-year period R^2 increases to .63, F yields 9.36, and the coefficient of credit expansion improves to −.98; t value = −.083, again showing that we cannot reject the hypotheses that its true value is −1. However, the coefficient of the exchange rate terms is now negative, and the t value is −1.47 which leads us to reject the hypothesis of any significant exchange rate effects on the balance of payments.

Finally, over the three-year period the R^2 improves further to .69 and F = 12.24. The co-efficient of the credit expansion, −1.07 slightly exceeds the theoretical value of −1; t = 0.292. For the exchange rate variable, however, the co-efficient is unusually large in absolute terms and negative; t = −2.15, so that, again we can say that exchange rate term is not significant.

The intercept terms are all positive and small and statistically not different from zero at 5 per cent level of significant. That t values for the 1st year equation is 0.266; 2nd year equation 1.45; and 3rd year equation 2.18.

These results lead to some important conclusions. First, in the short run, it cannot be said that exchange rate depreciation is a crucial policy instrument for improving the balance of payments of the country considered. By contrast, it would appear that sharp reductions in the rate of domestic credit expansion following a devaluation could account for major improvement in the balance of payments position. This conclusion while valid in itself must be taken with some caution. The sample data do not reveal any wide variability in devaluation rates. Recall that the devaluations of the countries of the Franc Zone were neither independent nor of varying orders. There is also the possibility that the actual degrees of devaluations grossly understate the extent needed to bring about improvements in the balance of payments positions. In any event, decisions relating to the relevant size of devaluation to secure a given improvement in the balance of payments may not be central to the formulation of exchange rate policies in Africa. It would be more rewarding to focus more sharply on monetary variables particularly the net changes in domestic credit.

Secondly, any effects of devaluations on the balance of payments of African countries are not fully felt in the first year after devaluation. Indeed, full adjustment to devaluation takes place between the second and third years. This conclusion is generally in line with known facts about devaluation effects in many countries. One of the main reasons why devaluation is not effective in the first year is that in many countries devaluation enables the authorities to dismount exchange restrictions to accord with the regulations and requirements of the International Monetary Fund. A second reason much more relevant to Africa is that the adjustment to the deterioration in terms of trade consequent to devaluation takes time as a result of inelasticities of supply and demand in international trade, a phenomenon widely recognised as the J curve effect.

Owing to the relatively less important role played by the exchange rate adjustment in the short run, together with the zero intercept presumed, it would be possible to neglect the exchange rate variable, and relate improvements in the balance of payments to net changes in domestic credit expansion. Charts III, IV and V depict the adjustment positions of the 14 countries over the first, second and third year periods. These charts show that the balance of payments adjustment to movements in domestic liquidity improve with time following a devaluation. Full adjustment takes place after the second year of devaluation, and from the third year, disequilibrium re-emerges in a number of countries, although considerable improvements in balance of payments have been recorded in a great majority of the countries.

Note that the line passing through the second quadrant has a slope equal to −1, being the line on which all the points are expected to fall. It represents a line of perfect adjustment. Countries with points above the horizontal axis have experienced an improvement in their balance of payments after devaluation. Those with points below the horizontal axis have experienced a deterioration. Similarly, countries with points to the right of the vertical axis have allowed for an increase in rate of domestic credit expansion while those with points to the left of the vertical axis have experienced a decline in the rate of growth of domestic credit. It is clear then, that a great majority of countries that have brought down their rates of credit expansion following a devaluation record an improvement in their balance of payments positions.

SOME IMPLICATIONS FOR EXCHANGE RATE AND BALANCE OF PAYMENTS POLICIES IN NIGERIA

For a developing country such as ours exchange rate policy is not a powerful instrument for influencing the outlook for our balance of payments, particularly in the short run. The main reasons are fairly well known. First, as mentioned earlier, our trade position may not be improved. Indeed, the effect of depreciation is to worsen the terms of trade, and adjustments to the altered international trade prices take time to materialize. Secondly, in the short run, prices of our primary export commodities including petroleum might have been predetermined in the world markets, so that, exchange depreciation is unlikely to confer any important benefits in terms of increased export receipts. Thirdly, owing to our growing need for imports, currency depreciation would have
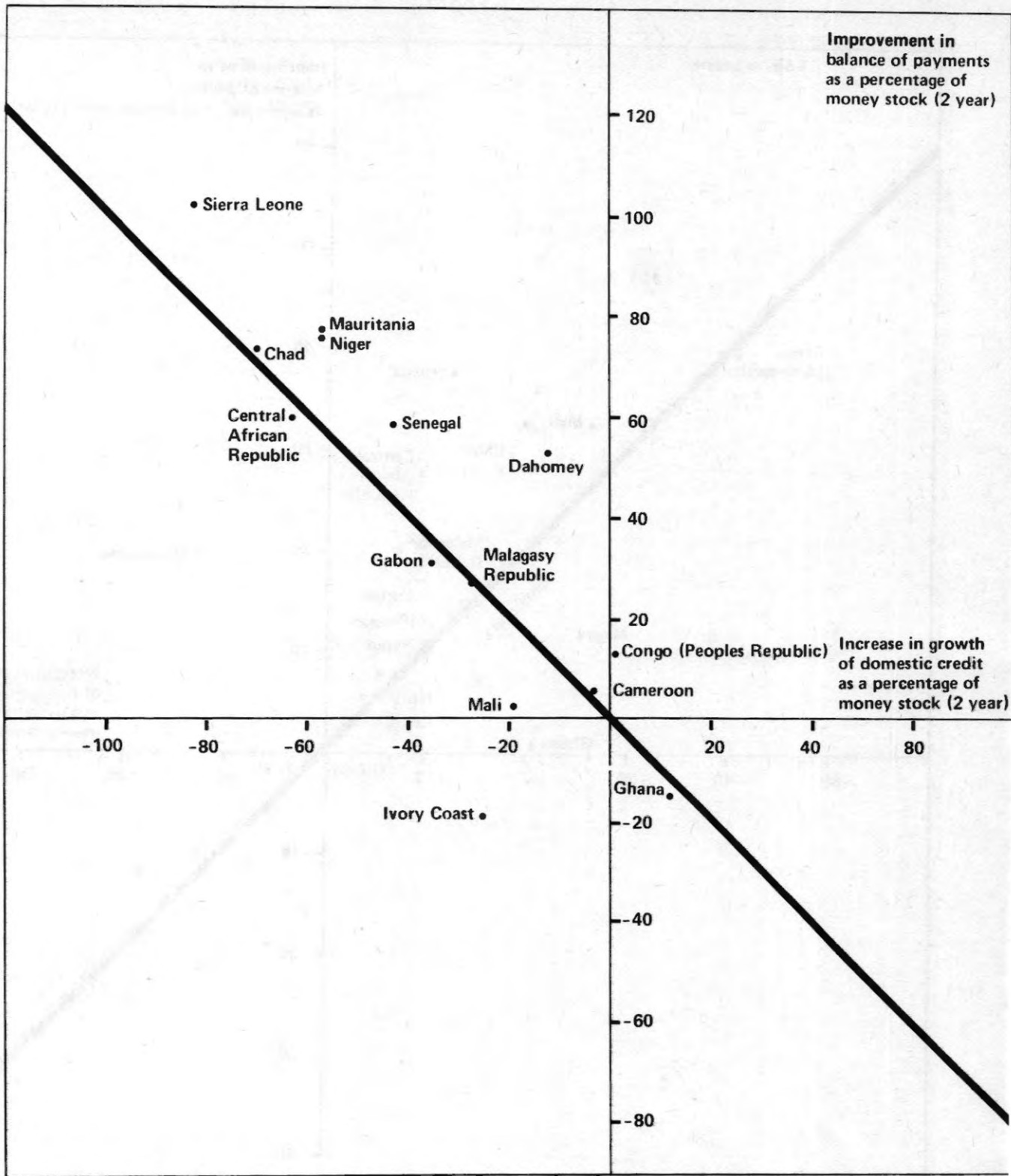
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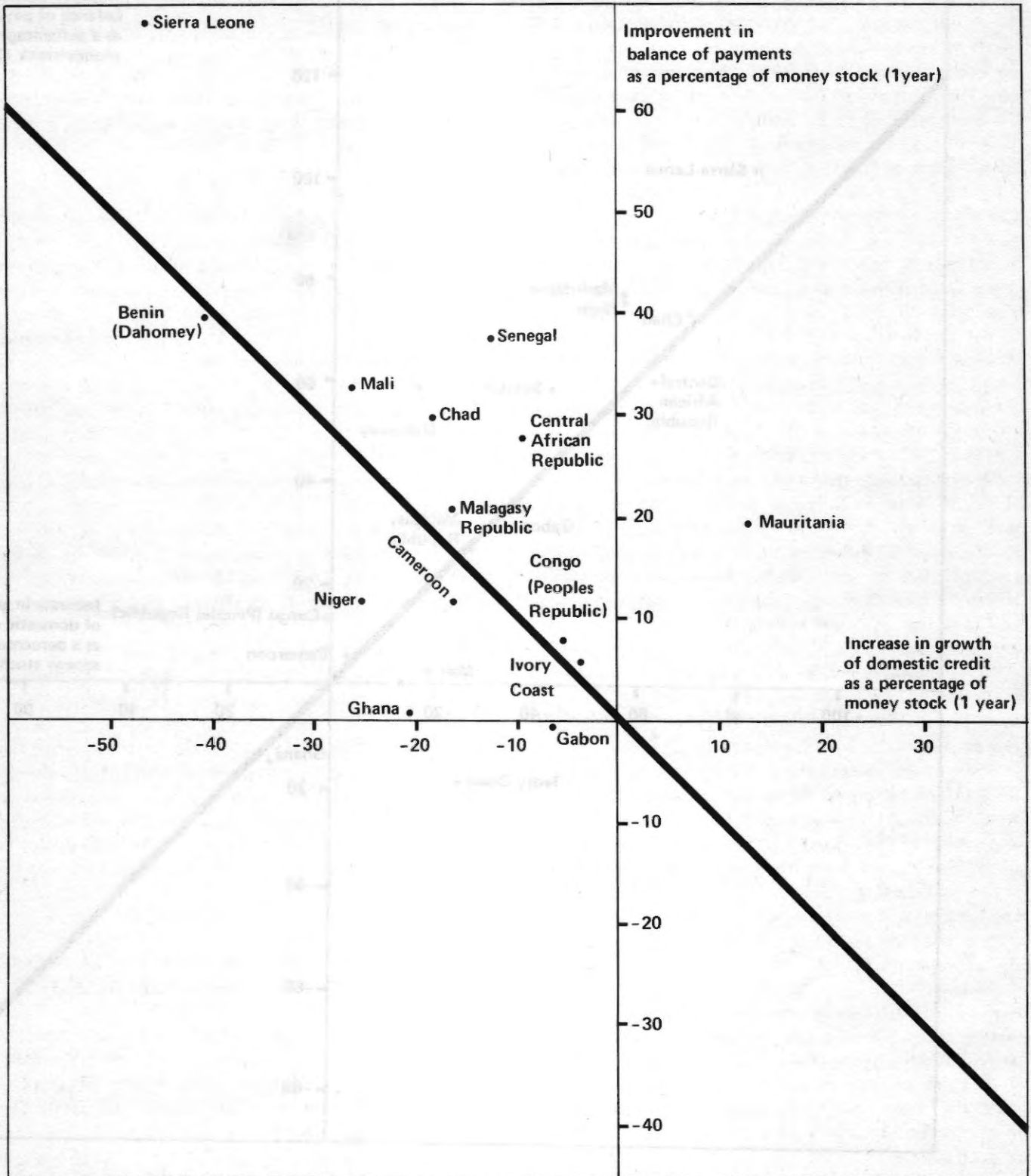
CHART III

CREDIT EXPANSION AND BALANCE OF PAYMENTS IN SELECTED AFRICAN COUNTRIES
(FIRST-YEAR AFTER CURRENCY DEPRECIATION)

CHART IV

CREDIT EXPANSION AND BALANCE OF PAYMENTS IN SELECTED AFRICAN COUNTRIES
(SECOND-YEAR AFTER CURRENCY DEPRECIATION)

CHART V

Improvement in
balance of payments
as a percentage of
money stock (3 year)

— 140

● Mauritania

— 120

● Sierra Leone

● Chad

● Niger

— 80

Mali ●   ● Senegal

— 60

● (Dahomey)
Benin

● Gabon

● Malagasy   — 40
Republic

— 20

Increase in growth
of domestic credit
as a percentage of
money stock (3 year)

● Congo (Peoples Republic)

-100   -80   -60   -40   -20   20   40   60

● Cameroon

— -20

● Ghana   — -40   Ivory Coast ●

— -60

— -80
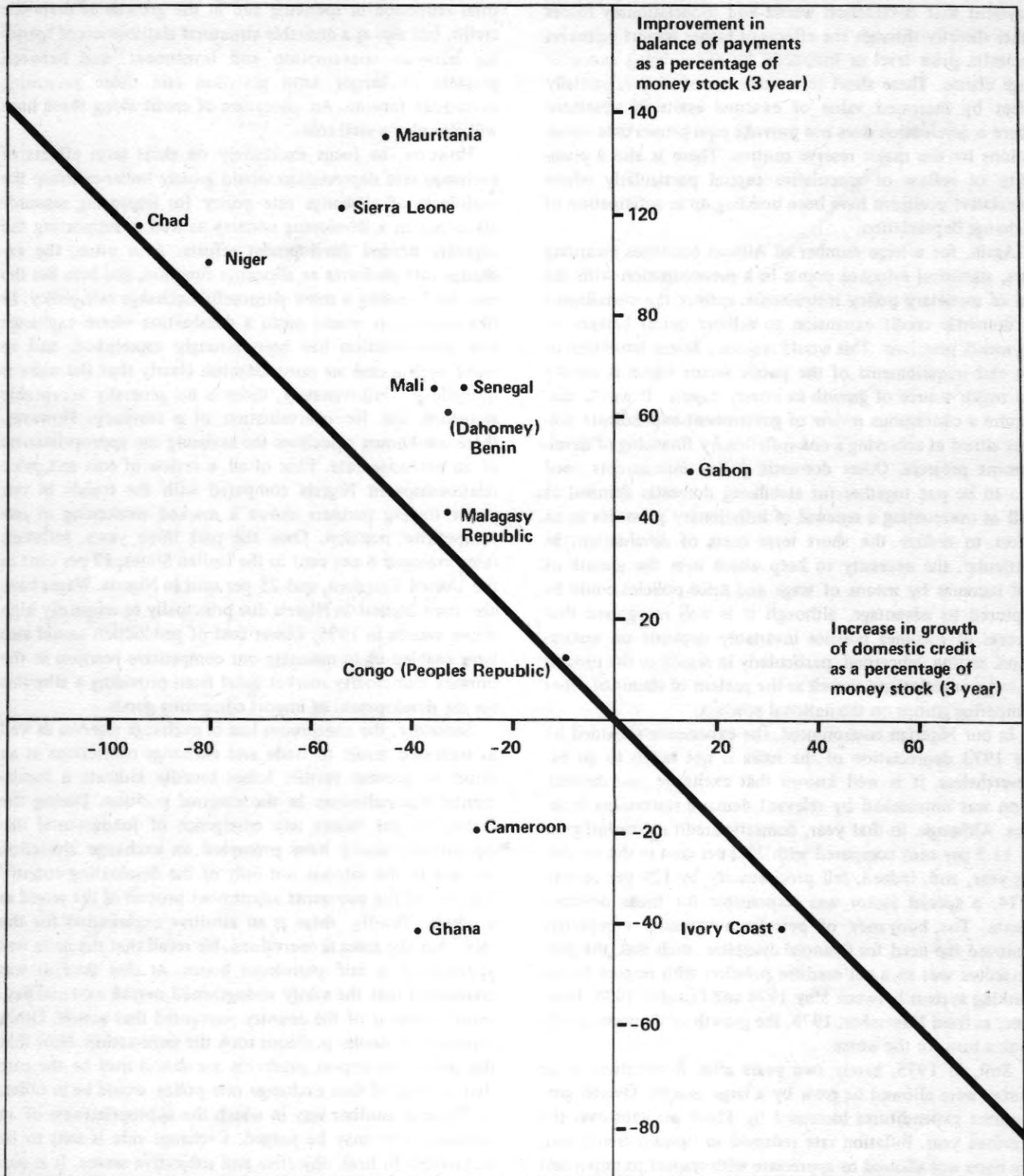
CREDIT EXPANSION AND BALANCE OF PAYMENTS IN SELECTED AFRICAN COUNTRIES
(THIRD-YEAR AFTER CURRENCY DEPRECIATION)

entailed inevitably higher import prices, including the import prices for raw material. And fourthly, the fear is always prevalent that devaluation would add to inflationary forces either directly through the effects of higher import prices on domestic price level or indirectly by encouraging excessive wage claims. These short term costs are of course, partially offset by increased value of external assets in situations where a devaluation does not provoke equi-proportiate devaluations by the major reserve centres. There is also a possibility of reflow of speculative capital particularly where speculative positions have been building up in anticipation of exchange depreciation.

Again, for a large number of African countries including ours, statistical evidence points to a preoccupation with the use of monetary policy instruments, mainly the curtailment of domestic credit expansion to achieve better balance of payments positions. This would require a severe limitation of the cash requirements of the public sector which is usually the major source of growth in money supply. It would also require a continuous review of government expenditure policies aimed at achieving a non-inflationary financing of development projects. Other domestic policy instruments need also to be put together for stabilising domestic demand as well as overcoming a renewal of inflationary pressures in an effort to reduce the short term costs of devaluation. In particular, the necessity to keep watch over the growth of real incomes by means of wage and price policies could be explored to advantage, although it is well recognised that success of incomes policies invariably depends on institutional setting concerned, particularly in regard to the process of wage negotiations as well as the pattern of claims of other competing groups on the national product.

In our Nigerian environment, the experience provided by the 1973 depreciation of the naira is not much to go by. Nevertheless, it is well known that exchange rate depreciation was unmatched by relevant demand restraining measures. Although, in that year, domestic credit expansion grew by 11.5 per cent compared with 22.2 per cent in the preceding year, and, indeed, fell precipitously by 129 per cent in 1974, a special factor was responsible for those developments. The buoyancy of petroleum revenues completely removed the need for financial discipline, such that, the public sector was in a net creditor position with respect to the banking system between May 1974 and October 1976. However, as from November, 1976, the growth of domestic credit took a turn for the worse.

Still, in 1975, barely two years after devaluation, wage claims were allowed to grow by a large margin. Overall government expenditures increased by 116.9 per cent over the previous year. Inflation rate resumed an upward trend, and, the naira was allowed to appreciate with respect to important currencies, thus offsetting the advantages of an earlier depreciation.

It is, therefore, difficult to assess the magnitude of short term costs, or any positive effects of the 1973 depreciation of the naira. In a normal situation such costs should include possible losses in output and employment arising from deflationary policies, together with any budgetary burden of increased foreign debt servicing. And, to offset those costs at least partially, it would be necessary to aim not only at the total reduction in spending and in the growth of domestic credit, but also at a desirable structural distribution of spending between consumption and investment, and between projects of longer term gestation and those promising immediate returns. An allocation of credit along these lines will also play a vital role.

However, to focus exclusively on short term effects of exchange rate depreciation would grossly under-estimate the usefulness of exchange rate policy for improving resource allocation in a developing country as well as supporting the urgently needed development efforts. As a price, the exchange rate performs an allocative function, and here lies the case for pursuing a more purposeful exchange rate policy. In this context, it would mean a devaluation where exchange rate over-valuation has been strongly established, and to make such a case we must establish clearly that the naira is overvalued. Unfortunately, there is no generally acceptable statistical test for overvaluation of a currency. However, there are known guidelines for assessing the appropriateness of an exchange rate. First of all, a review of cost and price relationships in Nigeria compared with the trends in our major trading partners shows a marked weakening in our competitive position. Over the past three years, inflation rates averaged 8 per cent in the United States, 17 per cent in the United Kingdom, and 25 per cent in Nigeria. Wages have also risen highest in Nigeria due principally to unusually high wages awards in 1975. Lower cost of production would also have enabled us to maintain our competitive position in the primary commodity market apart from providing a stimulus for the development of import competing goods.

Secondly, the continuous loss of exchange reserves as well as increased resort to trade and exchange restrictions in an effort to prevent further losses broadly indicate a fundamental disequilibrium in the external position. During the regime of par values any emergence of fundamental disequilibrium would have prompted an exchange alteration deemed in the interest not only of the devaluating country but also of the payments adjustment process of the world as a whole. Thirdly, there is an intuitive explanation for the view that the naira is overvalued. We recall that the naira was appreciated in mid petroleum boom. At that time, it was considered that the vastly strengthened overall external payments position of the country warranted that action. Other countries in similar positions took the same action. Now that the petroleum export prospects are dim it may be the case that reversal of that exchange rate policy would be in order.

There is another way in which the appropriateness of an exchange rate may be judged. Exchange rate is said to be sustainable in both objective and subjective senses. It is sustainable in an objective sense if a stable rate evolves over time. In the context of the generalised floating of exchange rates, at present, it would mean an exchange rate that endures after the interplay of market forces in the foreign exchange market. In a subjective sense an exchange rate is sustainable if in the judgement of the authorities a given exchange rate can be maintained over a medium term by

14

means of appropriate controls of both trade and payments as well as growth in domestic demand. Judged by both standards the present naira rate does not appear to be sustainable. Our bleak balance of payments outlook together with our deteriorating domestic financial situation do not raise any hope of a durable exchange rate defined in an objective sense. At the same time the increased resort to protectionism, far from protecting the naira rate and the level of external reserves, might lead to gross distortions in domestic prices and resource allocation leading to longer term worsening of balance of payments as well as patterns of international trade flows.

Still the case for the devaluation rests on a number of important planks. As a country with a considerable potential for rapid development our basic aim should be to achieve a breadth of economic diversification. An appropriate exchange rate would greatly assist in that effort mainly by encouraging the development of new exports and domestic substitutes for imports and by reducing real incomes and real costs to levels compatible with higher capacity utilisation and full employment. Exchange rate depreciation would also play an important role of channelling expenditure from consumption to investment and resources from domestic to foreign sector. In this way, a well conceived exchange rate policy would not only assist the process of capital formation but also help to strengthen the foreign sector of our economy.

The effects of a downward exchange rate adjustment on capital goods import is mixed. The initial effect is to raise the prices of these goods which initially, at least, renders capitalisation of domestic industries more difficult. However, where labour is physically more abundant, and unemployment, both open and disguised, poses a potential problem while labour costs are artificially held up, as it would appear in Nigeria, exchange rate would usefully alter factor price ratios in favour of labour using techniques of production. The ultimate effect on the rate of productivity increase would depend on the efficiency of labour use compared to the loss in output due to decline in capital input including the effects of embodied technology transfer.

Certain sectors of the economy are likely to benefit more from devaluation. The foreign sector, particularly the agricultural component would receive windfall gains arising from higher prices to be negotiated on the basis of a new exchange rate. The surpluses accumulated by the commodity Boards would enable the authorities to increase producer prices at appropriate times or at least prevent a reduction which would have been dictated by unfavourable world market trends. To the extent that an increase in producer prices creates incentives to farmers to expand acreage, exchange rate depreciation provides a stimulus to domestic production and allows for a greater utilisation for farm lands.

It may be useful to comment briefly on the timeliness as well as the procedures of exchange rate actions necessary to bring the international payments back to equilibrium. It is common knowledge that a delayed devaluation allows for a build up of speculative positions while domestic financial imbalance deepens, and distortions in cost/price structure worsens. When finally devaluation is resorted to the magnitude may be so great as to exert an unsettling effect on the economy as a whole without instantaneously achieving the needed external balance. As mentioned earlier, inflation rate initially approaches the rate of devaluation, followed quickly by compensatory wage claims, which, in turn, brings further pressures on prices. Hence, it would be advantageous to act on the exchange rate as soon as fundamental disequilibrium is detected. Moreover, there is merit in achieving a given amount devaluation in small stages to the extent that undesirable market reactions are minimised and devaluation, in itself, becomes more politically acceptable.

Again, it is clear that exchange rate policies cannot be discussed in isolation from other financial policies. In fact, the problem has always centred on an appropriate degree of financing and adjustment to adverse balance of payments developments. Exchange rate action is considered the last resort when all other corrective measures have proved inadequate to eliminate an overall deficit. In the present Nigerian circumstances one wonders whether balance of payments financing and adjustment have gone far enough, and whether a suitable balance between the two has been struck. Apart from the continuous draw-down of our foreign reserves as well as the opening up of an international credit channel in amount of $US2.5 billion, no efforts have so far been made to make use of our credit facilities in the International Monetary Fund. Our Reserve Tranche position is still outstanding. Total drawings under any of the four credit tranches have not yet been considered. Moreover, such facilities as Extended Fund Facility, Supplementary Facility, Compensatory Financing Facility for Export Fluctuations, and even Buffer Stock Financing Facility have not yet been explored. No doubt, the total amount of financial resources that can be yielded by any or a combination of these facilities may not be substantial, nevertheless, if taken at the early stage of balance of payments disequilibrium it could serve as a "bridging operation," providing the Nigerian authorities sufficient time to initiate and see through any suitable domestic adjustment measures.

Moreover, any assistance from the International Monetary Fund, apart from the Reserve Tranche drawings, carries varying degrees of conditionality aimed at encouraging the member country to adopt appropriate adjustment policies. In my view, Nigeria should overcome her political obstacles in order to avail herself of both technical and financial assistance from the International Monetary Fund. Strict financial principles indicate that a country should first seek cheaper international credit before resorting to large scale borrowing from Euro-currency market at exorbitant commercial terms.

With respect to domestic adjustment policies I am also of the opinion that more could have been done to cushion the impact of deepening balance of payment problems. The signal of a sharp reversal of our balance of payments position in 1976 coupled with exchange rate depreciation in relation to virtually all of Nigeria's major trading partners should have served as a warning of a probable deterioration in our external position in the years immediately ahead. The public sector would then have scaled down domestic spending, defining priorities and limiting domestic borrowing. More

attempts would have been made to mobilise domestic savings, particularly by sharply reducing current expenditures. Increased social expenditures would have been unnecessary, and a considerable part of non-economic expenditures needed to be cut drastically. In addition, domestic tax effort could have been stepped up, particularly by means of improved tax administration. No review of interest rate policy was undertaken until of late, such that, with sharply rising inflation rate, interest rates became too low and even steeply negative in real terms. In short, domestic economic and financial adjustments had come too late.

CONCLUDING REMARKS

Evidence both in theory and practice reveal the very limited role which exchange rate adjustment, taken in isolation, can play in equilibrating international transactions in the short run. This conclusion is pertinent to developing countries, particularly the countries forming the Economic Community of West African States (ECOWAS) of which Nigeria is a prominent member, and it is based essentially on "elasticity pessimism". However, in combination with stringent monetary policies aimed at restraining the growth of domestic credit, an exchange rate depreciation should improve the balance of payments picture considerably. Since the effects of devaluation are more fully felt after two years, there are sufficient grounds for supposing that greater reliance should be placed on monetary policy instruments in the years immediately after devaluation in order to consolidate the gains in external position. Moreover, the short term costs of devaluation may be mitigated by appropriate demand management policies, particularly the public expenditure component, with a view to reducing the inflationary consequences and balance of payments pressures.

In any event, for a developing country such as ours, the case for exchange rate depreciation at the recognition of a fundamental disequilibrium rests ultimately on the need to improve resource allocation. This need will be realised as resources move gradually from consumption to investment, from import to export trade, and from social to purely economic activities. The time dimension and the speed of adjustment process clearly fall outside the scope of this paper.

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MATHEMATICAL APPENDIX

$M^d = kpy$ the demand for money . . . . (1)

$p = rp^f$ purchasing power parity . . . . (2)

hence, $M^s = F + D$ money supply process . . . . (3)

$M^d = M^s$ monetary equilibrium . . . . (4)

$Y = p^f y$ permanent income valued at world prices . . . . (5)

Substituting (2) and (4) into (1) we have

$M^d = krp^f y = krY$

Substituting further into 3

$M^d = krp^f y = F + D$ or

$F = krp^f y - D$

or $\triangle F = k\triangle(rp^f y) - \triangle D$

let $\triangle F = B$, and noting what $p^f y = Y$

we have $B = k\triangle(rY) - \triangle D$

or $B = (k \triangle r . Y + \triangle Y . r + \triangle r \triangle Y) - \triangle D$

or $B = k\triangle r(Y + \triangle Y) + \triangle Y . r - \triangle D$

Dividing through by $M = krY$ we have

$$\frac{B}{M} = \frac{k\triangle rY}{krY} + \frac{k\triangle r\triangle Y}{krY} + \frac{k\triangle Yr}{krY} - \frac{\triangle D}{M}$$

or

$$\frac{B}{M} = \frac{\triangle r}{r} + \frac{\triangle r}{r} . \frac{\triangle Y}{Y} + \frac{\triangle Y}{Y} - \frac{\triangle D}{M}$$

Denoting $\frac{\triangle Y}{Y}$ as g we have the final equation:

$$\frac{B}{M} = \frac{\triangle r}{r}(1 + g) + g - \frac{\triangle D}{M} \quad . . . . (6)$$

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