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Subject: Macrodisequilibrium - The Zaïrian Experience, 1967-81

CORRIGENDUM

The magnitude 1.1486 given in the second full paragraph of page 11 is the ratio e/PPP for 1966 instead of 1967 as stated. The correct magnitude for 1967 is 0.6962.

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INTERNATIONAL MONETARY FUND

African Department

Macrodisequilibrium - The Zairian Experience, 1967-81

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FILE

Approved by Mandé Sidibé

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When macrodisequilibrium occurs in a small open economy in the sense that domestic inflation is greater than world inflation and net foreign assets of the banking system in foreign exchange are below desired levels, and/or the country is accumulating external payments arrears or increasing trade and exchange restrictions for balance of payments reasons, the issue of causation is a troublesome one. This is at least due to the fact that the meaning of causation is difficult. But in principle the question of causation is related to that of the starting point for analysis. Now a policy-oriented economist is concerned with finding appropriate and feasible policies in tackling a problem at hand as well as in achieving "his" result within a given time horizon. In that case, the statement or hypothesis used as a starting point of analysis must permit "solutions" to be found within the time period allowed by utilizing policy instruments that are available to achieve the desired result.

From a purely domestic point of view how quickly one wants to return to an equilibrium path would depend on the "harmful" effects of disequilibrium vis-à-vis the "harmful" effects of different speeds of 'adjustment'. But any attempt to find "the" optimal speed of adjustment cannot but engage one in interpersonal comparisons of utility, since any adjustment will have different effects on different economic agents, leaving aside the difficulty of measuring the relevant harmful effects involved.

In an open economy, macrodisequilibrium will have implications for residents outside the domestic (disequilibrium) economy. That is,

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foreign residents may be called upon to provide external financing through capital inflows, debt relief and other balance of payments assistance. Thus it is well-known that how quickly a country may have to adjust will depend on the financing it can arrange with foreign residents over any given period of time. But the amount of such financing that is made available to a country is not an autonomous (exogenous) variable. Much apart from the point that it is likely to have an upper bound, such financing is, inter alia, dependent on how "serious" the 'authorities' are perceived to be in wanting to solve the country's problem as shown by the policy content of the adjustment effort, as well by the vigor with which the policies are in fact expected to be pursued. 1/

The purpose of this paper is to put the sources of Zaire's current macrodisequilibrium in an historical and analytical perspective as well as to describe the attempts made by the country's authorities over the last few years to tackle that disequilibrium. The paper is organized as follows. In Section I we give a brief overview of the structure of the economy of Zaire and of its economic problems in the years 1960-67. In Section II we turn to the evolution of the serious disequilibrium that the authorities have been wrestling with since 1978. That section would, therefore, be concerned with macroeconomic developments in the years 1967-78; those years include 1967-74 when the opportunity to establish a firm growth equilibrium path existed, and the crises years of 1975-78. We believe that the sources of disequilibrium as presented in that section permit reasonable solutions to be found. Then Section III will turn to the adjustment effort during the period July 1978-December 1981. That section will be concerned with what has been achieved in reducing macrodisequilibrium, the role that external financing has played in reducing the required adjustment and certain difficulties that have been faced in achieving a greater degree of adjustment. Finally, we make some general concluding remarks in Section IV.

1/ In view of the difficulties connected with objectively determining the optimal speed of adjustment, the dependence of this speed on the financing available, which in turn depends on financiers' perception of the authorities' adjustment effort, the issue of the speed of adjustment and the related questions of the sustainable current account and overall balance of payments deficits have become, at best, slippery concepts with which to work. The problem is that one must think in terms of finding equilibrium combinations of objectives, policies and financing requirements, such that the authorities accept the objectives, are expected to implement the policies (which given certain exogenous factors materializing will assure realization of the objectives) while at the same time the "financiers" will provide the associated financing requirement. The role of the policy-oriented economist in the given situation would be, of course, to search for such equilibrium combinations. The deficits associated with such combinations are, in a meaningful analytical sense, sustainable.

This is a study in economic history. Nevertheless, it cannot include all the relevant details. But it is hoped that the most salient features of the picture will be brought out.

I. Early Experience and Macroeconomic Structure

Zaire is one of the largest countries in Africa, with an area of 2,343,950 square kilometers and a population of about 28.3 million people. Although rich in natural resources its annual per capita income is less than SDR 200.

1. The early years: 1960 to mid-1967

Zaire, the former Belgian Congo, became independent on June 30, 1960, assuming the name the Republic of the Congo which was later changed to the Democratic Republic of the Congo. On October 27, 1971 the country adopted its current name, Zaire.

The sudden attainment of independence with no adequate preparation in political organization of a modern nation state, coupled with virtually no local personnel with the training and experience to administer the government machinery, created enormous political and fiscal problems. For example, autonomy claimed by some of the regions (then called provinces) with major revenue sources, the holding back of government revenue by local administrators for purely local ventures, the indiscriminate debiting of government accounts for expenditures by local authorities which had not been centrally approved, and massive increases in public expenditures in the form of wages and salaries to government employees, all aggravated a difficult budgetary situation inherited at independence. ^{1/} As a result, there were massive budgetary deficits which in the circumstances were financed by recourse to the Central Bank. In the event, the money stock quadrupled during the first seven years of independence, and the consumer price index was, by June 1967, almost seven times its June 1960 level reducing real wages to some 55 per cent of the June 1960 levels despite successive increases in nominal wages. A parallel market in foreign exchange also mushroomed.

By the end of 1966 the domestic asset component of the base money was some 77 per cent and the net claims on Government by the domestic banking system was equal to the stock of money; indeed the quarterly average level of these claims during the year 1966 was greater than the quarterly average level of the money stock (Table 1). Available data also reveal that in the six-year period 1961 through 1966 real gross

^{1/} For an illuminating account of the years 1958-65, see H. Leclercq, "L'Inflation, sa Cause: Le Désordre des Finances Publiques" in Indépendance, Inflation, Développement: L'Economie Congolaise de 1960 à 1965, I.R.E.S. Editions Mouton, pp. 51-178.

Table 1. Zaire: Monetary and Credit Developments, 1966-81

(In millions of zaires)

		Base money 1/		Net claims on Government	Credit to enterprises and households	Money and quasi-money
		Total	Net foreign assets			
			Domestic assets			
1966	QA 2/	47.1	7.0	40.1	76.5	69.9
	EOP 3/	45.6	10.3	35.3	77.6	77.6
1967	QA	51.3	29.4	21.9	81.8	94.4
	EOP	53.1	60.9	-7.8	79.6	115.1
1968	QA	68.2	74.0	-5.8	85.2	134.8
	EOP	87.6	85.2	2.4	87.3	150.7
1969	QA	97.6	95.6	2.0	97.7	168.8
	EOP	95.6	112.9	-17.3	87.9	169.6
1970	QA	113.2	116.9	-3.7	88.1	186.4
	EOP	130.5	109.2	21.3	99.8	206.3
1971	QA	133.2	94.2	39.0	114.6	211.4
	EOP	122.7	82.1	40.6	130.6	224.0
1972	QA	137.9	72.1	65.8	145.3	235.5
	EOP	152.3	79.5	72.8	160.5	272.4
1973	QA	167.0	82.5	84.5	184.1	314.8
	EOP	184.3	110.3	74.0	188.5	369.0
1974	QA	210.3	100.4	109.9	278.5	446.2
	EOP	215.3	70.2	145.1	393.0	490.4
1975	QA	271.4	-10.5	281.9	456.6	498.5
	EOP	315.2	-45.9	361.1	507.3	539.5
1976	QA	415.5	-83.0	498.5	644.8	637.6
	EOP	550.2	-89.4	639.6	831.6	739.8
1977	QA	601.8	-66.0	667.8	927.7	952.9
	EOP	686.7	-28.1	714.8	1,054.8	1,157.2
1978	QA	886.4	3.7	882.7	1,271.2	1,461.7
	EOP	1,149.9	64.4	1,085.5	1,578.3	1,854.5
1979	QA	1,357.5	149.2	1,208.3	1,826.4	2,169.1
	EOP	978.5	259.8	718.7	2,062.2	2,084.9
1980	QA	1,670.2	459.4	1,210.8	2,149.8	2,784.3
	EOP	2,237.2	464.6	1,772.6	2,329.4	3,367.3
1981	QA	2,642.8	-12.0	2,654.8	3,027.2	4,015.9
	EOP	3,006.2	-416.1	3,422.3	3,783.6	4,644.9

Sources: IMF, International Financial Statistics, Vol. 23, Part 1 (January-March 1970); and data provided by the Bank of Zaire.

1/ Base money is defined as the sum of currency in circulation, currency in commercial banks, and commercial bank deposits at the Bank of Zaire.

2/ QA ≡ quarterly average, defined as the average of the stocks at the end of the five quarters--December of the previous year and the end of March, June, September, and December of the given year.

3/ EOP ≡ end of period.

domestic product (GDP) grew at an average annual (logarithmic) rate of about 5.8 per cent, although it stagnated in the period 1961 through 1964.

In late 1965 a period of relative political stability commenced ^{1/} creating the opportunity for rational economic policy formulation including monetary and financial reforms. In June 1967, the authorities of Zaire launched a stabilization program in support of which the Fund approved a stand-by arrangement. On June 23, 1967 the zaire replaced the Congo franc as the official currency, at an official rate of Z 1 = US\$2.00. Also, fiscal and credit policies were tightened with a view to improving domestic balances, while certain aspects of the trade and external payments system were liberalized.

2. Macroeconomic structure

It is possible to think of the sectors of GDP (see Table 2) as divisible into three groups, viz. directly productive, infrastructural and service sectors. During the decade of the 1970s, covering the bulk of the historical period of our paper, the directly productive sectors (agriculture, mining and manufacturing) accounted for 40-50 per cent of value added to real GDP; the infrastructural sectors (construction, electricity and water, transportation and telecommunications) accounted for 11-14 per cent of real GDP and the service sectors (commerce, other services, import duties) accounted for 38-41 per cent of real GDP. As

^{1/} The first elected Government of the country lasted only about two months. The first major eruption was a mutiny of the army on July 5, 1960 basically over the issue of Africanization in the army. Then a few days later the province of Katanga (now Shaba) declared its independence. When Belgian troops landed in at least three towns in the country including Elisabethville (now Lubumbashi) in Katanga, the President and Prime Minister on July 12, 1960 formally requested military assistance from the United Nations (U.N.) to assist the Congo in defending itself against what they considered foreign aggression. In a Security Council resolution of July 14, 1960, the U.N. responded favorably with the U.N. troops landing in the Congo within forty-eight hours of the resolution. Then on August 8, 1960 independence was also proclaimed by another province, South Kasai. The confusion that resulted from the above was aggravated by the decision of the Prime Minister to seek Soviet aid in order to attack the secessionist areas, after supposedly failing to get U.N. support to that end. The complications that ensued with all these forces at play would take too long to describe here (a good summary and bibliography can be found in Chapter 1 of Zaire, American University 1979). But by the time that all the dust of political assassinations, rival national governments and leaders, as well as mercenary activities in Katanga, had settled, five years had elapsed since independence and the army had decided to assume power. The date was November 24, 1965 and the new leader that had emerged had been appointed back in 1960 as chief of the army in the aftermath of the mutiny.

Table 2. Zaire: Gross Domestic Product by Industrial Origin at 1970 Prices, 1966-81 1/

(In millions of zaires)

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980 2/	1981 2/
Agriculture (commercialized)	57.5	62.8	74.1	72.8	79.0	82.5	84.2	88.1	89.0	83.8	90.4	81.7	79.2	81.7	82.9	81.2
Mining 3/	183.8	185.0	185.6	199.4	211.2	220.0	226.4	243.4	250.1	242.0	226.7	239.8	218.0	206.3	220.4	232.3
Manufacturing	64.1	62.5	57.7	64.7	77.5	81.9	85.8	93.4	101.1	92.1	84.8	83.0	72.5	68.3	67.5	68.2
Construction	13.1	13.0	15.9	20.9	30.0	34.3	30.7	34.6	39.0	38.7	32.5	27.1	27.7	24.1	24.1	26.8
Electricity and water	5.5	4.8	7.1	8.0	8.7	9.5	9.6	10.4	9.4	10.2	11.0	11.2	11.4	11.6	11.8	12.1
Transportation and telecommunications	57.1	60.5	65.7	70.8	75.9	83.6	73.5	85.7	91.5	82.3	71.1	67.0	65.7	59.2	63.0	64.9
Commerce	76.4	71.7	79.2	89.3	106.4	116.6	121.7	129.3	128.7	120.9	113.7	114.0	95.8	96.9	97.6	97.9
Other services 4/	176.7	176.9	200.7	214.0	231.2	244.2	212.9	238.6	259.9	243.7	242.5	259.0	255.2	280.7	277.7	276.8
Import duties	44.8	39.0	38.1	50.0	51.4	61.1	53.9	51.8	35.6	32.8	18.4	15.9	16.3	15.1	18.6	19.2
Commercialized GDP	679.0	676.2	724.1	789.9	871.3	933.7	898.7	975.3	1,004.3	946.5	891.1	898.7	841.8	843.9	863.6	879.4
Agriculture (subsistence)	69.7	70.7	76.9	78.5	79.8	80.6	81.4	83.8	86.3	88.9	91.5	94.2	97.0	99.9	102.9	105.9
Construction (subsistence)	9.2	9.1 5/	8.0	10.4	15.0	17.2	15.3	17.3	19.5	19.4	16.2	13.5	13.8	12.0	12.0	13.4
Total GDP	757.9	756.0	809.0	878.8	966.1	1,031.5	995.4	1,076.4	1,110.1	1,054.8	998.8	1,006.4	952.6	955.8	978.5	998.7

Sources: Bank of Zaire, Rapport Annuel (various issues); and data provided by the Bank of Zaire.

1/ Due to basic revisions in data that have been made by the Zairian authorities but not consistently backdated, the data for 1974-81 may not be totally comparable with those of 1966-73. Similarly, the data for 1970-73 may not be strictly comparable with those of 1966-69. Also, the data for 1967 are probably the least reliable and have sometimes been left out of Bank of Zaire data on GDP. It is to be noted, finally, that the figures for 1966-70 are computed by using sectoral growth rates for those years implicit in Bank of Zaire data.

2/ Provisional.

3/ Including processing of minerals.

4/ Including banking and government services.

5/ Author's estimate.

would be expected, the cyclical and secular variations have reflected geographical factors, public investment priorities and other domestic policies, as well as the differential political and social implications (and thus difficulties) in contracting different sectors. Thus between 1970 and 1974 the rise in the share of the infrastructural sectors reflected public investment priorities while the rise in the share of service activities after 1974 reflected the difficulty of curtailing government employment and wages in the face of economic recession in other sectors, as well as the relative profitability of commercial activities in a high inflationary environment.

The directly productive sectors are for Zaire where the exportables can be found. Of these, agriculture is the most important from the viewpoint of employment, although not in terms of export receipts and contribution to GDP. Thus, whereas agriculture provides income and employment for some 70-75 per cent of Zaire's active population, most of the farmers are smallholders practicing shifting cultivation and with very little use of commercial fertilizers and machinery. This, in addition to poor transport, marketing and storage facilities, led to agriculture's contribution to real GDP being only 10 per cent on average during the decade of the 1970s. Nevertheless, a wide variety of cash crops are grown in Zaire; these include coffee (mainly robusta), palm fruit (for palm oil and palm kernel oil), cotton, rubber, maize, manioc, rice, cocoa, tobacco, timber, and tea. In addition, agricultural products are a significant foreign exchange earner; in the 1970s, agricultural and agro-industrial products accounted for 13-30 per cent of export receipts (Table 3).

Zaire's manufacturing sector is broadly based, producing both consumption and equipment goods mainly for the domestic market. Employment data for manufacturing are not readily available or reliable but it is known that the numbers involved are relatively small. Nevertheless, during the 1970s manufacturing accounted on the average for 8 per cent of real GDP and only 1-2 per cent of export earnings. In terms of value added the most important manufacturing products have been beverages, clothing, various foodstuffs, textile spindles and looms, and nonferrous metals.

Of the three directly productive sectors, mining has been, on the whole, the most important. In the 1970s the contribution of the mining sector to real GDP was about 23 per cent, while it accounted for 70-86 per cent of total export receipts. Zaire's mineral deposits are quite diverse. The most substantial of these are copper, cobalt, and zinc. But Zaire has also been the world's largest producer of industrial diamonds for several years despite declining production since 1979. The country also has significant exports of silver, gold, manganese, cassiterite, cadmium, and coal. Crude petroleum production has also increased in recent years; in the 1970s such production was in the range of 7-9 million barrels a year while the prospects are good for sizable increases in the future.

Table 3. Zaire: Sectoral Contributions to
Total Export Receipts, 1969-80

(In per cent)

	Mineral Products	Agricultural and Agro-industrial Products	Industrial Products	Unspecified
1969	85.9	13.4	0.6	0.1
1970	83.4	15.9	0.7	--
1971	80.3	18.5	0.7	0.5
1972	81.5	17.5	1.0	--
1973	84.4	14.7	0.7	0.2
1974	85.5	13.1	1.0	0.4
1975	81.7	15.6	1.4	1.3
1976	77.6	20.2	1.8	0.4
1977	69.6	29.6	0.8	--
1978	79.3	20.0	0.7	--
1979	83.7	14.5	1.8	--
1980 <u>1/</u>	84.5	12.0	3.5	--

Sources: Bank of Zaire, Rapport Annuel, (various issues); and data provided by the Bank of Zaire.

1/ Provisional.

II. The Sources of Disequilibrium, 1967-78

The major thesis of this paper is that the macrodisequilibrium facing Zaire is the consequence of an inappropriate economic policy package in the years 1967-78 and that this fact was masked, especially during 1967-74, by substantial inflows of capital; indeed, the net capital inflows continued to increase until 1976 (Table 4). For analytical purposes the inappropriate policies will be classified as follows:

(1) exchange rate policy that was inadequate in the light of domestic credit expansion and inflation; (2) external debt management policy that was out of line with domestic saving potential and export prospects; and (3) supply oriented policies that unduly constrained the growth of the directly productive sectors.

1. Exchange rate policy and credit developments

Between June 1967 and March 1976 the zaire remained pegged to the U.S. dollar at the rate of Z 1 = US\$2.00. As part of a financial program, on March 12, 1976 the Zairian authorities decided to peg the zaire to the SDR instead, at a rate of Z 1 = SDR 1 implying a depreciation of 42.1 per cent in terms of the SDR. This new rate was maintained until November 1, 1978 when it was reduced to Z 1 = SDR 0.9. Subsequently, the zaire was further devalued on November 7, 1978 to Z 1 = SDR 0.81, on November 27, 1978 to Z 1 = SDR 0.7614 and on January 2, 1979 to Z 1 = SDR 0.5.

During that same period (1967-78) domestic credit of the banking system, defined as the sum of claims (net) on Government and credit to enterprises and households, on a quarterly average basis, rose at an annual rate of 30.7 per cent, with government budgetary deficits playing a crucial role. More particularly, the quarterly average level of the domestic asset component of base money rose at an annual rate of 39.9 per cent during the 11-year period. On the other hand, real GDP rose at an annual rate of only 2.1 per cent between 1967 and 1978.

One major consequence of the magnitude of credit expansion was that the domestic rate of inflation rose relative to "foreign" inflation rates. Using data for the years 1971-78 ^{1/} the following relationship was obtained, by ordinary least squares, between the ratio of the domestic asset component of base money, DCH, to real GDP (y), as the independent variable, and the average level of the consumer price level as the dependent variable. ^{2/}

$$\ln (P) = 2.555907 + 0.689524 \ln \left(\frac{DCH}{y} \right) \quad (1)$$

(40.326284) (9.497775)

^{1/} The years 1966-70 were dropped because of negative numbers in the series for the domestic asset component of base money.

^{2/} This result was only slightly better overall than when the ratio of total domestic credit (DC) to real GDP was used as the independent variable with significance also at the 99.9 per cent level.

Table 4. Zaire: Balance of Payments Developments, 1970-81

(In millions of SDRs)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981 <u>1/</u>
Exports, f.o.b.	800	695	636	870	1,119	703	917	1,050	1,258	1,420	1,502	1,261
Imports, f.o.b.	-583	-682	-693	-819	-1,313	-919	-1,235	-1,067	-818	-857	-923	-900
Trade balance	217	13	-57	51	-194	-216	-318	-17	440	563	579	361
Services	-260	-257	-281	-308	-495	-419	-585	-565	-537	-604	-680	-826
Of which: interest on public debt <u>2/</u>	(-46)	(-44)	(-43)	(-62)	(-53)	(-69)	(-129)	(-131)	(-147)	(-126)	(-163)	(-290)
Unrequited transfers	-20	120	5	22	3	-19	44	24	31	52	102	112
Public	(57)	(195)	(71)	(91)	(82)	(94)	(76)	(127)	(114)	(127)	(160)	(167)
Private	(-77)	(-75)	(-66)	(-69)	(-79)	(-113)	(-32)	(-103)	(-83)	(-75)	(-58)	(-55)
Current account balance	-63	-124	-333	-235	-686	-654	-859	-558	-66	11	1	-353
Public capital	12	-41	74	156	130	178	165	71	98	-38	18	-135
Of which: public debt amortization <u>2/</u>	(-20)	(-139)	(-17)	(-50)	(-104)	(-128)	(-165)	(-251)	(-288)	(-192)	(-274)	(-305)
Private capital and errors and omissions	28	106	238	137	372	35	362	76	-295	-171	-215	-128
SDR allocation	15	13	13	--	--	--	--	--	--	16	16	16
Overall balance (deficit -)	-8	-46	-8	58	-184	-441	-332	-411	-263	-182	-180	-600
Financing	8	46	8	-58	184	441	332	411	263	182	180	600
Debt rescheduling and emergency assistance	--	--	--	--	--	51	108	174	46	51	1,254	450
Payments arrears (decrease -)	--	--	--	--	--	218	167	286	278	168	-1,050	-38
Monetary movements (increase -) <u>3/</u>	8	46	8	-58	184	172	57	-49	-61	-37	-24	188
<u>Memorandum items:</u>												
Current account balance as per cent of GDP	-3.3	-6.1	-15.6	-9.5	-22.9	-20.7	-28.0	-14.1	-1.3	0.2	--	-7.5
Overall balance as per cent of GDP	-0.4	-2.3	-0.4	2.3	-6.1	-14.0	-10.8	-10.4	-5.0	-3.7	-3.9	-12.8
Debt service due as per cent of exports of goods and nonfactor services <u>4/</u>	8.0	24.7	8.0	12.0	12.8	24.6	29.9	34.6	33.2	21.6	27.7	43.8

Source: Based on data provided by the Bank of Zaire.

1/ Provisional.

2/ Due before debt rescheduling.

3/ Includes net use of Fund credit.

4/ Debt service excludes Fund repurchases and charges but includes Trust Fund. Exports of goods and nonfactor services are based on the balance of payments and not the national accounts.

$$\bar{R}^2 = 0.927241 \quad DW = 1.28974 \quad SEE = 0.099957$$

Both the constant and $\frac{DCH}{y}$ were significant at the 99.99 per cent level (the t ratios are in parentheses while \ln represents the natural logarithm).

The developments in the price level were, therefore, related to domestic credit developments given the GDP growth levels that were attained. The consumer price level itself increased at an annual rate of 30.6 per cent during the 1967-78 interval.

As a result of the rapid domestic inflation, the much lower inflation rate abroad, and the relative constancy of the nominal exchange rate of the zaire, the relative overvaluation of the zaire in purchasing power terms increased during the period. Thus if P_f denotes "foreign" inflation rate, with consumer price indices in industrial countries $\frac{1}{y}$ used as indicators of the analytically relevant foreign inflation, and P_d denotes domestic consumer price index or inflation, then we can define

$$PPP_t \equiv \frac{(P_f/P_d)_t}{(P_f/P_d)_o}$$

with the subscript "t" referring to the given period and the subscript "o" to the base period. PPP_t is thus the relative purchasing power at time t compared with the base period. If we let e represent the exchange rate index, with the exchange rate defined here as the period average level of SDR per zaire, we can define a ratio e/PPP such that as it increases the zaire is becoming relatively overvalued. As can be seen from Table 5, between 1967 and 1978 e rose steadily relative to PPP , such that in 1967 the ratio was 1.1486 while in 1978 it was 2.086; thus the zaire became increasingly overvalued during the period 1967-78 in the sense of purchasing power parity. In short, the failure to adjust the nominal exchange rate in line with credit developments led to a situation of increasing relative overvaluation of the zaire.

Without intending to argue as to what the equilibrium exchange rate should or should not have been on any given date, it is a thesis of this paper that the increasing relative valuation of the zaire had a deterrent effect on the growth of exports, particularly of agricultural and manufacturing commodities; insofar as Zaire was relatively efficient in the production of the export commodities most seriously affected, this would also have contributed to a slowing down in real GDP growth. The

^{1/} For the set of countries defined as industrial see footnote 3 of Table 5.

Table 5. Zaire: Price and Exchange Rate Developments, 1965-81
(In per cent, 1975 = 100)

	Consumer Price Index in zaire (P _d) 1/	Per Cent Change in P _d	SDR per zaire Period average	SDR per zaire End of Period	Export Price Index 2/	Import Price Index 2/	Terms of Trade Index 2/	Terms of Trade Per Cent Change	Consumer Price Index in Industrial Countries (P _f) 3/	Per Cent Change in P _f	(P _f /P _d) (P _f /P _d) ₀
1965	15.2	-2.6	367.9	354.5	...	...	...	...	54.8	3.2	360.5
1966	17.7	16.4	367.9	354.5	...	...	...	...	56.7	3.5	320.3
1967	24.1	36.2	168.4	117.0	...	...	...	...	58.3	2.8	241.9
1968	37.4	55.2	121.4	117.0	...	...	...	...	60.6	3.9	162.0
1969	39.8	6.4	121.4	117.0	113.9	40.3	282.6	...	63.5	4.8	159.5
1970	42.9	7.8	121.4	117.0	112.5	46.6	241.4	-14.6	67.0	5.5	156.2
1971	45.4	5.8	121.1	107.7	92.1	52.0	177.1	-26.6	70.5	5.2	155.3
1972	52.6	15.9	111.8	107.7	86.1	58.5	147.2	-16.9	73.8	4.7	140.3
1973	60.8	15.6	101.8	97.0	117.0	72.9	160.5	9.0	79.5	7.7	130.8
1974	77.5	27.5	101.0	95.6	158.2	95.3	166.0	3.5	90.0	13.2	116.1
1975	100.0	29.0	100.0	100.0	100.0	100.0	100.0	-39.8	100.0	11.1	100.0
1976	180.7	80.7	65.1	58.5	124.5	117.5	106.0	6.0	108.3	8.3	59.9
1977	305.4	69.0	60.7	58.5	139.4	133.4	104.5	-1.4	117.5	8.5	38.5
1978	453.4	48.5	58.0	44.6	140.3	149.9	93.6	-10.4	125.9	7.1	27.8
1979	912.7	101.3	27.2	21.9	189.1	179.1	105.6	12.8	137.4	9.1	15.1
1980	1,399.0	46.7	16.7	15.4	202.9	207.4	97.8	-7.4	153.7	11.9	11.5
1981	1,813.1	35.4	11.7	9.2	192.8	224.0	86.1	-12.0	169.1	10.0	9.3

Sources: IMF, International Financial Statistics (IFS), various issues; Banque du Zaire, Rapport Annuel, 1980; and data provided by the Bank of Zaire.

1/ These are estimates of the National Institute of Statistics (INS). The basket was changed in 1975 so that estimates for years prior to that date are not fully consistent but based on applying implicit percentage changes.

2/ Due to data difficulties a consistent series could be obtained only for the years since 1969. Based on data in SDRs. Data for 1981 are provisional.

3/ The definition of industrial countries is the same as that used in the IFS, viz., United States, Canada, Australia, Japan, New Zealand, Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Sweden, Switzerland, and United Kingdom.

increasing valuation of the zaire also made it difficult for mining companies, particularly GECAMINES, to implement investment programs. 1/

One would expect that within any given medium-run period the elasticity of export quantity to e/PPP for a small economy facing given external prices would be greater the shorter is the production gestation period (e.g. annual crop vs. tree crop), the smaller the fraction of required investments to attain any given flow of output to total capital stock (e.g. of trees) in existence (and thus the greater the extent to which annual production can vary with labor and other "variable" factors of production), the greater the size of the domestic market for the commodity, and the greater the extent to which the commodity uses inputs, including labor, which are heavily utilized in commodities with substantial domestic markets. It has not been possible to test all these hypotheses in our present study in order to more fully appreciate the adverse productive effects of the exchange rate policy implemented.

Nevertheless, in support of the argument that the increasing valuation of the zaire was detrimental to agricultural and manufacturing exports, the

1/ This problem is aggravated when, as in the case of GECAMINES (see text below), a company is heavily relied upon for tax payments to the Government. This can be seen from the following analysis. Consider a company that exports all its output and must pay a certain amount of tax per flow period and at the same time wants to finance a certain (flow) investment (I). Then we can define in equilibrium

$$T = R - C - I$$

$$\text{or } T = R \cdot e' (1 + \alpha) - C_z - C_f \cdot e' (1 + \alpha) - I_z - I_f \cdot e' (1 + \alpha)$$

where

- T = taxes to be paid plus normal addition to retained earnings.
- C_z = domestic component of operating costs.
- C_f = foreign exchange component of operating costs.
- I_f = foreign exchange component of investment.
- I_z = domestic cost component of investment.
- R = cash flow after other contractual expenses in foreign exchange including debt service.
- e' = the number of units of domestic currency (say zaires) in one unit of foreign currency (say U.S. dollars).
- α = the percentage change (in decimal form) in the number of units of domestic currency per foreign currency required to achieve the desired goals of the company.

Rearranging the above we have the basic relation

$$\frac{T + C_z + I_z}{(R - C_f - I_f) \cdot e'} = 1 + \alpha \quad (1')$$

The relation (1') shows that, within any given time horizon (flow period), from the narrow perspective of the company concerned, given the constraints T and I , the current official exchange rate $e = 1/e'$ is an equilibrium rate only if the equilibrium α is zero.

elasticity of export quantities was computed for tea (XT), palm oil (XP), cotton (XC) and rubber (XR) using ordinary least squares regression. The results were as follows with the time periods indicated.

$$\text{Ln XT} = 1.515580 - 1.085570 \text{ Ln } \left(\frac{e}{\text{PPP}} \right) + 0.175283 \text{ Ln (PXT)} \quad (2)$$

(11.249598) (-7.226650) (2.830076)

$$\bar{R}^2 = 0.902739 \quad \text{DW} = 1.60524 \quad \text{SEE} = 0.041211$$

Period: 1970-79

$$\text{Ln (XP)} = 1.631881 - 2.259602 \text{ Ln } \left(\frac{e}{\text{PPP}} \right) \quad (3)$$

(59.845206) (-12.081108)

$$\bar{R}^2 = 0.947696 \quad \text{DW} = 1.05670 \quad \text{SEE} = 0.081696$$

Period: 1970-78

$$\text{Ln (XC)} = 0.423985 - 13.843004 \text{ Ln } \left(\frac{e}{\text{PPP}} \right) \quad (4)$$

(2.151092) (-5.947368)

$$\bar{R}^2 = 0.851379 \quad \text{DW} = 2.51102 \quad \text{SEE} = 0.340136$$

Period: 1970-76

$$\text{LN (XR)} = 1.877963 - 1.468855 \text{ Ln } \left(\frac{e}{\text{PPP}} \right) \quad (5)$$

(61.729238) (-4.088548)

$$\bar{R}^2 = 0.723709 \quad \text{DW} = 1.902870 \quad \text{SEE} = 0.052500$$

Period: 1970-76

In all of the above equations e/PPP was significant at the 99.99 per cent level and only in the case of tea was the appropriate world price (PXT) very significant (at a 97.5 per cent level); ^{1/} it may be noted that in the equation for cotton (XC) the constant is significant only at the 91.6 per cent level. In any event, consistently with our hypotheses the real exchange rate elasticity of cotton is the largest among the four commodities while that of tea and rubber are smaller than that of palm oil.

2. Saving and debt management policy

The second aspect of our major thesis is that external debt management policy was out of line with domestic saving potential and export prospects. Now consider the following equation showing the relationship, in equilibrium between ex ante GDP (Y) and consumption (C), investment (I), exports of goods and nonfactor services (X), and imports of goods and non-factor services (M),

^{1/} See Tables 8 and 9 for data used in analysis.

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

which of course implies that

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

Let us define a balance of payments variable "A" such that

$$A = GKI + GIY + NTP - \Delta NFA$$

where

GKI is gross capital inflow,

GIY is gross investment income,

NTP is net transfer payments, and

ΔNFA is the desired change in net foreign assets of the banking system.

In macroequilibrium we posit that a condition which must hold is that net exports of goods and nonfactor services must be sufficient to finance contractual debt service payments net of A. That is,

$$M = X - \frac{DS}{X} \cdot X + A$$

or

$$X = \frac{M - A}{1 - DS/X}$$

where DS denotes debt service and DS/X is, therefore, the debt service ratio. Thus for net exports we have the condition that

$$\begin{aligned} X - M &= \frac{M - A}{1 - DS/X} - M \\ &= \frac{-A + M \cdot \frac{DS}{X}}{1 - DS/X} \end{aligned}$$

It is also known that in macroequilibrium net exports is equal to the difference between savings (S), i.e., $Y - C$, and investment (I). In macroequilibrium, the above conditions imply that

$$S = Y - C = I + \left[\frac{M \cdot \frac{DS}{X} - A}{1 - DS/X} \right] \quad (6)$$

It is clear from equation (6) that given A, X, M and I, saving must increase with the debt service ratio at any given level of GDP; in short, that given A/Y, X/Y, M/Y and I/Y the saving ratio, S/Y, must increase as DS/X increases.

During the period 1970-78, Zaire's public debt (Table 6) rose sharply both absolutely and in relation to GDP. In addition, the structure of the debt was such that debt service payments due (contractual debt service) rose sharply relative to exports of goods and nonfactor services. Thus whereas in 1970 the (contractual) debt service ratio was 8 per cent, in 1978 it was 33.2 per cent. At the same time the domestic savings ratio in Zaire was declining; that is the ratio of consumption to GDP rose throughout the period. Thus in 1970 the C/Y ratio was 73.2 per cent, whereas in 1978 it was 85.9 per cent (Table 7); it had even attained levels greater than 90 per cent in 1976 and 1977.

The declining savings ratio was attributable to both private and government consumption. Of particular importance as explanatory factors were the rising levels of government expenditure, and the low level of effectiveness in tax collection that precluded substantial restraints on disposable income as nominal GDP increased. But also significant was the increasing negative bank interest rate levels that resulted from low and rigid nominal interest rates in the face of increasing inflation rates. This latter situation resulted in a reduction in the real demand for money, virtually the only important financial asset in the Zairian economic system. In this regard, data for the years 1970-80 reveal a relatively small but substantial elasticity of the real demand for (broad) money (M0/P) to the rate of inflation. The following equation was obtained:

$$\ln\left(\frac{M0}{P}\right) = -11.457070 + 3.976621 \ln(y) - 0.164452 \ln\left(\frac{\Delta P}{P}\right) \quad (7)$$

$$(-3.195056) \quad (3.322663) \quad (-2.588630)$$

$$\bar{R}^2 = 0.697091 \quad DW = 1.53320 \quad SEE = 0.078673$$

Despite the relatively low \bar{R}^2 , both the constant and real GDP (y) were significant at the 99 per cent level while the rate of price change ($\Delta P/P$) was significant at the 97 per cent level.

3. Supply-oriented policies in the light of financial policies

We have argued above that credit policy was relatively expansionary during the 1967-74 period and that the domestic credit component of base money was expanding at a very significant rate. We have also argued that taxation policy was rather ineffective and that the savings ratio declined throughout the period (in particular for the period 1970-78 for which firm data are available). We have, moreover, argued that an inappropriate exchange rate policy adversely affected the growth of agricultural and manufacturing exports. We have, finally, seen that the structure of borrowing during the late 1960s and early 1970s led to a rapid rise in the debt service ratio in the years 1970-78.

In the light of the underlying financial policies, direct supply-oriented (nonfinancial) policies further frustrated the objective of

Table 6. Zaire: External Public Debt Outstanding (Disbursed), 1970-80

(In millions of U.S. dollars; end of period)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Total	185.7	363.6	576.6	903.7	1,340.6	1,718.4	2,265.7	2,877.8	3,587.6	4,257.3	4,190.3
Suppliers' credits	81.6	162.4	235.0	297.9	385.5	412.9	426.3	517.7	590.9	595.6	460.6
Financial markets	9.9	93.3	199.6	432.5	647.9	823.7	1,022.3	1,265.1	1,501.9	1,254.4	1,130.7
Multilateral loans	5.7	9.0	28.4	49.1	59.5	78.2	115.9	206.1	317.3	383.5	473.2
Of which:											
Trust Fund	(--)	(--)	(--)	(--)	(--)	(--)	(--)	(14.7)	(61.0)	(106.8)	(140.3)
Bilateral loans	88.5	98.9	113.6	124.2	247.7	403.6	701.2	888.9	1,177.5	2,023.8	2,125.8
	(As percentage of total)										
Suppliers' credits	43.9	44.7	40.8	33.0	28.8	24.0	18.8	18.0	16.5	14.0	11.0
Financial markets	5.3	25.7	34.6	47.9	48.3	47.9	45.1	44.0	41.9	29.5	27.0
Multilateral loans	3.1	2.5	4.9	5.4	4.4	4.6	5.1	7.2	8.8	9.0	11.3
Bilateral loans	47.7	27.2	19.7	13.7	18.5	23.5	30.9	30.9	32.8	47.5	50.7
<u>Memorandum item:</u>											
External public debt											
as a ratio to GDP											
(in per cent)	9.6	17.9	24.9	30.6	37.3	44.8	64.0	62.3	54.7	66.3	70.4

Sources: World Bank; and data provided by the Bank of Zaire.

Table 7. Zaire: Gross Domestic Product and Expenditure at Current Prices, 1970-80 1/
(In millions of zaires)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
GDP	966.1	1,013.5	1,157.3	1,475.4	1,799.1	1,919.1	2,860.2	3,956.2	5,480.5	11,091.1	16,654.5
Gross domestic expenditure	951.7	1,107.1	1,301.5	1,559.2	1,919.3	2,285.0	3,386.1	5,137.3	5,712.6	10,666.9	15,954.5
Consumption	707.2	761.5	914.8	1,117.2	1,368.3	1,672.2	2,644.5	3,620.8	4,705.6	8,588.2	12,478.3
Private	(446.1)	(476.6)	(649.8)	(804.9)	(940.5)	(1,220.3)	(2,089.2)	(2,848.6)	(3,812.2)	(6,731.2)	(9,087.8)
Government	(261.1)	(284.9)	(265.0)	(312.3)	(427.8)	(451.9)	(555.3)	(772.2)	(893.4)	(1,857.0)	(3,390.5)
Gross fixed investment	202.5	299.3	371.3	372.0	551.0	547.5	655.8	1,371.6	950.2	1,425.6	2,633.8
Enterprises	(127.3)	(242.7)	(305.4)	(216.5)	(270.6)	(430.6)	(452.1)	(1,150.9)	(735.7)	(985.5)	(1,995.4)
Government	(75.2)	(56.6)	(65.9)	(155.5)	(280.4)	(116.9)	(203.7)	(220.7)	(214.5)	(440.1)	(638.4)
Changes in stocks	42.0	46.3	15.4	70.0	--	65.3	85.8	144.9	56.8	653.1	842.4
Balance on goods and non-factor services	14.4	-93.6	-144.2	-83.8	-120.2	-365.9	-525.9	-1,181.1	-232.1	424.2	700.0
Exports	(415.0)	(373.7)	(377.5)	(561.7)	(817.2)	(519.5)	(926.6)	(1,116.8)	(1,216.3)	(2,742.1)	(6,032.2)
Imports	(-400.6)	(-467.3)	(-521.7)	(-645.5)	(-937.4)	(-885.4)	(-1,452.5)	(-2,297.9)	(-1,448.4)	(-2,317.9)	(-5,332.2)
Memorandum items (in per cent)											
Ratio of consumption to GDP	73.2	75.1	79.0	75.7	76.1	87.1	92.5	91.5	85.9	77.4	74.9
Ratio of gross fixed investment to GDP	21.0	29.5	32.1	25.2	30.6	28.5	22.9	34.7	17.3	12.9	15.8
Ratio of balance on goods and nonfactor services to GDP	1.5	-9.2	-12.5	-5.7	-6.7	-19.1	-18.4	-29.9	-4.2	3.8	4.2

Sources: Bank of Zaire, Rapport Annuel (various issues); and data provided by the Bank of Zaire.

1/ Data for the years 1968 and 1969 exist but are incomplete and not sufficiently reliable for use in comparisons with later years.

Table 8. Zaire: Indices of Volume of Major Agricultural and Agro-Industrial Exports, 1969-80

(1970 = 100)

	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Timber	175.3	100.0	113.9	141.0	158.2	112.0	38.2	119.2	140.9	131.4	131.0	149.6
Tea	72.8	100.0	94.9	92.9	96.9	85.8	67.9	78.6	61.2	54.8	39.4	21.2
Coffee												
Robusta	70.9	100.0	119.4	118.5	108.3	132.2	98.0	169.2	107.7	138.0	106.0	130.4
Arabica	--	100.0	118.3	154.7	131.6	111.7	99.3	256.3	101.0	125.9	95.8	79.1
Rubber	113.5	100.0	126.9	119.9	96.0	84.7	76.9	67.2	87.8	83.0	53.7	61.9
Palm oil	101.2	100.0	90.6	70.4	56.4	50.6	43.1	32.1	17.4	7.8	--	8.1
Palm kernel oil	82.7	100.0	89.3	74.3	65.4	67.8	57.0	45.3	30.0	34.3	35.1	37.4
Palm oil cake	101.0	100.0	109.4	88.0	60.1	77.7	60.7	63.1	51.4	44.6	35.8	47.7
Cotton	82.2	100.0	69.1	49.1	75.9	19.0	10.5	0.3	--	--	--	--
Cotton cake	315.0	100.0	213.3	180.0	--	101.7	133.3	290.0	--	--	--	--
Glycerine	83.0	100.0	92.5	64.2	101.9	203.8	150.9	215.1	162.3	113.2	90.6	62.3
Cocoa	99.1	100.0	136.2	135.8	110.7	106.2	121.0	98.6	88.4	98.2	79.7	95.2
Copal	78.6	100.0	51.8	14.3	26.8	7.1	5.4	33.9	1.8	--	--	--
Rauwolfia	112.2	100.0	126.5	130.6	91.8	49.0	69.4	161.2	226.5	57.1	36.7	67.3

Sources: Based on export volume figures given in Bank of Zaire, Rapport Annuel, various issues.

Table 9. Zaire: World Price Indices for Selected Agricultural and Agro-industrial Exports, 1970-80 ^{1/}

(In per cent)

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Coffee											
Arabica	100.0	80.1	94.2	124.0	131.4	148.0	268.0	517.8	296.5	320.1	374.2
Robusta	100.0	102.0	109.0	120.4	141.6	147.3	308.0	540.0	355.9	399.1	355.4
Cocoa	100.0	73.6	81.7	147.5	219.1	147.1	249.1	469.0	320.5	265.0	217.3
Tea	100.0	96.4	96.1	97.0	127.9	127.9	140.1	243.5	200.2	198.4	204.4
Palm oil	100.0	95.3	72.3	99.1	188.4	112.4	113.8	139.0	139.2	...	140.3
Palm nut oil	100.0	89.0	60.9	101.0	235.6	88.9	99.4	132.3	136.1	182.6	142.6
Palm oil cake	100.0	89.4	85.1	116.5	117.6	101.0	111.2	112.5	94.2	106.7	109.2
Cotton	100.0	115.5	136.7	235.1	223.2	185.6	278.3	247.5	237.0	251.2	330.3
Rubber	100.0	76.9	73.0	133.6	146.7	103.1	154.5	150.8	151.1	176.0	212.2
Timber	100.0	103.7	104.9	127.3	163.6	158.9	241.4	284.7	279.7	...	...

Sources: Based on daily average quotations, in foreign currency units, given in Bank of Zaire, Rapport Annuel, (various issues); and data provided by the Bank of Zaire.

^{1/} Where more than one price series has been given, e.g., for different ports and different types of a product, one series considered sufficiently representative has been chosen. This has applied particularly for rubber and timber.

attaining internal and external balance in the medium run. There are two broad areas of direct supply-oriented policies that are relevant here; viz., (1) fixed investment policies of the authorities and (2) policies toward the private sector. It is a position of this paper that in both these broad areas Zaire's economic policy was such as to seriously constrain the growth of capacity output and export potential over the medium run.

During the years 1967-74 when the ratio of gross fixed investment (GFI) to GDP was rising, mainly due to large-scale investment by the public sector (Government and state enterprises) with much of this investment being financed by rapidly rising net inflows of (foreign) capital to the public sector, by far the bulk of public investment was directed at the infrastructural sectors particularly the electricity and water sectors. Although the public sector participated in fixed investment projects in the directly productive sectors, outside of GECAMINES ^{1/} (the state-owned company responsible for mining the bulk of Zaire's minerals including about 90 per cent of its copper and all of the cobalt) such investments were not (especially in the years 1967-74) as substantial as those for the infrastructural sectors. For instance, the Debt Reporting System of the IBRD (World Bank) indicates that during 1970-77, 59 per cent of the external loan commitments to the public sector was for infrastructural projects and only 16 per cent was for projects in the directly productive sectors; the remaining 25 per cent was for miscellaneous projects and non-project loans (including those for the military). ^{2/}

While public investment was biased toward the infrastructural sectors, the particular subsectors preferred were not those with the greatest impact on the directly productive sectors over the medium run. In particular, the transport subsector was neglected, especially the construction and maintenance of roads linking agricultural with marketing areas, as well as the upkeep of equipment for, and safety along, the vast river transport network. Also given low priority were general marketing facilities for agricultural produce (e.g. warehouses and vehicles). This neglect of the transport subsector inter alia led to a decline in transport activity of the principal state transport enterprises and offices. Consequently, by 1978 when real GDP was 1.4 per cent below its 1970 level the real activity index of these institutions had declined by as much as 13.4 per cent below the 1970 level.

^{1/} GECAMINES was founded in 1906 as the Union Minière du Haut-Katanga (UMHK) a Belgian company, and after initially working on gold deposits, the company started mining copper near Lubumbashi in 1911. The Congolese Government nationalized Union Minière's assets in 1967; the assets were assumed by a newly created state-owned company, "La Générale Congolese des Mines" (GECOMINES). In 1971 the latter company was renamed "Générale des Carrières et des Mines du Zaire" (GECAMINES). The company is under the direct supervision of the "Bureau de la Présidence" of Zaire.

^{2/} See IBRD, Zaire, Current Economic Situation and Constraints, May 1980, p. 39.

Regarding policies toward the private sector there were three noteworthy aspects that especially militated against rapid expansion of the productive sectors. These were attempts at Zairianization, increasing controls and regulation, especially of prices, and thirdly poor extension and training services, and official pricing policies, in agriculture.

The policy of Zairianization - increased local (i.e., Zairian national) ownership and control of capital in enterprises operating in Zaire - was part of a set of policies designed to bolster "economic independence" for Zaire. In 1973, a year in which the export price index increased by 36 per cent and the terms of trade index rose by 9 per cent (Table 5) and with economic prospects fairly good, at least from a purely financial point of view, the Government of Zaire extended its policy of "authenticité" in the economic sphere. Beginning December 1973 medium- and small-scale enterprises operating in the agricultural, commercial services and construction sectors were to be Zairianized. In the process, within the space of three to four months, hundreds of plantations, ranches, small- and medium-sized retail and other distribution establishments, as well as construction firms, which had hitherto been owned by foreigners, were expropriated and sold (generally on credit) to Zairians deemed competent and trustworthy. 1/

As the economic prospects became gloomy, following a sizable drop in the terms of trade in 1975, while the Zairian nationals to whom the enterprises had been sold proved, for the most part, unable to efficiently manage the businesses, and thus to pay off their credits, the Zairian Government in 1976 began to take steps to return the confiscated enterprises over to their original owners if they were willing to sell shares to Zairians. But at least two things resulted from the attempt at Zairianization. One was a stagnation or decline in real output in certain productive sub-sectors due to the lower general efficiency of the managers that took over the operations of the enterprises localized. Another was that a tremendous amount of uncertainty was induced in the business community, particularly among foreign entrepreneurs, with adverse effects on business investment, that lasted at least through 1981.

Over the years 1967-74, when the opportunity for rational economic decision-making existed, direct economic controls and regulation of private enterprise by the Government increased. Some of these were in the nature of second-best solutions that had been made necessary by the financial policies discussed above. Hence the rapid increase in base money made it seem imperative to directly control credit allocation in order to artificially reduce the multiplier effects on domestic credit and the money stock. Similarly, with a nominal exchange rate that was increasingly overvalued, the adverse effects on export earnings as well as the proliferation of parallel market exchanges that followed resulted in a reduced supply of foreign exchange

1/ For the author's view on the sensitive issue of localization in Africa see Omotunde E.G. Johnson, "On The Economics of Localization in Africa", Eastern Africa Economic Review, Vol. 4, No. 2 (December 1972), pp. 53-66.

to official channels as well as an excess demand for foreign currency in those same official quarters. Hence it became necessary, by means of official guidelines, to try to directly allocate foreign exchange to alternative users.

There were other controls and regulations which, instead of being second-best responses to financial disequilibria created by inappropriate policies, were themselves the generators of such disequilibria. We have already had the occasion to mention the existence, for instance, of interest rate controls; it suffices to state now that by reducing the demand for money in the face of inflationary pressures these controls only aggravated the inflation.

Finally, there were those controls and regulations which emanated from serious distributional considerations. Virtually all ex-factory prices of domestically produced commodities were controlled in the hope of dampening profit margins and limiting the perceived opportunity of businessmen to 'exploit' local consumers in a situation of monopolistic and oligopolistic markets that were often also shielded from foreign competition either directly through high tariff walls or indirectly through "shortage" of foreign exchange for competing imports. Similarly, minimum producer prices were established in order to "protect" small peasant farmers in market settings with very few wholesalers and distributors vis-à-vis hosts of small peasant farmers.

It became increasingly obvious, nevertheless, especially after 1978, that the controls and regulations were indirect means of tackling the economic problems at hand or based on misunderstanding of the important sources of the problems. Also many controls could not be enforced at all or evenhandedly and created distortions. A typical case was manufactured consumer goods produced locally the ex-factory prices of which could be effectively controlled, in view of the fewness of producers, whereas the prices along the distribution chain could not be as effectively controlled, increasing the profitability of retailing and commerce and diverting a more than optimal amount of productive resources into those activities. Finally, it was clear that many controls and regulations by reducing the incentives for efficiency and for increasing production had adverse consequences on many directly productive subsectors contributing to the relative slow growth of real output.

Although the poor state of agricultural extension services and training facilities were a seriously disruptive aspect of official policies in agriculture, there was no doubt that the uncertainties regarding official pricing policies in the agricultural sector were also important. In particular, where official producer prices in agriculture were maintained in Zaire, they were considered minimum prices below which transactions could not legally take place but above which they were free to fluctuate according to market conditions. Nevertheless, there were areas of the country where local authorities enforced such prices as if they were designed to be maximum prices creating uncertainty among decision-makers.

III. The Adjustment Effort, 1979-81

Once the macrodisequilibrium problem is seen in the light we have tried to present it, it should be obvious what the thrust of "adjustment" policies should be. The details of policy measures are of course worked out within such a framework. Although it is not intended to enter into any great detail as to policy measures, a flavor will be given as to what it is that the Zairian authorities with the help of several creditors and potential creditors ("financiers") have been trying to accomplish, and we shall see rather briefly the extent to which they have been able to move in the desired direction as regards the significant macroeconomic variables that we have been discussing.

Certain real world constraints were operating to make the required adjustment effort greater than the authorities appeared able to achieve. Zaire's external terms of trade continued to decline while capital inflows from abroad, which had masked the earlier disequilibrium, experienced a substantial decline. For example, in 1981 the terms of trade index was 8 per cent below the level of 1978, when it had been lower than for all previous years since at least 1969. In the case of capital, gross inflows of public capital during the three-year period 1979-81 averaged SDR 205 million, compared with SDR 297 million in the six-year period 1973-78 and SDR 346 million in the three-year period 1976-78; as for private capital (including errors and omissions) there was a sizable negative net outflow throughout the four-year period 1978-81 (Table 4).

To ease the pressure, Zaire was able to receive balance of payments assistance from external "financiers" in various forms. Apart from debt relief by commercial banks, and by official creditors within the framework of the Paris Club (see below), following three meetings in Brussels in June and November 1978 and in November 1979, Zaire received special balance of payments assistance totaling some SDR 50 million each in 1979 and 1980, both in kind and in financial resources for the import of foodstuffs, fuels, raw materials, and spare parts. Additionally, Zaire's foreign liabilities were allowed to increase slightly over the period from SDR 356 million at end-1978 to SDR 417 million at end-1981, despite the substantial decline in the level of those liabilities in 1979 and 1980 (to SDR 230 million and SDR 292 million, respectively); 1981 was a year of enormous financial strain for the country due to serious shortfalls in export earnings and capital inflows.

An important source of balance of payments support during the period 1979-81 was the IMF. In August 1979 the Fund approved an 18-month stand-by arrangement in an amount equivalent to SDR 118 million and again in June 1981 a three-year extended arrangement was approved for an amount equivalent to SDR 912 million. As a result, Zaire was able to make drawings from the Fund totaling SDR 20 million in 1979, SDR 78 million in

1980, and SDR 195 million in 1981; Zaire could have obtained an additional amount of SDR 100 million in 1981 if the performance criteria established for end-September 1981 had all been observed.

The modus operandi of economic policy (adjustment) in the period 1979-81 could be stated rather broadly as follows: (1) to reduce the real exchange rate i.e. reduce the ratio e/PPP ; (2) to raise the savings ratio (i.e. reduce C/Y); (3) to lower the effective contractual debt service ratio DS/X ; (4) to improve the allocation of fixed investment by the public sector; (5) to improve economic organization in the agricultural sector; and (6) to reduce controls over price formation in the private sector. The aim was to achieve specific targets which had been set for growth (real GDP), the rate of inflation, the current account and the overall deficit of the balance of payments, as well as for the reduction of external payments arrears.

1. Reducing the real exchange rate of the zaire

In order to reduce e/PPP the policy during the period was to effect straight-forward devaluations of the zaire at the same time that policies to reduce domestic inflation relative to foreign inflation were being implemented. Thus, following the 50 per cent devaluation of the zaire in terms of the SDR between October 31, 1978 and January 2, 1979, the zaire was devalued further by 25 per cent in August 1979, by 30 per cent in February 1980, and by 40 per cent in June 1981. The nominal value of the zaire thereby declined from $Z\ 1 = \text{SDR } 1$ at end-October 1978 to $Z\ 1 = 0.1575$ at the end of 1981.

The attempt to reduce domestic inflation, given the limited prospects for real output growth, meant a heavy reliance on policies to dampen domestic credit expansion. In view of the dominant share of credit to the Government in domestic credit and the attempt to permit an expansion of bank credit to the private sector which was in tune with revitalizing real economic activity, particularly in the directly productive sectors, great weight was placed in containing the expansion of bank credit to the Government. At the same time, given the continued rapid expansion of the domestic credit component of base money, it was necessary to take measures which either absorbed some of the excess reserves of the banks (e.g. through raising minimum reserve requirements) or reduced the amount of credit to the private sector that could be extended from any excess reserve base. Therefore, in addition to the minimum reserve requirement, the Bank of Zaire (the Central Bank) continued to maintain global and selective credit ceilings and its policy of prior approval of all credit not subject to ceilings. It may be noted that between February 1974 and April 1976 the Bank had relied only on the minimum reserve requirement and the rediscount tool as the instruments with which it would conduct credit policy. Between 1976 and 1981 not only were direct controls in force but they also became increasingly tight in the sense that the ratio of base money available to

commercial banks tended to increase relative to the amount of credit they were permitted to grant to the private sector. As a result, the ratio of the domestic credit component of base money to credit to enterprises and households, on a quarterly average basis, rose throughout the period 1977-81 except in 1980 following an unexpectedly small expansion of credit to the Government; hence whereas in 1977 the ratio was 139 per cent, it was 219 per cent in 1981.

Controlling base money expansion through containing the growth of net claims on Government by the banking system was a much more difficult problem to tackle during our review period. There were political, social and management constraints on reducing the budget deficit through raising revenue collections and through reducing nondebt expenditure of the Government. In the case of expenditure, certain items have been especially difficult to constrain; these items are defense, the wage bill in primary and secondary education, and dotations of the Presidency and Political Institutions.

It is a moot question as to what is the "true" nature (the essence) of what we have simply called here "political, social and management constraints" on reducing the budget deficit. On the revenue side, what seems clear is that the government machinery is not sufficiently equipped to properly assess taxes in a complex economic environment and does not, in fact, often possess the data to do so or have the necessary authority to ensure that all taxes due are collected. On the expenditure side, it appears that the authority and ability to contain expenditures in certain directions are rendered difficult by evident pressure to appease diverse factional interests or improve the security situation in the country, or, in essence, to keep the nation as one geographical and political entity. Expenditure restraints are also frustrated by the limited administrative capacity in the face of a large country with relatively underdeveloped communication and transportation facilities; these contribute to virtual inability to control determined attempts at unauthorized use of public funds.

In addition, the growth of net bank claims on Government was difficult to control in view of the heavy burden of debt service payments. Actual payments of external debt service as a fraction of government budgetary revenue rose from 18 per cent in 1979 to 22 per cent in 1980 but returned to about 18 per cent in 1981; such revenue rose by 94 per cent in 1980 and by 27 per cent in 1981.

The much higher rate of expansion of the money stock in 1979-81 as compared with the rate achieved during the 11-year period 1968-78 (47 per cent as compared with 28 per cent) meant a higher rate of domestic inflation given real GDP growth and the income elasticity of demand for real money balances (see equation 7). Nevertheless, some progress was made on the inflation front; in 1980 and 1981 the rates of inflation were lower than that for any one of the years 1976-79. Therefore, given the currency devaluations discussed before and foreign inflation (see Table 5), the ratio e/PPP declined from 209 per cent in 1978 to 126 per cent in 1981 (with 1975 as 100).

2. Increasing the savings ratio

Despite declining per capita income and the difficulties mentioned above in containing the budgetary deficits of the Government, some progress was achieved in reducing the ratio of consumption to GDP; the ratio declined from 86 per cent in 1978 to 75 per cent in 1980 and is very tentatively estimated to have remained at about that level in 1981. Of particular interest is that as the ratio of budgetary revenue to GDP increased somewhat during the period (20 per cent in 1981 as compared with 13 per cent in 1978), and with declining inflation and its salutary effect on real money demand, the ratio of private consumption to GDP declined faster than the C/Y ratio inclusive of the Government. Indeed the ratio of private consumption to GDP which was 70 per cent in 1978 declined to 55 per cent in 1980; over the same period, the ratio of government consumption to GDP rose from 16 per cent to 20 per cent.

Apart from inducing a decline in the inflation rate, an attempt was also made to increase the average level of interest rates of commercial banks with a view to increasing real money demand. This was accomplished either through direct increases in deposit rates or by permitting some rates to be set freely (see below). As a result, real interest rates, even though still negative, were far less so at end-1981 than they had been in 1978 and 1979. For example, between 1978 and 1981 the rate of domestic inflation declined by 27 per cent while nominal deposit rates paid by commercial banks rose by 54-100 per cent for savings deposits and for time deposits between 3 and 24 months.

3. Lowering the effective debt service ratio

For 1979-81 the debt service ratio could not have been much reduced by borrowing policies effected during that period. Consequently, apart from attempts to improve the terms of new external debt contracted so as to forestall aggravation of the debt service burden in the future, it was felt that the contractual debt service ratio could be effectively reduced in the short run to medium run only by rescheduling of payments falling due within the 1979-81 period. This was all the more so as export prospects in the immediate future were not particularly good.

After long and hard negotiation a Refinancing Credit Agreement between Zaire and a syndicate of commercial banks was signed in late April 1980 and became effective in early May 1980. With that agreement the commercial banks rescheduled their outstanding credit to Zaire, including arrears, as of January 21, 1980 over a 10-year period. Similarly, there were agreements within the framework of the Paris Club in December 1979 and in July 1981 to reschedule certain accumulated arrears as well as debt service payments falling due within a one- to two-year period (July 1979-December 1980 in the first case and January 1, 1981-December 31, 1982 in the second case). From an adjustment point of view Zaire was able to obtain "financing" for its balance of payments deficit through rescheduling of external debt arrears and service payments equivalent to about SDR 1,200 million in 1980

but substantially less in 1981 (Table 4); the effective debt service due was reduced below the nominal debt service due.

4. Improving the fixed investment policies of the public sector

As part of their adjustment effort the Zairian authorities launched, in late 1978, a public investment program covering the three-year period 1979-81 with a view, *inter alia*, to improving the efficiency of allocation of fixed investment of the public sector. Although complete data on the execution of the program are not available, in 1979-80 only 63 per cent of the investment planned during that period was implemented. The execution of the program was constrained by the shortage of financial resources, the pursuit of ongoing projects outside of the program, and management deficiencies at the project level especially in the agricultural sector. But the experience gained from the experiment was useful in framing a public investment program for 1981-83; the latter, adopted in April 1981, was more comprehensive, supposedly encompassing all ongoing and new projects planned for execution by the Government and public enterprises.

Both the 1979-81 and the 1981-83 public investment programs emphasized agriculture and mining while transportation projects were confined to maintenance and rehabilitation of existing network with significant and positive effects on the directly productive sectors in the short to medium term. Energy also featured in an important way but the emphasis remained the development of the country's large hydroelectric resources through, notably, the completion of the Inga-Shaba hydroelectric complex to which substantial resources had been allocated since 1974.

5. Improving economic organization in agriculture

The Zairian authorities have placed great importance on improving economic organization in the agricultural sector, hoping thereby to increase the incentives for increased private participation in agriculture. In the 1979-81 period, steps were taken to improve institutional arrangements, alleviate transportation bottlenecks and provide farmers with necessary imported inputs and a reasonably adequate credit, as well as to liberalize the pricing system. Working together with private firms and various religious institutions, steps were taken to improve extension services and organize small farmers in certain regions. Furthermore, through a system of so-called "development agreements", the authorities were able to provide agricultural processing industries with price incentives to expand their production of raw materials.

At the end of 1981, however, the progress achieved in the agricultural field was not perceptible. The World Bank was working closely with the Zairian authorities to map out a clear-cut and improved agricultural strategy to overcome existing structural and other problems. For it was not clear

that the private sector's response to the steps so far taken had been enthusiastic, the transportation and other marketing bottlenecks remained acute, while agricultural growth was still virtually zero.

6. Reducing controls over price formation

A final important direction of the adjustment process in Zaire, where some strides were made in the 1979-81 period but much remained to be done, was the liberalization of the price formation process. In particular, effective June 1, 1981 price controls were lifted on a wide range of goods and services leaving controls at the ex-factory, wholesale, and retail levels only on certain categories of goods considered of strategic importance. ^{1/} Even in those cases, controls were being administered flexibly with requests for price increases being considered automatically approved if the government department concerned with price control did not react within 30 days. At around the same time, minimum producer prices were eliminated for coffee and palm fruits leaving such a regime only for cotton, maize, manioc and rice (paddy). The authorities made it explicitly known that minimum prices were strictly floor prices above which all transactions between producers and buyers were freely negotiable.

It is noteworthy that despite price liberalization measures and the sizable devaluations that occurred in 1980 and 1981 the inflation rate was reduced. This, prima facie, underlines the importance of domestic credit expansion in determining inflation (given GDP growth and the income elasticity of money demand), the widespread nature of the parallel market in Zaire which had already internalized the bulk of the potential price effects of devaluations (for given money stocks) and the ease with which price controls had been evaded.

In the field of interest rates, apart from the policy of raising them with a view to ultimately ensuring that they would be positive in real terms, the authorities were committed, during the 1979-81 period, to a policy of gradually freeing some of the rates from any central bank control. In keeping with this approach, in March 1980 the authorities permitted time deposits for periods greater than 24 months to be set freely and in April 1981 they permitted the commercial banks to freely set loan rates in the cases of rediscountable short-term loans other than for production and equipment, for rediscountable medium- and long-term loans other than for equipment in agricultural and agro-industrial activities, and for all non-rediscountable credit of a medium- and long-term nature.

IV. Concluding Remarks

It is clear that at the end of 1981 the Zairian policymakers were still far from accomplishing the task of neutralizing or removing the factors which had been responsible for the macrodisequilibrium that the

^{1/} These were palm oil, wheat flour, sugar, petroleum and pharmaceutical products, construction materials other than wood, water, electricity, and internal public transport.

economy suffered since the mid-1970s. In particular, the real exchange rate was still relatively high, the fixed investment policies of the public sector needed improvement in formulation and implementation, economic controls and regulations needed to be re-examined, and agricultural organization required more concerted action within a clear formal framework; but some progress had been made in reducing the consumption ratio relative to the debt service ratio.

To conclude, in Zaire it would seem that an enormous export potential exists in the agricultural sector, while from a general growth standpoint an additional potential is the further development of the agro-industrial sector. To realize such potential not only must there be investments to remove or alleviate physical infrastructural bottlenecks but also the domestic (internal) terms of trade must shift in favor of these sectors. This means, particularly for the agricultural sector, that the e/PPP ratio must decline while the domestic pricing policy must be such as to permit such a decline in e/PPP to be translated automatically into an increase in the domestic currency prices of export goods and import-substitutes relative to the prices of purely domestic (nontraded) goods. But we have argued that in Zaire there are political, social and management constraints in reducing the budget deficit which can be legitimately considered the primum mobile of domestic credit expansion and thus of domestic inflation at rates greater than foreign inflation rates. The implications are obvious. First, to reduce e/PPP greater emphasis may have to be put on reducing the absolute level of e . But second, the same social, political and management constraints which make it difficult to contain the deficit, when taken in conjunction with the fact that external debt in domestic currency terms increases pari passu as e declines, would mean that there could be a large absolute elasticity of the budget deficit with respect to exchange rate depreciation.

This last point is important and cannot be overemphasized. For if there were no chance that the social, political and management constraints could work to neutralize the effect of exchange rate depreciation the solution to lowering e/PPP would be relatively easy; it would involve continuous depreciation (e.g. through floating) of e with not much weight being put on weakening the "stranglehold" of the constraints. But if there is such a chance (that the constraints work to neutralize the positive effects of the depreciation on relative prices) then continuous depreciation would result in a virtually vicious circle, with a stable growth equilibrium, at an extremely low exchange rate for the zaire, to be attained at some date far in the future. The upshot would be that, in our view, economic policy in Zaire which is attempting to reduce e/PPP must involve, in addition to action on e , concerted efforts to remove the social, political and management constraints that have made the budgetary deficit so difficult to grapple with, as well as attempts to reduce, through the aid of financiers, the immediate burden of external debt service.