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Effects of Macroeconomic Stability on Growth, Savings, and Investment in Sub-Saharan Africa: An Empirical Investigation

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Abstract

The analysis of this paper indicates that the unsatisfactory overall economic performance of sub-Saharan African countries during 1986-93 was due to inappropriate policies pursued by a number of countries. The countries that have pursued broadly appropriate adjustment policies have performed much better, achieving positive per capita GDP growth. The analysis is supported with an econometric investigation of the effects of macroeconomic policies, structural reforms, and exogenous factors on economic performance. The results indicate that progress in achieving macroeconomic stability and implementing structural reforms have been conducive to better growth, savings, and private investment.

JEL Classification Numbers:

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Summary

This paper contributes to the debate on the factors that have accounted for the generally poor economic performance of sub-Saharan Africa. It provides a detailed assessment of economic performance during 1986--93 of sub-Saharan African countries as a group, and of selected, analytically interesting subgroups of countries. The analysis focuses on the evolution of sectoral savings, investment, and net financial balances and is supported by an econometric investigation of the impact of macroeconomic policies, exogenous factors, and structural reforms on growth, savings, and investment performance, as well as by an assessment of the impact of foreign assistance. The paper thus extends to sub-Saharan Africa the econometric analysis of the impact of macroeconomic stability on economic performance already undertaken by several researchers for developing countries generally, and for those in Asia and Latin America in particular.

The paper's analysis indicates that the unsatisfactory overall economic performance of sub-Saharan African countries during 1986--93 was due to inappropriate policies pursued by a number of countries. The countries that have cushioned the impact of the large cumulative losses in their terms of trade, through improvements in their external competitiveness and the implementation of broad-based structural reforms, have done better than others. These countries achieved higher rates of government savings and private investment, as well as positive per capita real GDP growth and lower inflation, during this period. Countries with positive per capita real growth were characterized by positive government savings, increases in government investment, and strong increases in private savings and investment. In contrast, countries with negative per capita real growth were characterized by declines in savings and investment by both the government and the private sector.

These findings are supported by the results of the econometric investigation undertaken in this paper. The sub-Saharan African countries that experienced a relatively more stable macroeconomic environment achieved higher rates of growth, domestic savings, and private investment. In addition, progress toward implementing structural and institutional reforms, by providing the necessary environment for private sector development, led to better economic performance. Macroeconomic stability is found to contribute to sustainable growth through its beneficial effects on the efficiency of private investment. Other important factors that are adjudged to influence economic performance include human capital development, the level of government investment, the level of foreign assistance, the state of financial intermediation, and exogenous shocks.

A policy implication of the findings of this paper is that progress toward macroeconomic stability and the removal of structural rigidities would have sizable and immediately realizable regional payoffs in terms of accelerated growth in real per capita incomes.

I. Introduction

1. Background

The experience of sub-Saharan African countries with structural adjustment has been extensively reviewed by several studies over the past few years, both inside and outside the Fund. 1/ The renewed interest in developments in African countries has been prompted by the less than satisfactory record of performance of Africa as a whole over the past two decades. In addition, it has reflected efforts to assess the adjustment experience and the appropriateness of the adjustment strategy espoused by the Fund and the World Bank and pursued by an increasing number of African countries, as well as to draw lessons for the policy challenges for the rest of the 1990s. The present paper attempts to contribute to this debate, by providing a detailed assessment of the economic performance during 1986-93 of sub-Saharan African countries as a group and of selected analytical subgroups of countries. To this end, the paper focuses on two main approaches: first, an assessment of the evolution of the savings, investment, and net financial balances of the government and private sectors for the various country groups; and second, an econometric evaluation of the relative contribution of policy and exogenous factors, such as terms of trade losses, to the growth, savings, and investment performance of sub-Saharan African countries, as well as an assessment of impact of foreign assistance.

In broad terms, the existing studies on the African experience have shown that the countries that have successfully implemented structural adjustment programs have achieved a significant reduction in their domestic and external imbalances, consistent, on average, with an acceleration in real GDP growth and gains in real per capita incomes; for the most part, however, these gains have been masked by the weak performance of the nonadjusting countries, resulting in a further decline in real per capita income for sub-Saharan Africa as a whole (Table 1).

Nonetheless, progress in removing structural and institutional rigidities and strengthening the supply response of the private sector, while broadly positive, has been uneven across countries and has fallen short of initial expectations. Notably, the progress in reforming the public enterprise and financial sectors, and the legal and administrative frameworks has been modest, owing in part to the weak management and implementation capacity of the public sector and the severity of the initial distortions. Furthermore, virtually all sub-Saharan African countries continue to be confronted with deep-rooted developmental constraints, such as low human capital base, rapid population growth, and environmental degradation. Overall, savings and investment balances, particularly of the private sector, remain too low to support a sustainable expansion in output. As can be expected, while significant progress has already been made by

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1/ These studies include Hussain and Faruqee (1994), IMF (1993a and 1993b), Mastricht (1990), Nsouli (1993), Patel (1992), Schadler and others (1993), and World Bank (1989a, 1991, 1993, and 1994). The adjustment experiences of Ghana and The Gambia were also reviewed by Kapur and others (1991) and Hadjimichael and others (1992), respectively.

Table 1. African Countries: Comparision of Economic Performance

(Annual percentage changes; or in percent)

	1976-85	1986-92	1993	1994
	Actual		Est.	Proj.
Africa				
Real GDP	2.4	2.1	1.1	3.4
Real per capita GDP	-0.4	-0.6	-1.5	0.6
Savings/GDP	23.9	18.9	17.9	18.5
Investment/GDP	27.2	21.0	20.4	20.1
Sub-Saharan Africa				
Real GDP	2.6	2.0	1.2	3.4
Real per capita GDP	-0.2	-0.7	-1.6	0.6
Savings/GDP	12.9	11.8	10.2	12.6
Investment/GDP	18.8	18.6	17.1	18.9
Memorandum items:				
All developing countries				
Real GDP	4.5	4.9	6.1	5.5
Real per capita GDP	2.0	2.7	4.4	3.5
Savings/GDP	24.2	24.5	24.0	24.2
Investment/GDP	25.6	25.7	25.5	26.6
Asia				
Real GDP	6.4	7.0	8.4	7.5
Real per capita GDP	4.4	5.3	7.2	5.7
Savings/GDP	26.0	30.0	29.7	29.8
Investment/GDP	27.3	30.4	31.5	31.5
Middle East and Europe				
Real GDP	3.5	3.7	4.7	3.0
Real per capita GDP	-0.2	0.5	2.2	0.4
Savings/GDP	28.2	18.9	17.7	16.7
Investment/GDP	24.9	21.8	22.0	20.7
Latin America				
Real GDP	3.3	2.3	3.4	2.8
Real per capita GDP	0.9	0.2	1.5	0.8
Savings/GDP	19.5	19.1	16.6	16.8
Investment/GDP	22.5	20.6	19.7	20.1

Source: IMF, World Economic Outlook, May 1994.

several countries, much more remains to be done, as economic adjustment and the attainment of development objectives is a permanent challenge for all developing countries.

A number of key lessons can be drawn from the recent adjustment experience of sub-Saharan African countries. First, the experience of several developing countries under Fund-supported adjustment programs seems to indicate that the adjustment strategy supported by the Fund is conducive to improved economic performance. This strategy emphasizes (a) the restoration of an appropriate structure of relative prices and economic incentives through reliance on market-based instruments of policy; (b) the attainment and maintenance of macroeconomic stability; and (c) the undertaking of structural, institutional, and administrative reforms so as to enhance the efficiency of resource allocation and establish an environment more conducive to private sector development. 1/ Second, attainment of macroeconomic stability is a necessary but not a sufficient condition for strengthening economic performance. To this end, appropriately restrictive macroeconomic policies need to be combined with a broad range of structural and institutional reforms. The sequence of reforms is important, so as to ensure that they are self-reinforcing and that they lower the adjustment costs, particularly for the most vulnerable socioeconomic groups. Third, strong political commitment to reform and domestic ownership of the adjustment programs are essential prerequisites for the success of these programs. Such a commitment is critical for the effective implementation of the economic strategy and the modification of this strategy in light of changing domestic and external conditions. Finally, timely availability of external technical and financial assistance is also crucial for the success of the reform efforts.

Notwithstanding the growing consensus on the appropriateness of market-oriented policies, a number of alternative assessments of the economic performance of sub-Saharan African countries have also been made by commentators outside the Fund during the past few years. 2/ In an

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1/ The emerging consensus on the appropriateness of market-oriented policies for developing countries is also gaining increased acceptance in the development economics literature. In his review of the recently issued Handbook of Development Economics (Chenery and Srinivasan (eds.) (1989)), Albert Fishlow (1991, p. 1728) notes that "now there is widespread acceptance of a microanalytic maximizing framework and modern macroeconomic and trade models even by those of more radical bent. The remaining important differences come down to whether this common theory justifies interventionist policies in the setting of developing countries. More often than not the advantage in recent years both in academic debate and policy has been with the minimalists. They call for market forces rather than industrial policy, openness rather than import substitution, and macroeconomic rules rather than discretion."

2/ For a brief review of some alternative approaches, see Killick (1993) and The Economist (1994), as well as United Nations (1989).

environment of heightened expectations with regard to alleviating poverty and raising living standards, some of these assessments have attributed the continued decline in real per capita incomes for African countries as a group to the policies being pursued by several countries under Fund-supported adjustment programs. They have advocated instead more interventionist policies, despite the accumulated evidence on the ineffectiveness of such policies. 1/

A more comprehensive and realistic assessment of the sub-Saharan countries' economic performance would need to recognize that judgements about the appropriateness of policies cannot be based solely on movements in aggregate statistics. Explicit account needs to be taken of the diverging trends in the performance of countries effectively implementing appropriate adjustment programs (the bulk of which have been supported by the use of Fund resources) on the one hand, and nonadjusting countries on the other. Inappropriate domestic economic policies have been a major contributing factor to the observed weaknesses in economic performance of several countries. In addition, account should be taken of the impact of exogenous economic shocks and, just as importantly, of developments in non-economic factors within each country. In recent years, African countries have been confronted by an unfavorable external environment. The weakening in economic activity in industrial countries since the mid-1980s has contributed to a sharp decline in the world prices of the agricultural and mineral primary commodities exported by sub-Saharan African countries, thus resulting in a major deterioration in their terms of trade. On a number of occasions, the impact of the decline in the terms of trade has been exacerbated by unfavorable weather. In view of the large share of GDP typically accounted for by agriculture and the high proportion of the population living in rural areas in African countries, unfavorable weather tends to have a pronounced effect on output growth and the plight of the rural population. For example, the severe drought in Southern Africa during 1992 substantially reduced agricultural production and exports in all Southern African countries.

The economic performance of African countries has also been influenced to varying degrees by developments in a host of important and interrelated noneconomic factors. Ethnic conflicts have beset several African countries, causing political instability, adverse security conditions, or even protracted civil wars. Unavoidably, under such conditions economic activity is severely disrupted, and economic management becomes very difficult. The

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1/ For empirical evidence supporting the adverse effects of interventionist policies, see Agarwala (1983), Alam (1991), Cottani and others (1990), Dollar (1992), Edwards (1988 and 1992), and Ghura and Grennes (1993). A recent study by the World Bank (World Bank (1993)) indicates that selected intervention policies have successfully been implemented by certain of the high performance South East Asian economies, but notes that the special factors that had facilitated the effective implementation of such policies are unlikely to be easily reproduced elsewhere.

limited progress in resolving ethnic conflicts or disputes, and the resulting political instability, have undermined the social cohesion and have not facilitated the emergence of national identity. In such a framework, implementation problems arise even for the simplest economic policies. These difficulties have often been compounded by the legacy of repressive regimes in several African countries and the associated lack of effective systems of checks and balances, as well as by bloated and inefficient public administrations, ineffective judicial systems, and complex administrative and institutional frameworks. Weak economic performance, in turn, has exacerbated social and political tensions.

Notwithstanding these difficulties, major progress was made during the second half of the 1980s and the early 1990s in improving the economic performance of several sub-Saharan African countries. An increasing number of these countries either adopted or intensified the implementation of comprehensive adjustment programs, supported by financial arrangements from the Fund, particularly under the structural adjustment facility (SAF) and the enhanced structural adjustment facility (ESAF), as well as assistance from the World Bank and other bilateral and multilateral donors. The number of sub-Saharan African countries with Fund-supported programs rose from very few in the early 1980s to 24 by the early 1990s (out of a total of 44 countries), of which 22 were countries with arrangements under the SAF/ESAF. 1/ At the same time, however, civil wars, security problems, or major political instability in 11 countries (Angola, Burundi, Liberia, Mozambique, Nigeria, Rwanda, Sierra Leone, Somalia, Sudan, Togo, and Zaire) have resulted in a worsening in their economic conditions at least for a part of the period since 1985. In some countries, the economic liberalization efforts coincided with major progress toward political liberalization, entailing the lifting of the ban on the formation of political parties, the adoption of new more democratic constitutions, and the holding of multiparty parliamentary and presidential elections.

2. Scope of this study and main results

This paper focuses on economic developments in 41 sub-Saharan African countries covered by the African Department of the Fund during the period 1986-93, based on the Economic Trends in Africa database maintained by the African Department; 2/ thus, its coverage is somewhat narrower than that of the Fund's World Economic Outlook (WEO), as it excludes Angola and

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1/ For a comprehensive review of the experience with structural adjustment of 19 countries that had entered ESAF arrangements as of mid-1992 (most of which are sub-Saharan African countries), see Schadler and others (1993).

2/ This database comprises a subset of economic variables included in the Fund's World Economic Outlook, which are updated twice a year. The data for 1986-92 are actual, while the data for 1993 are provisional estimates.

Liberia, because of data limitations, and Djibouti, Mauritania, Somalia, and Sudan, which are covered by the Middle Eastern Department.

As highlighted above, sub-Saharan African countries share a number of common structural characteristics, relating mainly to their stage of economic and political development, climatic conditions, and level of human development. 1/ In many other ways, however, sub-Saharan Africa comprises a rather heterogeneous group of countries, in terms of their size, population, the level of GDP, institutional arrangements, and economic endowments. Some of these differences are summarized in Tables 2-4. Aside from South Africa, Nigeria is by far the largest African country in terms of population and GDP, accounting for 21 percent and 24 percent of the total, respectively, in 1992. Together with six other countries (Cameroon, Côte d'Ivoire, Kenya, Ghana, Zimbabwe, and Senegal), Nigeria accounted for 57 percent of sub-Saharan Africa's total real GDP in 1992.

In addition to sub-Saharan Africa as a whole, this paper considers a number of analytically interesting subgroups of countries, based on criteria related to institutional arrangements and economic performance (Table 5). The first criterion is membership in the CFA franc zone, given the limitation that this membership poses on the use of nominal exchange rate adjustments as an instrument of policy. During the period under review, CFA franc countries had to rely entirely on internal adjustment measures to address the adjustment needs resulting, inter alia, from a major worsening in their external environment. The differentiated economic performance of the CFA franc countries as a group in comparison with the other African countries has had a distinct influence on the performance of sub-Saharan Africa as a whole. The second criterion relates to ex post economic performance. Sub-Saharan countries are divided into two groups, depending on whether they have attained on average positive or negative (non-positive) real per capita GDP growth during 1986-92. It would be interesting to identify the main factors that contributed to the differentiated performance of these two groups of countries. Under the third criterion, countries are divided into three distinct groups depending on the need for or the implementation of appropriate adjustment policies. A small group of sub-Saharan African countries has been characterized in recent years by relatively low internal and external imbalances (countries with low macroeconomic imbalances); broadly speaking, these countries implemented appropriate policies during 1986-93 and did not need to adopt major adjustment programs with or without support from the Fund. The remaining countries have been classified in two other groups, depending on whether or not they adopted broadly appropriate policies under Fund-supported adjustment programs for at least three years during the period under review

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1/ With the exception of Mauritius, Seychelles, South Africa, Botswana, and Gabon, which are included by the United Nations Development Pregram in the group of countries with medium human development, all other sub-Saharan African countries are included in the group with low human development (UNDP (1993)).

Table 2. Sub-Saharan Africa: Real GDP in 1992 1/

Main countries	In millions of U.S. dollars (In constant 1990 prices)	Share in percent
Nigeria	33.7	23.9
Cameroon	9.9	7.0
Côte d'Ivoire	9.2	6.5
Kenya	8.4	6.0
Ghana	6.9	4.9
Zimbabwe	6.1	4.3
Senegal	5.7	4.0
Subtotal	79.9	56.6
Other countries	61.3	43.4
Total	141.2	100.0
Memorandum items:		
Total real GDP in 1992 (in constant 1990 prices)		
South Africa	96.9	
Belgium	199.4	
United States	5,645.4	

Sources: Economic Trends in Africa data, August 1993; and IMF, International Financial Statistics.

1/ Excluding South Africa.

Table 3. Sub-Saharan Africa: Population in 1992 1/

Countries with more than 10 million	In millions	Share in total population (In percent)
Nigeria	91.4	21.0
Ethiopia	52.4	12.0
Zaire	37.3	8.6
Kenya	25.7	5.9
Tanzania	25.1	5.8
Uganda	17.0	3.9
Mozambique	16.7	3.8
Ghana	15.2	3.5
Côte d'Ivoire	13.2	3.0
Madagascar	12.7	2.9
Cameroon	12.0	2.7
Subtotal	318.7	73.2
Other countries	116.7	26.8
Total population	435.3	100.0
Memorandum items:		
Population in:		
South Africa	38.9	
Belgium	10.0	
United States	255.0	

Sources: Economic Trends in Africa data, August 1993; and IMF, International Financial Statistics.

1/ Excluding South Africa.

Table 4. Sub-Saharan Africa: Per Capita Nominal GDP, 1992

A. Frequency distribution	
Range of per capita GDP	Number of countries
Above 2,000	5
1,000-2,000	4
500-1,000	6
200-500	19
Less than 200	7
B. Countries with the highest per capita GDP	In U.S. dollars
Seychelles	5,967
Gabon	4,870
Botswana	2,964
South Africa	2,954
Mauritius	2,587
C. Countries with the lowest per capita GDP	
Burundi	184
Sierra Leone	179
Uganda	173
Zaire	130
Ethiopia	128
Tanzania	116
Mozambique	63
D. Average per capita GDP for sub-Saharan Africa	
Including South Africa	547
Excluding South Africa	332

Source: Economic Trends in Africa data, August 1993.

Table 5. Sub-Saharan Africa: Analytical Country Groups

	AFR	CFA	NCFA	PPC	NPC	LMI	PIM	SAD
Benin	x	x			x			x
Botswana	x		x	x		x		
Burkina Faso	x	x		x			x	
Burundi	x		x	x				x
Cameroon	x	x			x		x	
Cape Verde	x		x	x			x	
Central Afr. Rep.	x	x			x		x	
Chad	x	x		x			x	
Comoros	x	x			x		x	
Congo	x	x			x		x	
Cote d'Ivoire	x	x			x		x	
Equatorial Guinea	x	x		x			x	
Ethiopia	x		x		x		x	
Gabon	x	x			x		x	
Gambia	x		x	x				x
Ghana	x		x	x				x
Guinea	x		x	x			x	
Guinea-Bissau	x		x	x			x	
Kenya	x		x	x				x
Lesotho	x		x	x				x
Madagascar	x		x		x		x	
Malawi	x		x		x			x
Mali	x	x		x				x
Mauritius	x		x	x		x		
Mozambique	x		x	x				x
Namibia	x		x	x		x		
Niger	x	x			x			x
Nigeria	x		x	x			x	
Rwanda	x		x		x		x	
Sao Tome & Principe	x		x		x		x	
Senegal	x	x		x				x
Seychelles	x		x	x		x		
Sierra Leone	x		x		x		x	
South Africa	x							
Swaziland	x		x	x		x		
Tanzania	x		x	x				x
Togo	x	x			x			x
Uganda	x		x	x				x
Zaire	x		x		x		x	
Zambia	x		x		x		x	
Zimbabwe	x		x		x	x		
Total	41	14	26	22	18	6	20	14

Note: The abbreviations are as follows: AFR: total sub-Saharan Africa; CFA: CFA franc countries; NCFA: Non-CFA franc countries; PPC: countries with positive average per capita growth during 1986-92; NPC: countries with negative average per capita growth during 1986-92; LMI: countries with low macro imbalances; PIM: countries with protracted imbalances; and SAD: sustained adjusters.

(sustained adjusters and countries with protracted macroeconomic imbalances). Admittedly, this criterion may contain some judgmental considerations, particularly as some countries were not able to maintain satisfactory performance throughout the period under review.

This paper provides a detailed assessment of the economic performance of sub-Saharan Africa. The analysis focuses in particular on developments in aggregate and sectoral savings and investment balances with a view to identifying the main differences in the policies pursued by the various country groups and highlighting the characteristics of the subgroup of countries that have achieved positive growth in real per capita GDP. Changes over time in aggregate and sectoral savings and investment balances reflect the impact of macroeconomic policies, as well as the private sector response to the changing policy environment and progress made in alleviating structural and institutional rigidities. In addition, the evolution of sectoral net financial balances allows an evaluation of the contribution of the government and private sectors to the changes in the external current account position.

The analysis indicates that the sustained adjusters achieved positive per capita real GDP growth and lower inflation during 1986-93, while countries with protracted imbalances experienced a decline in per capita incomes and higher inflation. The implementation of appropriate policies by the sustained adjusters contributed to higher government savings and private investment, and was complemented with increasing inflows of foreign assistance. Also, the countries with positive real per capita growth during 1986-93 registered positive government savings, increases in government investment, and strong increases in private savings and investment. In contrast, countries with negative per capita growth recorded declines in savings and investment by both the government and the private sector. The average savings and investment ratios during 1986-93 for the countries with positive per capita growth were significantly higher than those for the countries with negative per capita growth and the average for all sub-Saharan African countries. In addition, the countries that were successful in cushioning the impact of the large cumulative losses in the terms of trade through improvements in their external competitiveness and the implementation of broad-based structural reforms have done better than others.

These results are confirmed by an empirical investigation undertaken of the main contributing factors to growth, savings, and private investment performance in sub-Saharan Africa during 1986-92. The analysis suggests that inappropriate macroeconomic policies were the second largest contributing factor to the poor growth performance of sub-Saharan African countries as a group, after the impact of rapid population growth and unfavorable weather. The adverse effects on growth of terms of trade losses were less significant and appear for non-CFA countries to have been offset by real exchange rate adjustments. The empirical results also indicate that the countries that have made relatively better progress in implementing structural reforms have experienced a stronger overall economic performance.

Progress toward macroeconomic stability is shown also to play a major role in stimulating savings and private investment, as well as in enhancing the benefits from foreign assistance. Low levels of foreign assistance are also found to exert a significant positive influence on growth, once account is taken of the policy environment and other factors that affect growth.

The layout of the rest of this paper is as follows: Section II assesses the recent economic performance of sub-Saharan African countries. Section III discusses the determinants of growth, savings, and investment identified in the theoretical literature. Section IV presents the results of an empirical investigation of the effects of macroeconomic stability and external factors on growth, savings, and investment in sub-Saharan Africa during 1986-92. Finally, Section V summarizes the conclusions and draws some policy implications.

II. Overview of Recent Economic Performance

1. Growth and inflation performance

Positive rates of real GDP growth were recorded for sub-Saharan Africa as a whole (excluding South Africa and Zaire) throughout the period 1986-93, with an annual average rate of 2.3 percent (Table 6). The incidence of growth, however, varied markedly among the various country groups. CFA franc countries experienced negative growth for most of the period under review, with an annual average rate of minus 0.6 percent, while non-CFA franc countries grew by 3.9 percent a year. Looked at from the point of view of policy implementation, stronger growth rates were recorded by countries with low macro imbalances and by sustained adjusters, 4.0 percent and 3.5 percent, respectively. In contrast, the average growth rate of the countries with protracted imbalances, at 1.5 percent, amounted to less than half the average growth rates of the countries with broadly appropriate domestic policies.

For most country groups, the recorded real GDP growth continued to be lower than their annual population growth rates, resulting in further declines in real per capita GDP. For sub-Saharan Africa as a whole (excluding South Africa and Zaire), the decline in real per capita income was particularly notable in 1992, as a result primarily of the severe drought that affected Southern Africa, and amounted on average to 0.7 percent a year during 1986-93. The losses in real per capita income by the CFA franc countries were substantially higher, amounting to 3.4 percent a year. The countries with low macroeconomic imbalances and the sustained adjusters recorded positive gains in real per capita GDP in every year during the period under review, with the exception of 1992 (reflecting the effects of the drought), averaging 1.5 percent and 0.6 percent a year, respectively, for the period as a whole. Countries with protracted imbalances recorded declines in real per capita GDP averaging 1.6 percent a year. It should be noted that the growth performance was diversified not only between the various subgroup of countries, but also within individual groups. In broad terms, however, the countries that have pursued appropriate policies did record gains in real per capita GDP. For example, of the 14 countries judged as sustained adjusters, 10 experienced on average positive per capita growth during 1986-93. Also, five out of the six countries with low macroeconomic imbalances had a similar performance record; the growth performance of the sixth country (Zimbabwe) appears to have been severely affected by the drought of 1992. The growth performance was diversified among the CFA franc countries as well. Of the 14 CFA franc countries, 5 (of which 2 are also sustained adjusters) recorded positive and 9 negative per capita growth; in terms of policy implementation, 5 of the CFA franc countries are sustained adjusters and 9 are countries with protracted imbalances.

The inflation performance of sub-Saharan Africa as a whole has been adversely affected by the hyperinflation experienced since 1990 by Zaire.

Table 6. Sub-Saharan Africa: Growth and Inflation Performance, 1986-93

(In percent)

	1986	1987	1988	1989	1990	1991	1992	1993 Est.	1986-93 Average
Real GDP growth									
Sub-Saharan Africa									
Including South Africa	1.4	1.2	4.0	3.3	1.2	1.1	-0.7	1.8	1.7
Excluding South Africa	2.4	0.6	3.8	4.0	2.5	2.2	0.3	2.6	2.3
Excluding South Africa and Zaire	2.4	0.6	3.8	4.0	2.5	2.2	0.3	2.7	2.3
CFA franc countries	0.4	-2.9	-1.3	1.8	-1.5	--	-0.7	-0.2	-0.6
Non-CFA franc countries 1/	3.7	2.8	6.9	5.3	4.6	3.3	0.8	4.1	3.9
Positive per capita growth countries	4.2	3.0	7.7	5.8	5.4	4.1	3.1	3.4	4.6
Negative per capita growth countries 1/	0.6	-1.9	-0.4	1.9	-1.0	-0.2	-3.4	1.6	-0.4
Sustained adjusters	4.6	3.9	5.1	4.2	3.3	3.1	0.7	3.3	3.5
Low macro imbalances countries	4.6	2.7	8.6	5.6	4.3	5.1	-1.5	2.6	4.0
Protracted imbalances countries 1/	1.2	-1.2	2.4	3.7	1.8	1.3	0.5	2.3	1.5
Growth in real GDP per capita									
Sub-Saharan Africa									
Including South Africa	-1.5	-1.7	-0.9	-0.2	-1.7	-1.8	-3.6	-1.2	-1.6
Excluding South Africa	-0.6	-2.3	0.7	0.9	-0.5	-0.9	-2.7	-0.4	-0.7
Excluding South Africa and Zaire	-0.6	-2.3	0.7	0.9	-0.5	-0.8	-2.6	-0.3	-0.7
CFA franc countries	-2.5	-5.6	-4.2	-1.3	-4.3	-2.9	-3.6	-3.1	-3.4
Non-CFA franc countries 1/	0.7	-0.2	3.7	2.1	1.5	0.3	-2.2	1.0	0.9
Positive per capita growth countries	1.1	--	4.5	2.7	2.3	1.0	0.1	0.4	1.5
Negative per capita growth countries 1/	-2.3	-4.8	-3.5	-1.2	-4.0	-3.2	-6.3	-1.4	-3.3
Sustained adjusters	1.6	1.1	2.1	1.2	0.4	0.1	-2.2	0.5	0.6
Low macro imbalances countries	3.5	0.1	5.6	2.9	1.5	2.3	-4.0	-0.1	1.5
Protracted imbalances countries 1/	-2.0	-4.2	-0.8	0.4	-1.4	-1.8	-2.5	-0.8	-1.6
Consumer price inflation									
Sub-Saharan Africa									
Including South Africa	18.1	24.7	28.3	27.8	17.5	133.9	218.9	197.7	83.4
Excluding South Africa	17.9	29.2	36.4	34.6	19.1	191.3	314.9	282.1	115.7
Excluding South Africa and Zaire	15.0	22.7	31.6	29.0	13.7	15.8	29.5	25.9	22.9
CFA franc countries	3.5	0.7	2.4	1.1	1.2	0.6	0.7	0.8	1.4
Non-CFA franc countries 1/	19.0	30.1	40.6	37.2	17.2	19.9	37.1	32.3	29.2
Positive per capita growth countries	16.5	23.5	43.0	36.6	12.9	14.5	31.6	28.8	25.9
Negative per capita growth countries 1/	12.6	21.5	11.8	15.2	15.3	18.5	25.0	19.7	17.5
Sustained adjusters	27.9	46.6	33.3	22.6	20.0	17.5	19.8	18.8	25.8
Low macro imbalances countries	11.4	9.1	6.3	12.5	13.6	20.5	26.0	17.9	14.7
Protracted imbalances countries 1/	8.8	11.5	33.5	34.2	10.5	14.4	35.1	30.7	22.3

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

Excluding Zaire and South Africa, sub-Saharan Africa recorded annual inflation rates (as measured by changes in consumer prices) in the low double digits, fluctuating from year to year within a range of 14-32 percent, and averaging about 23 percent during 1986-93. Throughout this period, the CFA franc countries recorded exceptionally low inflation rates, ranging from less than 1 percent to 3.5 percent, and averaging a mere 1.4 percent a year for the period as a whole. The main factor contributing to this commendable performance was the nominal anchor provided by the CFA franc's fixed value vis-à-vis the French franc, before it was devalued in early January 1994. The inflation performance of the countries with low macroeconomic imbalances was also fairly good; the average annual inflation rate for these countries amounted to around 10 percent, until 1990, but rose to around 20 percent in the subsequent three years, due again in large part to the impact of the drought, averaging 15 percent for the period as a whole. The average inflation rate recorded by the countries with positive per capita growth and by the sustained adjusters was somewhat higher, amounting to 26 percent a year.

The experience of the various country groups would tend to suggest a positive correlation between real GDP growth and inflation, a rather counter-intuitive result. Such an association, however, should not be taken on face value, as it ignores developments in other key determinants of growth performance. As shown below, during the short period under review, and in response primarily to a worsening in the external environment, the CFA franc countries followed essentially deflationary policies that undermined the incentives for private sector activity and growth in general, despite the commendable inflation performance. Most of the sustained adjusters and the countries with positive per capita growth, on the other hand, resorted to sizable nominal exchange rate adjustments and other price reforms, in response, inter alia, to major terms of trade losses, thus putting upward pressures on their price levels. The econometric estimates reported in Section IV confirm that inflation had a negative impact on growth, once the influence of other factors is taken into account.

2. External sector developments

External developments since 1986 in sub-Saharan Africa as a whole and in virtually all country subgroups have been characterized by a modest widening of the current account deficit (excluding official transfers) as a ratio to GDP and a large expansion in the external public debt in relation to both GDP and export earnings, thus underscoring the unsustainable nature of the external imbalances (Table 7). The current account deficit followed a slightly downward trend as a ratio to GDP between 1986 and 1990, but this trend was largely reversed in the subsequent three years. By 1993, the current account deficit/GDP ratio was higher than in 1986 for all country groups other than the CFA franc countries and the countries with protracted imbalances; the current account deficit/GDP ratio for these countries declined marginally during this period. The countries with low macro imbalances experienced a sharp worsening in their current account position,

Table 7. Sub-Saharan Africa: External Sector Developments, 1986-93

(In percent, unless otherwise indicated)

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
Sub-Saharan Africa								
Current account balance (in percent of GDP)								
Including official transfers	-2.3	-1.8	-3.2	-1.6	-0.7	-1.4	-2.1	-2.6
Excluding official transfers	-3.4	-3.0	-4.5	-3.1	-2.0	-2.7	-3.4	-4.0
External public debt								
In percent of GDP	46.4	52.1	48.8	50.8	50.4	51.8	50.9	54.9
In percent of exports	202.5	214.7	213.5	205.9	198.7	217.1	218.9	244.8
Real effective exchange rate (1985=100)	85.7	79.2	75.8	73.7	70.9	69.9	68.8	67.0
Percentage change	-14.3	-7.6	-4.3	-2.8	-3.8	-1.4	-1.6	-2.6
Terms of trade (1985=100)	89.0	85.6	86.1	82.9	81.7	78.5	75.3	72.1
Percentage change	-11.0	-3.8	0.6	-3.7	-1.4	-3.9	-4.1	-4.2
Sub-Saharan Africa (excl. South Africa)								
Current account balance (in percent of GDP)								
Including official transfers	-5.2	-5.1	-6.0	-3.4	-2.7	-4.2	-4.8	-5.6
Excluding official transfers	-6.8	-7.0	-8.0	-5.8	-4.8	-6.4	-7.1	-8.0
External public debt								
In percent of GDP	59.6	76.6	72.7	77.6	80.4	84.6	86.9	95.1
In percent of exports	293.9	335.2	344.6	316.4	296.9	335.8	341.1	374.1
Real effective exchange rate (1985=100)	82.2	65.9	63.8	60.6	55.4	52.3	49.3	48.8
Percentage change	-17.8	-19.8	-3.2	-5.0	-8.6	-5.6	-5.7	-1.0
Terms of trade (1985=100)	83.0	77.4	77.3	76.6	75.9	71.8	69.3	66.1
Percentage change	-17.0	-6.7	-0.1	-0.9	-0.9	-5.4	-3.5	-4.6
Sub-Saharan Africa (excl. South Africa and Zaire)								
Current account balance (in percent of GDP)								
Including official transfers	-5.2	-4.9	-5.8	-3.1	-2.3	-3.9	-4.7	-5.2
Excluding official transfers	-6.7	-6.7	-7.8	-5.4	-4.4	-6.1	-6.9	-7.7
External public debt								
In percent of GDP	57.3	74.3	70.9	74.9	77.1	80.9	82.4	90.1
In percent of exports	290.1	329.9	346.0	312.2	289.3	323.4	325.6	353.5
Real effective exchange rate (1985=100)	80.2	63.6	61.0	57.7	53.6	50.6	47.7	45.4
Percentage change	-19.8	-20.7	-4.1	-5.4	-7.1	-5.6	-5.7	-4.8
Terms of trade (1985=100)	82.6	75.8	72.5	72.3	71.6	67.9	64.1	62.7
Percentage change	-17.4	-8.2	-4.4	-0.3	-1.0	-5.2	-5.6	-2.2
CFA franc countries								
Current account balance (in percent of GDP)								
Including official transfers	-8.2	-7.5	-8.5	-5.5	-5.9	-6.3	-6.8	-7.6
Excluding official transfers	-10.1	-9.5	-10.5	-8.0	-8.0	-8.4	-8.7	-9.5
External public debt								
In percent of GDP	55.9	62.5	63.8	69.7	70.3	78.1	77.3	85.8
In percent of exports	235.2	289.5	310.0	305.8	293.0	348.9	365.8	407.5
Real effective exchange rate (1985=100)	108.0	112.9	109.5	103.3	104.4	100.5	99.5	96.2
Percentage change	8.0	4.5	-3.0	-5.7	1.1	-3.7	-1.0	-3.3
Terms of trade (1985=100)	88.3	78.7	75.1	71.4	70.0	70.2	67.0	66.3
Percentage change	-11.7	-10.9	-4.6	-4.9	-2.0	0.3	-4.6	-1.0
Non-CFA franc countries 1/								
Current account balance (in percent of GDP)								
Including official transfers	-3.9	-3.4	-4.5	-2.0	-0.5	-2.7	-3.5	-3.8
Excluding official transfers	-5.3	-5.1	-6.5	-4.2	-2.6	-4.9	-5.9	-6.6
External public debt								
In percent of GDP	57.8	80.9	74.4	77.3	80.6	82.3	85.4	92.6
In percent of exports	319.3	351.0	363.7	315.0	287.7	312.3	308.2	329.9
Real effective exchange rate (1985=100)	70.7	47.8	46.8	44.8	40.2	37.9	34.7	33.1
Percentage change	-29.3	-32.4	-2.1	-4.3	-10.3	-5.7	-8.4	-4.6
Terms of trade (1985=100)	80.6	74.8	71.7	72.6	72.1	67.3	63.4	61.8
Percentage change	-19.4	-7.2	-4.1	1.3	-0.7	-6.7	-5.8	-2.5

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

Table 7 (concluded). Sub-Saharan Africa: External Sector Developments, 1986-93

(In percent, unless otherwise indicated)

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
Positive per capita growth countries								
Current account balance (in percent of GDP)								
Including official transfers	-4.0	-2.9	-4.5	-1.3	0.3	-1.9	-3.0	-3.6
Excluding official transfers	-5.5	-4.9	-6.4	-3.5	-1.7	-3.8	-5.1	-5.8
External public debt								
In percent of GDP	55.7	76.4	71.3	75.1	76.1	76.7	75.2	79.4
In percent of exports	295.1	323.5	344.0	292.5	256.4	280.3	261.2	281.8
Real effective exchange rate (1985=100)	68.6	45.9	45.0	41.7	37.9	35.4	33.1	32.2
Percentage change	-31.4	-33.1	-2.0	-7.3	-9.1	-6.6	-6.5	-2.7
Terms of trade (1985=100)	73.7	72.0	66.3	67.2	69.2	63.8	61.2	59.2
Percentage change	-26.3	-2.3	-7.9	1.4	3.0	-7.8	-4.1	-3.3
Negative per capita growth countries 1/								
Current account balance (in percent of GDP)								
Including official transfers	-6.8	-7.2	-7.6	-5.5	-5.7	-6.6	-6.8	-7.4
Excluding official transfers	-8.4	-8.8	-9.6	-7.9	-7.9	-9.1	-9.3	-10.2
External public debt								
In percent of GDP	59.6	71.8	70.4	74.5	78.4	86.3	91.6	104.4
In percent of exports	283.7	338.6	348.6	341.9	343.7	394.8	438.3	477.3
Real effective exchange rate (1985=100)	99.2	92.8	89.5	87.2	84.7	82.3	80.0	75.0
Percentage change	-0.8	-6.5	-3.6	-2.6	-2.9	-2.8	-2.8	-6.3
Terms of trade (1985=100)	96.7	81.9	83.3	81.6	76.3	76.2	70.4	70.3
Percentage change	-3.3	-15.3	1.7	-2.0	-6.5	-0.1	-7.6	-0.1
Sustained adjusters								
Current account balance (in percent of GDP)								
Including official transfers	-3.5	-5.2	-4.9	-5.6	-5.9	-4.9	-4.8	-5.4
Excluding official transfers	-5.7	-7.8	-8.1	-9.4	-9.7	-8.7	-8.5	-10.0
External public debt								
In percent of GDP	54.1	71.7	69.9	72.5	76.1	79.0	80.4	91.0
In percent of exports	415.2	517.4	510.3	542.2	547.6	555.8	598.8	619.6
Real effective exchange rate (1985=100)	86.6	72.3	66.9	63.4	57.7	54.8	52.3	49.4
Percentage change	-13.4	-16.5	-7.5	-5.2	-9.0	-5.0	-4.6	-5.5
Terms of trade (1985=100)	101.4	94.8	90.6	82.7	76.9	76.8	72.9	72.7
Percentage change	1.4	-6.5	-4.4	-8.7	-7.0	-0.1	-5.1	-0.3
Low macroeconomic imbalances countries								
Current account balance (in percent of GDP)								
Including official transfers	14.0	7.4	2.5	2.5	-1.7	-0.7	-1.9	-0.8
Excluding official transfers	10.6	4.5	0.5	0.9	-3.1	-1.7	-3.1	-1.9
External public debt								
In percent of GDP	40.4	38.0	31.8	30.1	28.9	29.9	34.9	36.8
In percent of exports	76.6	81.3	77.7	68.9	73.3	72.0	89.8	98.3
Real effective exchange rate (1985=100)	94.1	90.0	85.3	83.1	79.1	72.3	70.3	72.7
Percentage change	-5.9	-4.4	-5.2	-2.6	-4.8	-8.6	-2.8	3.4
Terms of trade (1985=100)	117.1	113.6	136.1	141.0	141.3	142.6	137.2	137.4
Percentage change	17.1	-3.0	19.8	3.6	0.2	0.9	-3.8	0.1
Protracted imbalances countries 1/								
Current account balance (in percent of GDP)								
Including official transfers	-8.0	-6.6	-7.7	-3.0	-0.8	-4.1	-5.2	-6.0
Excluding official transfers	-9.0	-7.8	-9.0	-4.7	-2.3	-5.7	-6.9	-7.8
External public debt								
In percent of GDP	60.6	81.1	77.9	83.9	86.4	91.3	93.0	100.6
In percent of exports	318.3	352.0	383.9	329.6	285.8	338.6	324.2	356.7
Real effective exchange rate (1985=100)	75.2	55.2	52.9	52.5	57.0	55.9	56.2	55.1
Percentage change	-24.8	-26.6	-4.2	-0.8	8.6	-1.9	0.5	-2.0
Terms of trade (1985=100)	69.6	61.9	56.0	59.2	61.1	54.6	51.5	49.1
Percentage change	-30.4	-11.1	-9.5	5.7	3.2	-10.6	-5.7	-4.7

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

switching from a surplus of 11 percent of GDP in 1986 to a deficit of 2 percent by 1993. Somewhat less dramatically, the current account deficit of the sustained adjusters widened steadily from 6 percent of GDP in 1986 to 10 percent by 1993. The current account deficit for sub-Saharan Africa as a whole (excluding South Africa and Zaire) widened more modestly, from 7 percent of GDP to 8 percent.

In broad terms, the current account trends reflected developments in the external environment, the stance of domestic financial policies, and the impact of supply-side exogenous developments induced mainly by changes in weather conditions. During the period under review, the external environment of sub-Saharan African countries worsened sharply as a result of a marked weakening in economic growth in industrial countries (which constitute the main destination of the primary commodity exports of African countries), and a collapse of economic activity in the former Soviet Union (FSU) and, to a lesser extent, in East European countries. This led to a major slowdown in the demand for primary commodities and a sharp reduction in world commodity prices. This trend has been aggravated by a large-scale dumping of primary commodities by the FSU on the world market, and a buoyant supply of primary commodities by developing countries (particularly South East Asian and Latin American countries) and certain industrial countries (aided by high government subsidies). Real primary commodity prices have been declining almost continuously since the early 1980s and recent empirical studies suggest that this weakness is mostly of a secular nature that is unlikely to be reversed. 1/

Given the high dependence of sub-Saharan African countries on primary commodity exports, the decline in world commodity prices has led to a large cumulative decline in their terms of trade, amounting to about 37 percent between 1986 and 1993 for sub-Saharan Africa as a whole (Box 1 and Table 8). This decline took place mainly during 1986-87 and 1991-93. Although the dependence on individual commodities varies from country to country, the

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1/ Reinhart and Wickham (1994) highlight a number of empirical regularities from an analysis of primary commodity prices during 1957-93. First, alternative methods of decomposing the time series of real commodity prices into secular (trend) and cyclical (temporary) components suggest that the recent weakness in commodity prices is primarily of a secular persistent nature, and not the product of large temporary deviation from trend. Second, the relative importance of permanent shocks varies considerably across commodity groupings (ranging from only 30 percent of the variance of metal prices to 85 percent of the variance of beverage prices). Third, the volatility in commodity prices has risen steadily and considerably since the early 1970s, particularly for food prices. The authors review the main factors contributing to the secular decline in real commodity prices, while Borensztein and Reinhart (1994) integrate supply factors in producer countries and output developments in Eastern Europe and the FSU with the traditional demand factors from industrial countries in the determination of primary commodity prices.

Box 1: Dependence on Primary Commodity Exports

The high dependence of sub-Saharan African countries on primary commodity exports is well documented. More importantly, several African countries are heavily dependent on one or two primary commodity exports, and are thus very vulnerable to adverse developments in world market prices for their exports. The tabulation below indicates the average shares in excess of 10 percent of individual commodities in the export earnings of sub-Saharan African countries during 1985-87 (based on World Bank data reported in Dhonte and others (1993)).

Coffee	
Uganda	95.8
Burundi	83.5
Rwanda	68.8
Tanzania	44.1
Madagascar	36.8
Kenya	31.7
C. A. R.	26.0
Côte d'Ivoire	18.5
Sierra Leone	16.9
Zaire	14.0

Cocoa	
Equ. Guinea	53.5
Ghana	49.2
Côte d'Ivoire	30.5

Tea	
Kenya	22.2
Malawi	19.1

Tobacco	
Malawi	53.5
Zimbabwe	19.7

Sugar	
Swaziland	40.6
Mali	38.7

Cotton	
Mali	41.9
Chad	33.2
Burkina Faso	27.3
Benin	26.0

Fish	
Mozambique	55.7
Senegal	39.9
Guinea-Bissau	13.9

Timber	
Equ. Guinea	38.0
C. A. R.	18.0

Copper	
Zambia	93.3
Zaire	35.9

Petroleum	
Nigeria	94.2
Congo	83.2
Angola	77.1
Gabon	70.5
Cameroon	48.1

Bauxite and Alumina	
Guinea	92.2
Sierra Leone	18.0

In addition, a number of sub-Saharan African countries are major world producers and exporters of certain primary commodities. Côte d'Ivoire and Ghana are the first and third largest exporters of cocoa in the world, and accounted for 30.7 percent and 14.3 percent, respectively, of world cocoa exports during 1985-87. Guinea is among the largest world exporters of bauxite, with a market share of 43.7 percent during 1985-87. During the same period, Kenya accounted for 10.7 percent of world tea exports.

Table 8. Sub-Saharan Africa: Changes in the Terms of Trade and in Real Effective Exchange Rates, 1986-93

(In percent)

	1986-87	1991-93	1986-93
Changes in the terms of trade			
Sub-Saharan Africa			
Including South Africa	-14.4	-11.8	-27.9
Excluding South Africa	-22.6	-12.9	-33.9
Excluding South Africa and Zaire	-24.2	-12.4	-37.3
CFA franc countries	-21.3	-5.3	-33.7
Non-CFA franc countries 1/	-25.2	-14.3	-38.2
Positive per capita growth countries	-28.0	-14.5	-40.8
Negative per capita growth countries 1/	-18.1	-7.9	-29.7
Sustained adjusters	-5.2	-5.5	-27.3
Low macroeconomic imbalances countries	13.6	-2.8	37.4
Protracted imbalances countries 1/	-38.1	-19.6	-50.9
Changes in real effective exchange rates			
Sub-Saharan Africa			
Including South Africa	-20.8	-5.5	-33.0
Excluding South Africa	-34.1	-11.9	-51.2
Excluding South Africa and Zaire	-36.4	-15.3	-54.6
CFA franc countries	12.9	-7.9	-3.8
Non-CFA franc countries 1/	-52.2	-17.7	-66.9
Positive per capita growth countries	-54.1	-15.0	-67.8
Negative per capita growth countries 1/	-7.2	-11.5	-25.0
Sustained adjusters	-27.7	-14.4	-50.6
Low macroeconomic imbalances countries	-10.0	-8.1	-27.3
Protracted imbalances countries 1/	-44.8	-3.3	-44.9

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

overall worsening in the terms of trade experienced by the CFA franc and the non-CFA franc countries was broadly similar. There were some notable differences, however, in the magnitude of terms of trade changes among the other country groups. The countries with positive per capita growth experienced larger losses than the countries with negative per capita growth. In contrast, the terms of trade losses of the sustained adjusters were almost half those of the countries with protracted imbalances. The countries with low macroeconomic imbalances were the only country group that experienced an improvement in its terms of trade, amounting to 37 percent.

While the terms of trade losses sustained by most sub-Saharan African countries were broadly similar, the domestic policy response to these losses, particularly in terms of the stance of financial policies and nominal exchange rate adjustments, varied markedly between countries. In all African countries with flexible exchange rate arrangements, the deterioration in the terms of trade was counteracted by nominal and real effective exchange rate depreciations, keeping real exchange rates close to their equilibrium values. 1/ The decline in the real effective exchange rate during 1986-93 amounted to 51 percent for the sustained adjusters and to 68 percent for the countries with positive per capita growth. In contrast, during the same period, despite their superior relative price performance, the appreciation of 72 percent of the nominal effective exchange rate of the CFA franc countries limited the cumulative depreciation of their real effective exchange rate to only 4 percent. 2/ Overall, the downward adjustment in the real effective exchange rate for all sub-Saharan African countries (excluding South Africa and Zaire) amounted to 55 percent, significantly higher than the worsening in the terms of trade, thus cushioning its impact on domestic economic activity.

The exchange rate adjustments moderated the adverse impact on domestic producer prices of the weakening in world commodity prices and contributed

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1/ A permanent decline in the terms of trade would, under reasonable theoretical assumptions and other things being equal, lead to a depreciation of the equilibrium real exchange rate (see Edwards (1989)). Using plausible ranges for the price and income elasticities of import demand, the price elasticity of export supply, and the share of importables in total expenditure for developing countries, Khan and Ostry (1991) show that the adjustment in the equilibrium real exchange rate to a change in the terms of trade could be quite large. Specifically, if the substitution possibilities between nontradables and importables in domestic consumption are limited and the compensated price elasticity of import demand is correspondingly low, for every percentage point deterioration in the terms of trade, a depreciation of the real exchange rate of as much as 4/5 of 1 percent may be required in order to avoid losses in external competitiveness and maintain macroeconomic equilibrium.

2/ The appreciation of the nominal effective exchange rate of the CFA franc reflected primarily the firming of the French franc against other major currencies.

to an expansion, albeit modest, in the volume of primary commodity exports of several countries as well as in the volume of other exports; in some countries, this process was encouraged by the maintenance of administered agricultural producer prices at levels higher than export prices, with the difference covered by government subsidies. Thus, the impact of the decline in the terms of trade was essentially felt directly by export earnings, private disposable incomes, and government finances, and only indirectly by domestic production. In countries where government revenue relies heavily on export taxes, the decline in the terms of trade has given rise to major shortfalls in revenue and increasing pressures on the overall fiscal deficits. Nonetheless, the expansion in the volume of exports was not sufficient to offset the weakening in primary commodity prices, resulting in a stagnation of total export earnings during 1986-93, with sizable declines during 1990-93 (Table 9), and concomitant losses in world export market shares. 1/ The tightening of domestic financial policies also contributed to a slowdown in the rate of growth of imports during 1991-93, but in earlier years the growth in imports was substantially higher than the growth in exports for all country groups. For the period 1986-93 as a whole, the annual average growth in imports exceeded that of exports, as well as the growth in real GDP.

The widening external financing requirements of sub-Saharan African countries were financed largely by increasing inflows of foreign assistance (grants and concessional long-term loans), debt reschedulings by Paris Club and other creditors, and in part by an accumulation of external debt service payments arrears by several countries. Despite sizable debt forgiveness provided by several official creditors, the external public debt of virtually all groups of African countries increased markedly as a ratio to GDP during 1986-93. By end-1993, the debt/GDP ratio for sub-Saharan Africa as a group had risen to an estimated 90 percent (up from 57 percent in 1986), a level substantially higher than that of other developing countries. 2/ The average debt/GDP ratios were broadly similar among the various country groups at end-1993, ranging from 85 percent to 104 percent, with the exception of the countries with low macroeconomic imbalances; the average debt ratio for these countries actually declined from 40 percent at end-1986 to 29 percent by end-1990, before rising again to 37 percent by end-1993. Moreover, with the decline in absolute terms in export earnings since 1990, the ratio of debt to exports has increased sharply. By end-1993, it amounted to 354 percent for all sub-Saharan African countries, 408 percent for the CFA franc countries, 98 percent for the countries with low macroeconomic imbalances, and 620 percent for the sustained adjusters; the

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1/ Lele and others (1994) argue that the reduction in the export market shares of African countries reflected largely a low growth in agricultural productivity in comparison with other developing countries.

2/ At end-1993, the debt/GDP ratio for all developing countries amounted to only 33 percent.

Table 9. Sub-Saharan Africa: Export and Import Performance, 1986-93

	Level in 1993 In billion of U.S. dollars (In percent of GDP)	Cumulative change during: (In percent) 1986-93	1991-93	Annual average change (In percent) 1986-93
Merchandise exports				
Sub-Saharan Africa				
Including South Africa	56.8 (-22.4)	14.5	-10.9	1.7
Excluding South Africa	35.5 (-25.4)	5.2	-12.2	0.6
Excluding South Africa and Zaire	34.4 (-25.5)	7.9	-10.1	1.0
CFA franc countries	10.4 (-21.1)	2.9	-10.9	0.4
Non-CFA franc countries 1/	23.9 (-28.1)	10.3	-9.7	1.2
Positive per capita growth countries	21.8 (-28.2)	12.2	-8.6	1.4
Negative per capita growth countries 1/	12.6 (-21.9)	1.3	-12.6	0.2
Sustained adjusters	5.6 (-14.7)	28.8	0.5	3.2
Low macroeconomic imbalances countries	6.2 (-37.5)	54.0	-2.0	5.5
Protracted imbalances countries 1/	22.6 (-28.2)	-3.8	-14.3	-0.5
Merchandise imports				
Sub-Saharan Africa				
Including South Africa	51.9 (-20.5)	39.6	-0.4	4.3
Excluding South Africa	36.0 (-25.8)	34.3	2.6	3.8
Excluding South Africa and Zaire	35.0 (-25.9)	38.2	5.2	4.1
CFA franc countries	8.6 (-17.3)	24.5	-4.2	2.8
Non-CFA franc countries 1/	26.4 (-31.0)	43.3	8.7	4.6
Positive per capita growth countries	23.4 (-30.3)	44.6	8.7	4.7
Negative per capita growth countries 1/	11.6 (-20.1)	26.9	-1.3	3.0
Sustained adjusters	10.6 (-27.6)	63.8	2.8	6.4
Low macroeconomic imbalances countries	6.6 (-40.2)	130.3	4.2	11.0
Protracted imbalances countries 1/	17.8 (-22.2)	11.2	7.1	1.3

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

exceptionally high average debt/export ratio for the latter countries reflected primarily their low level of exports in relation to GDP.

3. The stance of financial policies

In broad terms, financial policies in sub-Saharan African countries as a group during the period under review fell short of bringing inflation under control and lowering external imbalances. As indicated above, the inflation rate fluctuated from year to year, while the external current account deficit (excluding official transfers) widened somewhat as a ratio to GDP. Although some progress toward macroeconomic stability has been made by individual countries and country groups, in varying degrees, the attainment of this objective by sub-Saharan African countries remains somewhat elusive. By 1993, fiscal imbalances remained large in relation to GDP in all country groups, significantly in excess of the levels required to stabilize the debt/GDP ratios, while real interest rates were still unduly negative in several countries.

For sub-Saharan African countries as a group (excluding South Africa and Zaire), the stance of fiscal policy, as measured by changes in the primary government budget deficit (excluding grants) as a ratio to GDP, has fluctuated from year to year within a narrow range. The stance of fiscal policy was tightened markedly during 1989-90, but was eased somewhat in subsequent years, reversing some of the gains achieved. Overall, the primary budget deficit declined from 2.6 percent of GDP in 1986 to 1.3 percent by 1993 (Table 10). However, in the face of increasing interest payments on public debt, the overall budget deficit (excluding grants) remained around 7-9 percent of GDP, increasing by 1 percentage point of GDP between 1986 and 1993. Similar trends in the primary and overall budget deficits were experienced by all country groups, with the exception of the CFA franc countries and the countries with low macroeconomic imbalances. In the CFA franc countries, the primary budget deficit widened sharply ,to 6.8 percent of GDP in 1987, and declined steadily thereafter, to 1.2 percent by 1993; a similar trend was followed by the overall budget deficit of these countries, but by 1993 it was still higher than in 1986. In the countries with low macroeconomic imbalances, fiscal imbalances were reduced sharply between 1986 and 1990, facilitating a notable reduction in the public debt/GDP ratio, but these gains were virtually reversed by 1993; the primary and overall budget deficits of the countries with low macroeconomic imbalances in 1993, at minus 0.1 percent and 3.3 percent respectively, were still the lowest among sub-Saharan African countries.

The average levels of the primary and overall budget deficits in relation to GDP during the last three years (1991-93) were virtually

Table 10. Sub-Saharan Africa: Indicators of Financial Policies, 1986-93

(In percent, unless otherwise indicated)

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
Sub-Saharan Africa								
Budget balance (excl. grants)/GDP								
Overall balance	-6.1	-7.2	-7.3	-5.3	-5.8	-6.7	-9.3	-8.1
Primary balance	-2.2	-2.5	-2.4	-0.3	-0.4	-1.0	-3.5	-2.7
Money supply growth	15.7	26.6	35.2	23.8	30.7	144.0	234.0	125.0
Inflation rate	18.1	24.7	28.3	27.8	17.5	133.9	218.9	197.7
Real interest rate	-7.1	-13.0	-14.6	-10.2	1.7	-114.9	-198.6	-181.5
Nominal effective exchange rate (1985=100)	77.5	64.1	57.6	54.5	54.6	52.0	50.6	47.7
Percentage change	-22.5	-17.3	-10.1	-5.4	0.2	-4.8	-2.7	-5.7
Sub-Saharan Africa (excl. South Africa)								
Budget balance (excl. grants)/GDP								
Overall balance	-6.5	-8.6	-9.7	-7.6	-7.0	-8.0	-9.2	-7.9
Primary balance	-2.6	-3.5	-4.4	-2.2	-0.9	-1.8	-3.2	-2.0
Money supply growth	21.6	29.5	35.3	22.0	39.4	206.0	339.7	176.2
Inflation rate	17.9	29.2	36.4	34.6	19.1	191.3	314.9	282.1
Real interest rate	-7.0	-15.9	-22.6	-17.0	0.6	-171.5	-291.6	-263.9
Nominal effective exchange rate (1985=100)	76.7	56.6	52.5	51.0	52.9	50.7	50.3	48.0
Percentage change	-23.3	-26.2	-7.2	-2.9	3.7	-4.2	-0.8	-4.6
Sub-Saharan Africa (excl. South Africa and Zaire)								
Budget balance (excl. grants)/GDP								
Overall balance	-6.4	-8.4	-9.2	-7.5	-6.6	-7.1	-8.7	-7.4
Primary balance	-2.6	-3.3	-3.9	-2.1	-0.5	-1.1	-2.5	-1.3
Money supply growth	17.7	22.4	25.6	18.1	25.0	25.2	35.7	20.9
Inflation rate	15.0	22.7	31.6	29.0	13.7	15.8	29.5	25.9
Real interest rate	-5.0	-11.4	-19.9	-16.0	1.8	-0.2	-11.6	-6.1
Nominal effective exchange rate (1985=100)	77.0	58.6	55.4	54.6	57.0	55.1	54.3	52.1
Percentage change	-23.0	-23.9	-5.5	-1.4	4.4	-3.3	-1.5	-4.1
CFA franc countries								
Budget balance (excl. grants)/GDP								
Overall balance	-5.8	-10.3	-9.7	-9.7	-8.3	-7.5	-8.1	-7.1
Primary balance	-2.2	-6.8	-5.4	-5.1	-3.4	-2.0	-2.4	-1.2
Money supply growth	6.5	-7.9	0.9	-1.8	2.8	5.7	-0.4	3.0
Inflation rate	3.5	0.7	2.4	1.1	1.2	0.6	0.7	0.8
Real interest rate	3.2	5.4	3.7	5.7	6.1	6.8	7.2	7.5
Nominal effective exchange rate (1985=100)	108.1	114.2	117.7	123.8	143.2	147.7	161.1	172.2
Percentage change	8.1	5.6	3.1	5.2	15.7	3.1	9.1	6.9
Non-CFA franc countries 1/								
Budget balance (excl. grants)/GDP								
Overall balance	-6.6	-7.4	-9.0	-6.5	-5.7	-7.0	-9.1	-7.5
Primary balance	-2.7	-1.4	-3.1	-0.7	1.0	-0.7	-2.5	-1.3
Money supply growth	21.6	32.6	33.3	24.0	31.2	30.5	45.2	25.5
Inflation rate	19.0	30.1	40.6	37.2	17.2	19.9	37.1	32.3
Real interest rate	-8.0	-17.0	-27.2	-22.4	0.5	-2.1	-16.5	-9.6
Nominal effective exchange rate (1985=100)	66.1	40.0	36.1	34.1	33.0	30.2	26.1	21.4
Percentage change	-33.9	-39.5	-9.8	-5.5	-3.2	-8.5	-13.6	-18.0

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

Table 10 (concluded). Sub-Saharan Africa: Indicators of Financial Policies, 1986-93

(In percent, unless otherwise indicated)

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
Positive per capita growth countries								
Budget balance (excl. grants)/GDP								
Overall balance	-5.3	-6.8	-8.5	-5.5	-4.1	-5.3	-7.7	-6.2
Primary balance	-1.4	-0.7	-2.6	0.5	2.7	1.0	-1.4	-0.5
Money supply growth	19.9	31.1	32.5	21.9	30.1	28.3	45.3	24.1
Inflation rate	16.5	23.5	43.0	36.6	12.9	14.5	31.6	28.8
Real interest rate	-5.6	-10.3	-29.6	-21.9	5.0	1.4	-13.3	-8.6
Nominal effective exchange rate (1985=100)	64.7	39.4	35.3	31.9	31.2	29.3	27.1	24.4
Percentage change	-35.3	-39.1	-10.4	-9.6	-2.2	-6.1	-7.5	-10.0
Negative per capita growth countries 1/								
Budget balance (excl. grants)/GDP								
Overall balance	-8.0	-10.4	-10.1	-10.2	-9.8	-9.6	-9.9	-8.9
Primary balance	-4.3	-6.4	-5.5	-5.4	-4.6	-3.9	-3.9	-2.2
Money supply growth	14.2	8.2	13.7	11.2	15.2	19.0	15.0	14.0
Inflation rate	12.6	21.5	11.8	15.2	15.3	18.5	25.0	19.7
Real interest rate	-4.2	-13.1	-3.0	-5.3	-4.5	-3.5	-7.8	-0.7
Nominal effective exchange rate (1985=100)	96.6	89.8	90.3	95.6	106.9	107.5	112.8	112.9
Percentage change	-3.4	-7.0	0.6	5.9	11.8	0.6	4.9	0.1
Sustained adjusters								
Budget balance (excl. grants)/GDP								
Overall balance	-7.9	-7.4	-6.4	-7.2	-7.7	-6.6	-8.0	-7.9
Primary balance	-5.1	-4.6	-3.5	-4.0	-4.7	-3.6	-4.5	-4.5
Money supply growth	35.1	34.2	31.1	30.1	21.7	22.4	30.9	11.4
Inflation rate	27.9	46.6	33.3	22.6	20.0	17.5	19.8	18.8
Real interest rate	-15.7	-33.0	-19.2	-7.5	-3.7	0.5	0.6	-0.2
Nominal effective exchange rate (1985=100)	77.6	59.2	64.0	52.7	52.7	50.8	49.3	45.2
Percentage change	-22.4	-23.7	8.1	-17.7	0.0	-3.6	-3.0	-8.3
Low macroeconomic imbalances countries								
Budget balance (excl. grants)/GDP								
Overall balance	-5.1	-4.1	-1.6	-0.7	0.8	0.6	-1.9	-3.3
Primary balance	-0.2	0.8	2.9	3.7	4.9	4.3	1.8	0.1
Money supply growth	7.6	33.1	24.2	24.2	12.2	22.7	20.2	17.7
Inflation rate	11.4	9.1	6.3	12.5	13.6	20.5	26.0	17.9
Real interest rate	-1.6	0.3	3.6	-2.8	-2.3	1.4	-3.6	3.3
Nominal effective exchange rate (1985=100)	92.4	88.1	84.8	82.5	78.2	68.8	62.1	59.5
Percentage change	-7.6	-4.7	-3.7	-2.7	-5.2	-12.0	-9.7	-4.2
Protracted imbalances countries 1/								
Budget balance (excl. grants)/GDP								
Overall balance	-5.9	-9.6	-11.8	-8.9	-7.4	-8.9	-10.4	-7.9
Primary balance	-1.7	-3.3	-5.1	-2.2	0.4	-1.0	-2.3	--
Money supply growth	10.0	15.1	22.9	11.1	28.1	27.0	39.9	26.5
Inflation rate	8.8	11.5	33.5	34.2	10.5	14.4	35.1	30.7
Real interest rate	--	-1.2	-22.8	-21.9	5.1	-0.8	-19.0	-10.4
Nominal effective exchange rate (1985=100)	75.2	55.2	52.9	52.9	57.0	55.9	56.2	55.1
Percentage change	-24.8	-26.6	-4.2	-0.8	8.6	-1.9	0.5	-2.0

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

identical between the CFA franc and the non-CFA franc countries. 1/ However, during the same period, the average primary and overall budget deficits of the countries with positive per capita growth were both 3 percentage points of GDP lower than those for the countries with negative per capita growth. The average overall budget deficit of the sustained adjusters during 1991-93 was 1.5 percentage points of GDP lower than that of the countries with protracted imbalances. Despite this, the lower interest payments burden of the sustained adjusters (reflecting their heavy reliance on concessional foreign assistance) allowed them to maintain an average primary budget deficit at a level 3 percentage points of GDP higher than the countries with protracted imbalances. 2/

A similar volatility was also recorded in the stance of monetary policy for the sub-Saharan African countries as a group. The growth in broad money fluctuated from year to year with no clear trend, contributing to the variability in the annual inflation rate. 3/ In the presence of sizable changes from year to year in the velocity of circulation, movements in real interest rates could be a more reliable indicator of the stance of monetary policy than the growth in money supply. 4/ Changes in real interest rates for all country groups other than the CFA franc countries were dominated throughout the period 1986-93 by the fluctuations in the inflation rate. For sub-Saharan African countries as a group (excluding South Africa and Zaire), real interest rates were at large negative levels during 1986-89, switched to positive levels in 1990, and became negative again during the subsequent three years, albeit at a more moderate average level than in the second half of the 1980s.

The monetary policy performance differed markedly among the various country groups. By far the best performance was recorded by the CFA franc countries, where the nominal exchange rate anchor allowed them to maintain

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1/ Nonetheless, as will be shown in the next subsection, there were major differences between these two groups of countries as to how the budget deficits were contained: in the CFA franc countries both government savings and investment were reduced, while in the non-CFA franc countries they were raised.

2/ Interest payments on both domestic and external public debt amounted in 1993 to 3.4 percent of GDP for the sustained adjusters, 3.2 percent for the countries with low macroeconomic imbalances, and 7.9 percent for the countries with protracted imbalances, with 6.1 percent for sub-Saharan Africa as a whole (excluding South Africa and Zaire). The heavier interest payments burden for the countries with protracted imbalances highlights the fact that delays in implementing appropriate reform programs raise the eventual adjustment costs.

3/ The empirical investigation of Section IV indicates that this variability had adverse effects on savings and private investment.

4/ Real interest rates in this study are calculated as nominal short-term bank deposit or money market rates, minus the actual annual average inflation rate.

extremely low rates of growth in broad money and inflation, and consistently positive real interest rates. The low inflation in France and the strengthening of the French franc against other major currencies contributed to very moderate rates of imported inflation. Nonetheless, the inappropriate fiscal and monetary policy mix crowded out the private sector and gave rise to a number of distortions that had an adverse effect on private sector savings and investment, as well as on the growth performance of the CFA franc countries as a group. In the context of a liberalized exchange system with no restrictions on current and capital international transactions, the excess expansion in domestic credit stemming from the expansionary stance of fiscal policy was quickly corrected through a loss of foreign exchange reserves. In fact, to help contain capital outflows and maintain appropriate differentials with interest rates in France, real interest rates in the CFA franc countries were raised steadily from 3.2 percent in 1986 to 7.5 percent by 1993. Moreover, large budget deficits during the period under review in the context of limits on government financing from the banking system contributed to the emergence of domestic arrears, including arrears on several months of civil service salaries. These arrears undermined the domestic payments system and contributed to a weakening in the financial health of the domestic banking system. Several CFA franc countries have responded to these difficulties by reinforcing their internal adjustment policies.

Real interest rates for the non-CFA franc countries followed a trend similar to that of sub-Saharan African countries as a group, but at a somewhat higher level in absolute terms. The real interest rates of the countries with positive per capita growth were more negative than those of the countries with negative growth, as a result of the fact that most CFA franc countries are included in the group of countries with negative per capita growth. The sustained adjusters made steady progress during the period under review in tightening the stance of monetary policy and establishing positive real interest rates. Their real interest rates switched from highly negative levels, averaging 23 percent during 1986-88 to a marginally positive level during 1991-93. The real interest rates of the countries with low macroeconomic imbalances fluctuated modestly from year to year, remaining within a narrow range around zero. The countries with protracted imbalances experienced far more pronounced variations in their real interest rates, which averaged minus 9 percent for the period as a whole.

4. Analysis of net financial balances

A clearer indication of the progress made by sub-Saharan African countries in reducing their domestic and external imbalances on a durable basis and attaining a viable balance of payments position could be obtained by reviewing their savings and investment performance, both for the economy as a whole and for the government and private sectors, and by analyzing the trends in the sectoral net financial balances. Such an analysis also allows a more appropriate evaluation of the results thus far of, and the main

differences in, the adjustment policies pursued by the various country groups.

Developments in sectoral and aggregate savings and investment balances reflect not only the stance of financial policies highlighted in the previous subsection, but, more importantly, they reflect the impact of structural and institutional factors, particularly on the evolution of private savings and investment balances. In virtually all African countries, private sector activity has been strongly impeded by a broad range of structural, legal, administrative, and other institutional constraints. These impediments, combined with inappropriate domestic policies and the impact of external shocks, had contributed to the emergence of major imbalances and the declines in real per capita incomes prior to 1986. In recent years, as an integral part of their adjustment programs, many sub-Saharan African countries have implemented a number of structural reforms aimed at alleviating these impediments and stimulating the development of the private sector. These measures have included the restructuring (including privatization) of public enterprises and other measures to strengthen the efficiency and financial performance of the public enterprise sector; the lifting of controls on retail prices and on the producer prices and marketing arrangements for agricultural products; the liberalization of the exchange and trade system; the lifting of interest rate controls, the introduction of government financial instruments, the restructuring of commercial banks, the introduction of strengthened prudential requirements, and other financial sector reforms; the implementation of tax reforms to broaden the tax base and strengthen economic incentives and promote equity; administrative reforms to strengthen the economic management capacity of the public sector; the introduction of legal reforms; and the simplification of the administrative requirements or procedures for private sector activities.

The range and effectiveness of the various reform measures implemented has varied from country to country; a detailed review of the experience with structural reforms is beyond the scope of this study. However, the private sector response to these reforms, as well as to the macroeconomic policies pursued by individual countries, could be gauged by the private sector savings and investment performance. 1/ In turn, as is shown in Section IV, developments in macroeconomic policies and in government and private investment have been among the main determinants of real per capita GDP growth for sub-Saharan African countries.

For sub-Saharan African countries as a group (excluding South Africa and Zaire), government savings (excluding grants) followed a downward trend

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1/ The private sector in this study is defined as the nongovernment sector and thus, it comprises the public enterprise sector.

during 1986-93, albeit subject to year-to-year variability. 1/ For the period as a whole, government savings declined by 2 percentage points of GDP (Tables 11-14). To contain the impact on government finances, government investment was reduced overall by 1 percentage point of GDP, thus limiting the worsening in the government net financial balance (which is identical to the overall budget deficit excluding grants). Private savings were, as is typical of African countries, substantially higher than government savings. They increased initially by almost 4 percentage points of GDP between 1986 and 1990, but half of these gains were reversed by 1993. Private investment expanded by the equivalent of 2 percentage points of GDP between 1986 and 1990, and remained broadly unchanged in the subsequent years. As a result, the net financial balance of the private sector improved during the second half of the 1980s, but these gains were reversed in the early 1990s. Overall, the improvement in private savings during 1986-93 offset the decline in government savings, leaving total savings unchanged. Similarly, the increase in private investment compensated for the decline in government investment and allowed a small expansion in total investment. Thus, the evolution of the current account deficit as a ratio to GDP reflected mainly the fluctuations in the net financial balance of the private sector; the counterpart of the small worsening in the current account deficit for the period as a whole was an increase in private investment.

The differences in the savings and investment performance of the various country groups were much stronger than the differences in the stance of financial policies would imply. In the CFA franc countries, the worsening in the terms of trade and the loss of external competitiveness contributed to a sharp switch in the government savings position from positive savings equivalent to 3.1 percent of GDP in 1986 to dissavings of 4.7 percent of GDP by 1989; a modest improvement in subsequent years lowered government dissavings to 3.0 percent of GDP by 1993. In response, the CFA franc countries, after an initial increase to 10 percent of GDP, lowered steadily their government investment to 4 percent by 1993. As a result, the net government financial balance worsened by the equivalent of 4.5 percentage points of GDP in 1987, and improved by 3 percentage points of GDP in the period to 1993, reflecting the intensification of the internal adjustment efforts by a number of CFA franc countries. During the same period, private savings declined modestly, while private investment fell steadily, allowing for a reduction in the private sector's net financial

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1/ Throughout this study, references to government savings and total domestic savings relate to national savings excluding foreign grants (domestically generated savings), as this definition is more indicative of the domestic adjustment efforts. Domestically generated savings differ from the conventional national accounts definition of domestic savings, in that the latter also excludes private transfers. The measurement of private transfers in the context of sub-Saharan Africa is subject to several limitations, however, as these transfers may very well reflect current non-factor payment transactions, which are normally included in domestic savings.

Table 11. Sub-Saharan Africa: Analysis of Net Financial Balances, 1986-93

(In percent of GDP)

	1986	1987	1988	1989	1990	1991	1992	1993 Est.	1986-93 Cumul. change
Sub-Saharan Africa									
Government									
Savings (excl. grants)	1.1	-0.2	-0.7	0.7	0.1	-0.4	-3.4	-2.6	-3.7
Gross investment	7.2	7.0	6.6	6.1	5.9	6.3	5.9	5.5	-1.7
Net financial balance	-6.1	-7.2	-7.3	-5.4	-5.8	-6.7	-9.3	-8.1	-2.0
Private sector									
Savings	12.9	15.8	15.7	14.9	16.4	15.5	16.9	16.1	3.2
Gross investment	10.3	11.5	13.0	12.7	12.7	11.5	11.0	12.0	1.7
Net financial balance	2.6	4.3	2.7	2.2	3.7	4.0	5.9	4.1	1.5
Total economy									
National savings (excl. grants)	14.0	15.6	15.0	15.6	16.5	15.1	13.5	13.5	-0.5
Gross investment	17.5	18.5	19.6	18.8	18.6	17.8	16.9	17.5	--
Net financial balance (external current account balance, excl. grants)	-3.5	-2.9	-4.6	-3.2	-2.1	-2.7	-3.4	-4.0	-0.5
Foreign grants	1.1	1.2	1.3	1.5	1.3	1.3	1.3	1.4	0.3
Sub-Saharan Africa (excl. South Africa)									
Government									
Savings (excl. grants)	1.7	0.1	-1.5	-0.1	0.6	0.4	-1.0	-0.6	-2.3
Gross investment	8.3	8.7	8.2	7.5	7.6	8.4	8.2	7.3	-1.0
Net financial balance	-6.6	-8.6	-9.7	-7.6	-7.0	-8.0	-9.2	-7.9	-1.3
Private sector									
Savings	8.2	10.8	11.9	11.5	12.8	12.3	12.4	10.4	2.2
Gross investment	8.5	9.3	10.2	9.8	10.6	10.7	10.2	10.6	2.1
Net financial balance	-0.3	1.5	1.7	1.7	2.2	1.6	2.2	-0.2	0.1
Total economy									
National savings (excl. grants)	9.9	10.9	10.4	11.4	13.4	12.7	11.4	9.8	-0.1
Gross investment	16.8	18.0	18.4	17.3	18.2	19.1	18.4	17.9	1.1
Net financial balance (external current account balance, excl. grants)	-6.9	-7.1	-8.0	-5.9	-4.8	-6.4	-7.0	-8.1	-1.2
Foreign grants	1.6	1.9	2.0	2.4	2.2	2.2	2.3	2.4	0.8
Sub-Saharan Africa (excl. South Africa and Zaire)									
Government									
Savings (excl. grants)	2.2	0.7	-0.7	0.2	1.2	1.5	-0.2	0.1	-2.1
Gross investment	8.6	9.1	8.5	7.8	7.8	8.6	8.5	7.4	-1.2
Net financial balance	-6.4	-8.4	-9.2	-7.6	-6.6	-7.1	-8.7	-7.3	-0.9
Private sector									
Savings	8.1	10.9	11.6	11.8	12.8	11.8	12.1	10.3	2.2
Gross investment	8.4	9.2	10.2	9.7	10.6	10.8	10.3	10.7	2.3
Net financial balance	-0.3	1.7	1.4	2.1	2.2	1.0	1.8	-0.4	-0.1
Total economy									
National savings (excl. grants)	10.3	11.6	10.9	12.0	14.0	13.3	11.9	10.4	0.1
Gross investment	17.0	18.3	18.7	17.5	18.4	19.4	18.8	18.1	1.1
Net financial balance (external current account balance, excl. grants)	-6.7	-6.7	-7.8	-5.5	-4.4	-6.1	-6.9	-7.7	-1.0
Foreign grants	1.5	1.8	2.0	2.3	2.1	2.2	2.3	2.5	1.0

Source: Economic Trends in Africa data, August 1993.

Table 11 (continued). Sub-Saharan Africa: Analysis of Net Financial Balances, 1986-93

(In percent of GDP)

	1986	1987	1988	1989	1990	1991	1992	1993 Est.	1986-93 Cumul. change
CFA franc countries									
Government									
Savings (excl. grants)	3.1	-0.2	-3.5	-4.7	-3.3	-3.0	-4.1	-3.0	-6.1
Gross investment	8.9	10.1	6.3	5.0	5.0	4.4	4.0	4.1	-4.8
Net financial balance	-5.8	-10.3	-9.8	-9.7	-8.3	-7.4	-8.1	-7.1	-1.3
Private sector									
Savings	9.7	12.2	12.1	12.8	10.4	10.2	10.2	8.0	-1.7
Gross investment	13.9	11.2	12.8	11.1	10.1	11.1	10.8	10.3	-3.6
Net financial balance	-4.2	1.0	-0.7	1.7	0.3	-0.9	-0.6	-2.3	1.9
Total economy									
National savings (excl. grants)	12.8	12.0	8.6	8.1	7.1	7.2	6.1	5.0	-7.8
Gross investment	22.8	21.3	19.1	16.1	15.1	15.5	14.8	14.4	-8.4
Net financial balance (external current account balance, excl. grants)	-10.0	-9.3	-10.5	-8.0	-8.0	-8.3	-8.7	-9.4	0.6
Foreign grants	1.8	1.9	1.9	2.4	2.0	1.9	1.9	1.8	--
Non-CFA franc countries 1/									
Government									
Savings (excl. grants)	1.8	1.1	0.7	2.6	3.6	3.7	1.9	1.9	0.1
Gross investment	8.4	8.5	9.6	9.1	9.3	10.7	11.0	9.4	1.0
Net financial balance	-6.6	-7.4	-8.9	-6.5	-5.7	-7.0	-9.1	-7.5	-0.9
Private sector									
Savings	7.5	10.2	11.4	11.3	14.0	12.7	13.1	11.7	4.2
Gross investment	6.2	8.0	8.9	9.0	10.9	10.6	10.0	10.9	4.7
Net financial balance	1.3	2.2	2.5	2.3	3.1	2.1	3.1	0.8	-0.5
Total economy									
National savings (excl. grants)	9.3	11.3	12.1	13.9	17.6	16.4	15.0	13.6	4.3
Gross investment	14.6	16.5	18.5	18.1	20.2	21.3	21.0	20.3	5.7
Net financial balance (external current account balance, excl. grants)	-5.3	-5.2	-6.4	-4.2	-2.6	-4.9	-6.0	-6.7	-1.4
Foreign grants	1.4	1.8	2.0	2.3	2.2	2.3	2.5	2.8	1.4
Positive per capita growth countries									
Government									
Savings (excl. grants)	3.7	2.0	1.4	3.7	5.2	5.8	3.8	2.8	-0.9
Gross investment	9.0	8.7	9.9	9.1	9.3	11.1	11.5	9.1	0.1
Net financial balance	-5.3	-6.7	-8.5	-5.4	-4.1	-5.3	-7.7	-6.3	-1.0
Private sector									
Savings	6.1	9.9	11.0	11.8	13.8	13.0	13.5	11.8	5.7
Gross investment	6.3	8.1	8.9	9.9	11.4	11.5	10.8	11.4	5.1
Net financial balance	-0.2	1.8	2.1	1.9	2.4	1.5	2.7	0.4	0.6
Total economy									
National savings (excl. grants)	9.8	11.9	12.4	15.5	19.0	18.8	17.3	14.6	4.8
Gross investment	15.3	16.8	18.8	19.0	20.7	22.6	22.3	20.5	5.2
Net financial balance (external current account balance, excl. grants)	-5.5	-4.9	-6.4	-3.5	-1.7	-3.8	-5.0	-5.9	-0.4
Foreign grants	1.4	2.0	1.9	2.2	2.0	1.9	2.1	2.2	0.8
Negative per capita growth countries 1/									
Government									
Savings (excl. grants)	--	-0.9	-3.4	-4.1	-3.9	-4.3	-5.3	-3.6	-3.6
Gross investment	8.0	9.5	6.7	6.1	5.9	5.3	4.6	5.3	-2.7
Net financial balance	-8.0	-10.4	-10.1	-10.2	-9.8	-9.6	-9.9	-8.9	-0.9
Private sector									
Savings	11.1	12.2	12.4	11.6	11.5	10.3	10.3	8.4	-2.7
Gross investment	11.5	10.5	11.9	9.3	9.6	9.8	9.6	9.7	-1.8
Net financial balance	-0.4	1.7	0.5	2.3	1.9	0.5	0.7	-1.3	-0.9
Total economy									
National savings (excl. grants)	11.1	11.3	9.0	7.5	7.6	6.0	5.0	4.8	-6.3
Gross investment	19.5	20.0	18.6	15.4	15.5	15.1	14.2	15.0	-4.5
Net financial balance (external current account balance, excl. grants)	-8.4	-8.7	-9.6	-7.9	-7.9	-9.1	-9.2	-10.2	-1.8
Foreign grants	1.6	1.5	2.0	2.4	2.3	2.5	2.5	2.8	1.2

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

Table 11 (concluded). Sub-Saharan Africa: Analysis of Net Financial Balances, 1986-93

(In percent of GDP)

	1986	1987	1988	1989	1990	1991	1992	1993 Est.	1986-93 Cumul. change
Sustained adjusters									
Government									
Savings (excl. grants)	-1.3	--	1.6	1.5	0.8	1.6	-0.6	-0.3	1.0
Gross investment	6.6	7.4	8.0	8.8	8.4	8.2	7.3	7.6	1.0
Net financial balance	-7.9	-7.4	-6.4	-7.3	-7.6	-6.6	-7.9	-7.9	--
Private sector									
Savings	9.9	10.2	9.0	8.7	10.3	9.9	10.4	9.6	-0.3
Gross investment	7.7	10.6	10.8	10.9	12.3	12.0	11.0	11.7	4.0
Net financial balance	2.2	-0.4	-1.8	-2.2	-2.0	-2.1	-0.6	-2.1	-4.3
Total economy									
National savings (excl. grants)	8.6	10.2	10.6	10.2	11.1	11.5	9.8	9.3	0.7
Gross investment	14.3	18.0	18.8	19.7	20.7	20.2	18.3	19.3	5.0
Net financial balance (external current account balance, excl. grants)	-5.7	-7.8	-8.2	-9.5	-9.6	-8.7	-8.5	-10.0	-4.3
Foreign grants	2.2	2.6	3.2	3.8	3.8	3.8	3.7	4.6	2.4
Low macroeconomic imbalances countries									
Government									
Savings (excl. grants)	-0.8	3.4	6.1	6.6	8.5	8.9	6.9	4.8	5.6
Gross investment	4.3	7.6	7.7	7.3	7.7	8.3	8.8	8.0	3.7
Net financial balance	-5.1	-4.2	-1.6	-0.7	0.8	0.6	-1.9	-3.2	1.9
Private sector									
Savings	30.2	20.4	18.2	17.4	13.5	14.1	14.5	18.5	-11.7
Gross investment	14.5	11.8	16.1	15.8	17.4	16.5	15.7	17.2	2.7
Net financial balance	15.7	8.6	2.1	1.6	-3.9	-2.4	-1.2	1.3	-14.4
Total economy									
National savings (excl. grants)	29.4	23.8	24.3	24.0	22.0	23.0	21.4	23.3	-6.1
Gross investment	18.8	19.4	23.8	23.1	25.1	24.8	24.5	25.2	6.4
Net financial balance (external current account balance, excl. grants)	10.6	4.4	0.5	0.9	-3.1	-1.8	-3.1	-1.9	-12.5
Foreign grants	3.4	2.8	2.0	1.6	1.4	1.1	1.2	1.1	-2.3
Protracted imbalances countries 1/									
Government									
Savings (excl. grants)	4.1	0.5	-2.9	-1.5	0.1	-0.1	-1.5	-0.7	-4.8
Gross investment	10.0	10.1	8.9	7.4	7.6	8.8	9.0	7.2	-2.8
Net financial balance	-5.9	-9.6	-11.8	-8.9	-7.5	-8.9	-10.5	-7.9	-2.0
Private sector									
Savings	4.9	9.9	11.7	12.2	13.8	12.3	12.4	9.0	4.1
Gross investment	8.0	8.1	8.9	8.0	8.6	9.1	8.9	8.9	0.9
Net financial balance	-3.1	1.8	2.8	4.2	5.2	3.2	3.5	0.1	3.2
Total economy									
National savings (excl. grants)	9.0	10.4	8.8	10.7	13.9	12.2	10.9	8.3	-0.7
Gross investment	18.0	18.2	17.8	15.4	16.2	17.9	17.9	16.1	-1.9
Net financial balance (external current account balance, excl. grants)	-9.0	-7.8	-9.0	-4.7	-2.3	-5.7	-7.0	-7.8	1.2
Foreign grants	1.0	1.3	1.4	1.7	1.5	1.6	1.7	1.7	0.7

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

Table 12. Sub-Saharan Africa: Government Savings and Investment, 1986-93

(In percent of GDP)

	1986	1987	1988	1989	1990	1991	1992	1993 Est.	1986-93 Average
Government savings (excluding grants)									
Sub-Saharan Africa									
Including South Africa	1.1	-0.2	-0.7	0.7	0.1	-0.4	-3.4	-2.6	-0.7
Excluding South Africa	1.7	0.1	-1.5	-0.1	0.6	0.4	-1.0	-0.6	-0.1
Excluding South Africa and Zaire	2.2	0.7	-0.7	0.2	1.2	1.5	-0.2	0.1	0.6
CFA franc countries	3.1	-0.2	-3.5	-4.7	-3.3	-3.0	-4.1	-3.0	-2.3
Non-CFA franc countries 1/	1.8	1.1	0.7	2.6	3.6	3.7	1.9	1.9	2.2
Positive per capita growth countries	3.7	2.0	1.4	3.7	5.2	5.8	3.8	2.8	3.6
Negative per capita growth countries 1/	--	-0.9	-3.4	-4.1	-3.9	-4.3	-5.3	-3.6	-3.2
Sustained adjusters	-1.3	--	1.6	1.5	0.8	1.6	-0.6	-0.3	0.4
Low macroeconomic imbalances countries	-0.8	3.4	6.1	6.6	8.5	8.9	6.9	4.8	5.6
Protracted imbalances countries 1/	4.1	0.5	-2.9	-1.5	0.1	-0.1	-1.5	-0.7	-0.3
Government investment									
Sub-Saharan Africa									
Including South Africa	7.2	7.0	6.6	6.1	5.9	6.3	5.9	5.5	6.3
Excluding South Africa	8.3	8.7	8.2	7.5	7.6	8.4	8.2	7.3	8.0
Excluding South Africa and Zaire	8.6	9.1	8.5	7.8	7.8	8.6	8.5	7.4	8.3
CFA franc countries	8.9	10.1	6.3	5.0	5.0	4.4	4.0	4.1	6.0
Non-CFA franc countries 1/	8.4	8.5	9.6	9.1	9.3	10.7	11.0	9.4	9.5
Positive per capita growth countries	9.0	8.7	9.9	9.1	9.3	11.1	11.5	9.1	9.7
Negative per capita growth countries 1/	8.0	9.5	6.7	6.1	5.9	5.3	4.6	5.3	6.4
Sustained adjusters	6.6	7.4	8.0	8.8	8.4	8.2	7.3	7.6	7.8
Low macroeconomic imbalances countries	4.3	7.6	7.7	7.3	7.7	8.3	8.8	8.0	7.5
Protracted imbalances countries 1/	10.0	10.1	8.9	7.4	7.6	8.8	9.0	7.2	8.6

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

Table 13. Sub-Saharan Africa: Private Savings and Investment, 1986-93

(In percent of GDP)

	1986	1987	1988	1989	1990	1991	1992	1993 Est.	1986-93 Average
Private savings									
Sub-Saharan Africa									
Including South Africa	12.9	15.8	15.7	14.9	16.4	15.5	16.9	16.1	15.5
Excluding South Africa	8.2	10.8	11.9	11.5	12.8	12.3	12.4	10.4	11.3
Excluding South Africa and Zaire	8.1	10.9	11.6	11.8	12.8	11.8	12.1	10.3	11.2
CFA franc countries	9.7	12.2	12.1	12.8	10.4	10.2	10.2	8.0	10.7
Non-CFA franc countries 1/	7.5	10.2	11.4	11.3	14.0	12.7	13.1	11.7	11.5
Positive per capita growth countries	6.1	9.9	11.0	11.8	13.8	13.0	13.5	11.8	11.4
Negative per capita growth countries 1/	11.1	12.2	12.4	11.6	11.5	10.3	10.3	8.4	11.0
Sustained adjusters	9.9	10.2	9.0	8.7	10.3	9.9	10.4	9.6	9.8
Low macroeconomic imbalances countries	30.2	20.4	18.2	17.4	13.5	14.1	14.5	18.5	18.4
Protracted imbalances countries 1/	4.9	9.9	11.7	12.2	13.8	12.3	12.4	9.0	10.8
Private investment									
Sub-Saharan Africa									
Including South Africa	10.3	11.5	13.0	12.7	12.7	11.5	11.0	12.0	11.8
Excluding South Africa	8.5	9.3	10.2	9.8	10.6	10.7	10.2	10.6	10.0
Excluding South Africa and Zaire	8.4	9.2	10.2	9.7	10.6	10.8	10.3	10.7	10.0
CFA franc countries	13.9	11.2	12.8	11.1	10.1	11.1	10.8	10.3	11.4
Non-CFA franc countries 1/	6.2	8.0	8.9	9.0	10.9	10.6	10.0	10.9	9.3
Positive per capita growth countries	6.3	8.1	8.9	9.9	11.4	11.5	10.8	11.4	9.8
Negative per capita growth countries 1/	11.5	10.5	11.9	9.3	9.6	9.8	9.6	9.7	10.2
Sustained adjusters	7.7	10.6	10.8	10.9	12.3	12.0	11.0	11.7	10.9
Low macroeconomic imbalances countries	14.5	11.8	16.1	15.8	17.4	16.5	15.7	17.2	15.6
Protracted imbalances countries 1/	8.0	8.1	8.9	8.0	8.6	9.1	8.9	8.9	8.6

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

Table 14. Sub-Saharan Africa: Total Savings and Investment, 1986-93

(In percent of GDP)

	1986	1987	1988	1989	1990	1991	1992	1993 Est.	1986-93 Average	Ratio S/I 1986-93
Total savings										
Sub-Saharan Africa										
Including South Africa	14.0	15.6	15.0	15.6	16.5	15.1	13.5	13.5	14.9	81.8
Excluding South Africa	9.9	10.9	10.4	11.4	13.4	12.7	11.4	9.8	11.2	62.4
Excluding South Africa and Zaire	10.3	11.6	10.9	12.0	14.0	13.3	11.9	10.4	11.8	64.6
CFA franc countries	12.8	12.0	8.6	8.1	7.1	7.2	6.1	5.0	8.4	48.1
Non-CFA franc countries 1/	9.3	11.3	12.1	13.9	17.6	16.4	15.0	13.6	13.7	72.6
Positive per capita growth countries	9.8	11.9	12.4	15.5	19.0	18.8	17.3	14.6	14.9	76.5
Negative per capita growth countries 1/	11.1	11.3	9.0	7.5	7.6	6.0	5.0	4.8	7.8	46.7
Sustained adjusters	8.6	10.2	10.6	10.2	11.1	11.5	9.8	9.3	10.2	54.5
Low macroeconomic imbalances countries	29.4	23.8	24.3	24.0	22.0	23.0	21.4	23.3	23.9	103.5
Protracted imbalances countries 1/	9.0	10.4	8.8	10.7	13.9	12.2	10.9	8.3	10.5	61.2
Total investment										
Sub-Saharan Africa										
Including South Africa	17.5	18.5	19.6	18.8	18.6	17.8	16.9	17.5	18.2	
Excluding South Africa	16.8	18.0	18.4	17.3	18.2	19.1	18.4	17.9	18.0	
Excluding South Africa and Zaire	17.0	18.3	18.7	17.5	18.4	19.4	18.8	18.1	18.3	
CFA franc countries	22.8	21.3	19.1	16.1	15.1	15.5	14.8	14.4	17.4	
Non-CFA franc countries 1/	14.6	16.5	18.5	18.1	20.2	21.3	21.0	20.3	18.8	
Positive per capita growth countries	15.3	16.8	18.8	19.0	20.7	22.6	22.3	20.5	19.5	
Negative per capita growth countries 1/	19.5	20.0	18.6	15.4	15.5	15.1	14.2	15.0	16.7	
Sustained adjusters	14.3	18.0	18.8	19.7	20.7	20.2	18.3	19.3	18.7	
Low macroeconomic imbalances countries	18.8	19.4	23.8	23.1	25.1	24.8	24.5	25.2	23.1	
Protracted imbalances countries 1/	18.0	18.2	17.8	15.4	16.2	17.9	17.9	16.1	17.2	

Source: Economic Trends in Africa data, August 1993.

1/ Excluding Zaire.

deficit. Overall, total savings and investment each declined by about 8 percentage points of GDP. As the worsening in the net financial position of the government was more than compensated by an improvement in the net financial balance of the private sector, the current account deficit ratio declined marginally during the period 1986-93.

The containment of the external imbalance of the CFA franc countries through deflationary policies was clearly unsustainable, as evidenced by the marked declines in real per capita GDP. The internal adjustment measures implemented by several countries, while necessary, were not sufficient to adequately address the impact from a major worsening in external competitiveness. In response to this realization, CFA franc countries devalued by 50 percent (33 percent for Comoros) the external value of their currency in early January 1994, and commenced the implementation of growth-oriented adjustment programs, incorporating increases in both government and private investment. 1/

In contrast, the non-CFA franc countries experienced a small increase in their government savings and investment balances during 1986-91. The savings gains were reversed in the subsequent two years, while the cumulative increase in government investment was reduced to 1 percentage point of GDP, which was reflected in a worsening in the net government financial deficit. Private savings and investment, however, rose strongly during the period, leaving the net financial deficit of the private sector roughly unchanged. The somewhat stronger increase in total investment relative to savings was reflected in a small widening in the current account deficit, which was matched by an increase in the inflow of foreign official grants.

A comparison of the contrasting savings and investment performance of the countries with positive and negative per capita growth highlights some of the factors contributing to a better growth performance. For the countries with positive per capita growth, government savings were positive throughout the period under review, although they fluctuated from year to year, declining overall by 1 percentage point of GDP. Government investment rose by 2.5 percentage points of GDP between 1986 and 1992, but fell by a similar magnitude in 1993. Thus, the net government financial deficit widened by 1 percentage point of GDP between 1986 and 1993. More importantly, private savings more than doubled between 1986 and 1990, and, despite a small decline during the subsequent three years, by 1993 they were 5.7 percentage points of GDP higher than in 1986. During the same period, private investment increased by 5.1 percentage points of GDP, allowing for a modest overall reduction in the net financial deficit of the private sector. The movements in total savings and investment and the current account deficit were dominated by the changes in the private sector's performance.

1/ For a review of the adjustment experience of CFA franc countries and an outline of the objectives and policies of the new adjustment programs, see Clément (1994) and IMF Survey (1994).

The marginal increase in the current account deficit between 1986 and 1993 was more than offset by an increase in foreign grants. Despite the adverse external environment, the countries with positive per capita growth have managed to avoid any declines in government investment and to put in place adjustment policies that have stimulated the expansion of private savings and investment, without any adverse effects on their external current account position.

The countries with negative per capita growth, on the other hand, experienced a decline in government savings and investment and a modest widening of the net government financial deficit during 1986-93. Moreover, private savings and investment declined as well, giving rise to a deterioration in the private sector's net financial balance. As a result, total savings and investment declined markedly, by 6.3 and 4.5 percentage points of GDP respectively, and the current account deficit widened by 1.8 percentage points of GDP. In a sense, the countries with negative per capita growth appear to have been caught in a vicious circle: inappropriate domestic policies in the face of large losses in the terms of trade led to declines in disposable incomes and, in turn, to declines in government and private savings, in an effort to cushion the impact on consumption; the decreasing investable resources and the declining real GDP, as well as the worsening medium-term outlook, led to a major decline in government and private investment, which was nonetheless not sufficient to avoid a widening in the external imbalances.

Additional insights can be obtained by comparing the performance of the countries classified in line with the broad adequacy of their policies. The sustained adjusters managed to raise modestly government savings and investment, thus avoiding any worsening in the net government financial balance. The adjustment policies pursued by these countries contributed to a stabilization of private savings and, more importantly, an expansion of 4 percentage points of GDP in private investment. As a result, the net financial balance of the private sector shifted from a surplus in 1986 to a deficit of a similar magnitude by 1993, and accounted for the widening in the current account deficit during the period. Unlike several other sub-Saharan African countries, the counterpart of the increase in the current account deficit was essentially an expansion in private investment, which enhanced the growth prospects of the sustained adjusters. The adjustment efforts of these countries were supported by increasing external assistance, as evidenced by the doubling of foreign grants (and virtual doubling in total external assistance (ODA)) in relation to GDP between 1986 and 1993. The levels of foreign grants and ODA received by the sustained adjusters during 1992-3, at 4.6 percent and 19.6 percent of GDP respectively, were the highest among the various country groups.

In contrast, the countries with protracted imbalances experienced a widening in the net government financial deficit of 2 percentage points of GDP between 1986 and 1993. Government savings declined markedly, by 4.8 percentage points of GDP, inducing a reduction of 2.7 percentage points of GDP in government investment. However, private savings appear to have

improved strongly, rising overall by 4 percentage points of GDP; the improvement in private savings was even stronger during 1986-92, amounting to 7.5 percentage points of GDP. 1/ Nonetheless, private investment rose much more modestly, allowing for a strengthening in the private sector's net financial balance. Overall, total investment declined by twice as much as the decline in total savings, giving rise to a small narrowing in the current account deficit.

5. Concluding remarks

The analysis in this section indicates that the overall economic performance of sub-Saharan African countries masks major differences in the performance of individual countries or country groups. Countries that have adopted and effectively implemented broad-based structural adjustment programs (sustained adjusters) and countries with low macroeconomic imbalances have done better than others. Sustained adjusters achieved positive per capita real GDP growth and lower inflation during 1986-93, while countries with inappropriate policies (countries with protracted imbalances) experienced a decline in per capita incomes and higher inflation (Table 15). The implementation of appropriate policies by the sustained adjusters contributed to higher government savings and higher private investment, and was complemented with increasing inflows of foreign assistance. At the same time, the countries with positive real per capita growth during 1986-93 experienced positive government savings, increases in government investment, and strong increases in private savings and investment. In contrast, countries with negative per capita growth recorded declines in savings and investment by both the government and the private sector. The average savings and investment ratios during 1986-93 for the countries with positive per capita growth were significantly higher than those for the countries with negative per capita growth and the average for all sub-Saharan African countries; in addition, countries with positive per capita growth financed a much larger proportion of their total investment through domestic savings than other African countries. Nonetheless, savings and investment ratios for sub-Saharan African countries are significantly lower than for other developing countries and still too low to support a sustainable expansion in output and employment (see Table 1).

The experience of sub-Saharan African countries in recent years has demonstrated that a key factor for the attainment of gains in real per capita incomes is an expansion in private savings and investment. The

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1/ The strong expansion in private savings in an environment of relatively inappropriate adjustment policies and a modest increase in private investment is difficult to explain. In view of the large decline during the same period in government savings and the small decline in total investment, this may very well reflect shifts in the coverage of private sector savings or increased support by the government to loss-making entities in the public enterprise sector.

Table 15. Sub-Saharan Africa: Summary of Economic Performance, 1986-93 1/

	SSA 2/	CFA	NCFA	PPC	NPC	SAD	LMI	PIM
Positive average per capita real GDP growth	-	-	+	+	-	+	+	-
Lower inflation	+	-	+	+	+	-	+	+
Increase in real interest rates	-	+	-	-	+	+	+	-
Increase in government savings	-	-	+	-	-	+	+	-
Increase in government investment	-	-	+	+	-	+	+	-
Increase in private savings	+	-	+	+	-	-	-	+
Increase in private investment	+	-	+	+	-	+	+	+
Increase in foreign grants	+	-	+	+	+	+	-	+

Source: Economic Trends in Africa data, August 1993.

1/ A positive sign (+) indicates yes, and a negative sign (-) indicates no.
2/ Excluding South Africa and Zaire.

evolution of these aggregates during 1986-93 was strongly influenced by the macroeconomic and structural policies pursued by individual countries. The divergence in the private sector and overall economic performance among the various country groups reflected primarily the differences in their policy response to the deterioration in the terms of trade, in particular, in the progress they made in promoting macroeconomic stability, improving external competitiveness, and alleviating the structural and institutional impediments to private sector activity. Sustained adjusters made relatively better progress in implementing structural reforms. Non-CFA franc countries cushioned the impact of the terms of trade losses with a much larger downward adjustment in their real effective exchange rates. Nonetheless, the private sector response to the improved policy framework of these countries appears to have fallen somewhat short of initial expectations. This reflected a number of reasons, including the dislocation of the private sector by the magnitude of the initial imbalances and distortions, concerns about the sustainability of government policies, weaknesses in the financial intermediation process, and the complex and nontransparent administrative frameworks. 1/ The inflows of foreign direct investment also increased relatively modestly. Obviously, much more remains to be done. Reinforced efforts are needed to promote macroeconomic stability and broaden the scope and depth of structural reforms by virtually all sub-Saharan African countries.

1/ For an assessment of the private sector response in Ghana, see Kapur and others (1991),

III. Theoretical Determinants of Growth, Savings, and Investment

This section explores the determinants of growth, savings, and investment in developing countries identified in the theoretical literature. The empirical evidence on the effects of macroeconomic stability on growth, savings, and investment in the context of sub-Saharan Africa is quite scare. An attempt is made to fill this void in Section IV.

The Solow-Swan framework, which is at the core of neoclassical growth models, has been used extensively for empirical analysis of growth in developed and developing countries because of its simplicity and ease of application. 1/ In this framework, steady state growth depends on technological progress and population growth, both of which are exogenous to the model. In the absence of technological progress, per capita output does not grow. Also, in this framework an increase in the savings (investment) rate can raise per capita economic growth in the short run. However, because of diminishing returns to capital, per capita output in the long run grows at the rate of exogenously given technological progress. As such, economic policies do not affect steady state economic growth in the neoclassical framework, although they can affect the level of output or its growth rate when the economy is in transition from one steady state to another.

An important prediction of neoclassical growth models is that the output levels of countries with similar technologies converge to a given level in the steady state. 2/ Thus, over time, the growth rates of output of less developed economies would be expected to converge to those of advanced economies. The assumption of diminishing marginal returns in neoclassical models implies that the marginal product of capital falls with capital accumulation. As a consequence, as poor countries typically have lower capital to labor ratios than rich countries, the marginal productivity of capital in poor countries is expected to exceed that in rich countries. The higher returns to capital in developing nations are expected to attract capital from developed countries, thereby making rapid growth possible. However, a number of recent papers have shown that the convergence hypothesis does not appear to be consistent with the empirical evidence. 3/ It is typically found that "unconditional" convergence does

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1/ See Solow (1956) and Swan (1956). Recent application of the neoclassical growth framework include the papers by Khan and Kumar (1993), Knight and others (1993), and Mankiw and others (1992).

2/ See Khan and Kumar (1993), and Knight and others (1993) for an analysis of convergence in developing countries.

3/ See the papers by Barro (1991), Barro and Sala-i-Martin (1992), De Long (1988), Khan and Kumar (1993), and Mankiw and others (1992). See also the paper by Ghura (1992) for the case of sub-Saharan Africa.

not hold. 1/ However, when account is taken for the effects on per capita growth of the rate of investment, population growth, and the economic and social policy environment, support for convergence is usually found. Indeed, advocates of neoclassical growth models have noted that these models do not predict unconditional convergence; rather, convergence is obtained after controlling for the determinants of the steady state itself. 2/

The apparent inconsistency of convergence to hold with actual data has prompted a number of investigators to consider alternative models that can explain long-run growth. In recent years, "endogenous growth" models have provided alternative mechanisms to explain the growth process. Most of these models, without relying on exogenous technological change, have provided mechanisms through which economic and social policies can affect growth in the steady state. Some of these models are able to generate a linkage between policy and growth in the long run by assuming aggregate production functions that exhibit non-decreasing returns to scale. For example, in Romer's model (Romer (1986)), technological change is made endogenous by assuming that it is a public good and that private capital investment raises the level of technology for the society at large. The positive externality associated with private investment leads to a production function with increasing returns to scale. In such a model, the steady-state growth rate increases when the investment rate rises; this implies that domestic policies that affect the investment rate also affect steady state growth. In a similar model by Lucas (1988), externalities arise from increases in human capital because investment in human capital enhances the productivity of both the recipients of such capital and the society at large. Hence, policies that enhance public and private investment in human capital affect long-run economic growth. Endogenous growth models clearly show that macroeconomic and microeconomic policies can affect long-run economic growth through their effects on physical and human capital accumulation. 3/

It is now generally recognized that human capital development enhances economic growth. Recent endogenous growth models have shown that human capital accumulation can be an important source of long-term growth (e.g., Lucas (1988), and Becker and others (1990)). 4/ Indeed, these models have shown that the decision of individuals to invest in human capital enhances

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1/ "Unconditional" convergence implies that the simple correlation between real per capita GDP growth and initial income would be negative in a cross-country sample.

2/ See, for example, the paper by Mankiw and others (1992)).

3/ The papers by Renelt (1991) and Easterly and others (1991) provide surveys of the theoretical and empirical issues related to the neoclassical and endogenous growth models. See also the paper by Otani and Villanueva (1989).

4/ Tallman and Wang (1992) provide a survey of recent papers concerned with the mechanisms through which human capital development contributes to economic growth.

technological progress, thus providing a link between human capital accumulation and growth of per capita output in the steady state. Therefore, policies that promote human capital development would be expected to contribute to per capita growth. Proponents of neoclassical models have shown that the contribution of human capital to growth is consistent with the predictions of the Solow-Swan framework when the latter is augmented to include such capital. For example, Mankiw and others (1992) model human capital accumulation as an exogenous process and show empirically that the underlying production function exhibits diminishing returns to scale in reproducible factors of production.

The existing theoretical models of private investment can be classified under a number of broad categories, such as the accelerator model, the expected profits model, the neoclassical model, and the Tobin's Q model. 1/ However, the difficulties associated with testing the implications of these models in the context of developing countries are now well-known. It is often noted that certain special characteristics of developing countries (such as the presence of imperfect financial markets, foreign exchange shortages, poor economic infrastructure, and limited macroeconomic stability) make the application of the theoretical models of investment to developing countries rather difficult. 2/ In addition, the lack of data on capital stock or on its rate of return makes neoclassical models of investment difficult to estimate. 3/ Nonetheless, a few important elements of each of these models are quite relevant to the behavior of private capital formation in developing countries. For example, economic agents in these countries are concerned about the expected profitability of their investments. They may face more constraints, however, than their counterparts in developed economies; thus, the optimization of their objective functions regarding profits is subject to a larger set of constraints, including those related to infrastructure, institutions, and credit. It has been argued (e.g., Sundararajan and Thakur (1980)) that although some of the basic assumptions attributed to the neoclassical theory do not hold in the context of developing countries, many of the useful insights provided by the theory are still valid in the context of these countries.

A number of studies have investigated the factors that affect savings in developing economies, although not many of them have specifically

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1/ See Greene and Villanueva (1991) for brief descriptions of the existing theoretical models of investment.

2/ See, for example, the paper by Rama (1991).

3/ Given these limitations, empirical studies of investment in developing countries have tended to investigate the correlations between a number of policy variables and the rate of investment, while controlling for the effects of other variables. See, for example, the paper by Greene and Villanueva (1991).

investigated the relationship between macroeconomic stability and savings. 1/ A number of these studies employ variants of the "life-cycle" model of the behavior of household savings, developed by Ando and Modigliani (1963). This model of savings builds on the notion that individuals save mainly to smooth their consumption path over time in accordance to their anticipated lifetime income. Subsequent extensions of the basic life-cycle model of savings have incorporated the idea that individuals also save for bequest motives and for unexpected expenses. 2/ According to the general life-cycle theory, households' savings depend crucially on lifetime income, wealth, and the expected returns on savings. In such a framework, government policies that affect these variables would be expected to also affect savings. In addition, the age structure of the population, typically measured by the ratio of population defined as dependent (under 15 and over 64 years) to total population (dependency ratio), is another important determinant of savings. The larger is the proportion of the working age population in a country the larger will be the aggregate lifetime income, and thus, the higher will be aggregate savings. Also, an implication of the life-cycle hypothesis is that the rate of output growth should have a positive effect on savings. Indeed, empirical studies that have included growth in real output (GDP) in a savings function have invariably found it to have a positive effect on the rate of savings. 3/ In addition, countries that are at a higher level of development can devote more resources to savings.

The following subsections review briefly the main transmission channels of the influence of macroeconomic policies and other factors on growth, savings, and investment.

1. Macroeconomic stability

Macroeconomic policies may affect economic growth either directly through their effect on the accumulation of factors of production, namely capital, or indirectly through their impact on the efficiency with which

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1/ See the studies by Aghevli and others (1990), and Schmidt-Hebbel and others (1992) and the studies cited in them.

2/ See, for example, the paper by Blanchard and Fischer (1989).

3/ See, for example, Collins (1989), Fry (1978, 1980, 1986 and 1989), Giovannini (1983 and 1985), and Mason (1988), among others.

factors of production are used (including total factor productivity). 1/ A stable macroeconomic environment could be defined as one where: (a) inflation is low and predictable; (b) the government budget is well-managed, the deficit relative to GDP is at a reasonable level (consistent with a non-increasing ratio of public debt to GDP), and the use of central bank credit to finance the deficit is kept at a minimal level; and (c) the exchange rate is near its equilibrium level. Macroeconomic stability sends important signals to the private sector about the direction of economic policies and the credibility of the authorities regarding their commitment to manage the economy efficiently. Such stability, by facilitating long-term planning and investment decisions, encourages savings and private capital accumulation. The lack of macroeconomic stability, by creating an atmosphere of uncertainty, makes it difficult for economic agents to extract the correct signals from relative prices, such as the real returns to investment in both human and physical capital, and thus leads to inefficient allocation of resources. 2/ In empirical studies, progress toward macroeconomic stability is typically captured by the rate of inflation (and/or its standard deviation), the overall budget deficit, and deviations from the equilibrium exchange rate. 3/

a. Inflation

The direction of the effects of inflation on savings, investment, and growth is ambiguous in the theoretical literature. According to the Tobin-Mundell effect, higher anticipated inflation leads to a lower real interest rate and causes portfolio adjustments away from real money balances toward real capital; hence, a higher anticipated inflation would be expected to lead to higher real investment and faster growth. However, in the case of developing countries with underdeveloped domestic capital and financial markets, the portfolio adjustments would most likely be from real money balances to real assets (e.g., land, livestock, jewels, and consumer

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1/ The discussion of the theoretical effects of policy variables on economic growth can be motivated by a production function of the form:

$$Y_t = F(A_t,\ a(..)K_t,\ b(..)L_t,\ c(..)H_t)$$

where Y is aggregate output; A_t represents an economy-wide efficiency factor, including the level of technology, and the state of macroeconomic and institutional environment; K is the quantity of physical capital; L is the labor force; H is the level of human capital; and a(..), b(..) and c(..) are efficiency parameters. In empirical work, the estimated regressions are usually based on the time-difference version of this production function, augmented with variables to account for the effects of macroeconomic policies on efficiency.

2/ See the papers by Barro (1976 and 1980) for a theoretical analysis of this issue.

3/ See, for example, Fischer (1991 and 1993).

durables), which are not usually included in private investment, or to assets denominated in foreign currency through capital flight. Thus, higher anticipated inflation in these countries would be expected to lower private investment. Also, in the context of developing countries, inflation may serve as an indicator of the credibility of the authorities' commitment to a stable macroeconomic environment. The presence of high and variable inflation rates would be expected to lower the credibility of the authorities vis-à-vis the private sector, and reduce the returns on private savings and investment. Thus, high rates of inflation would be expected to lower private investment and domestic savings.

Furthermore, when the rate of inflation is highly variable, the extraction of the correct signals from relative price movements becomes a rather difficult task and can lead to an inefficient allocation of economic resources, including capital. It is often noted that the uncertain macroeconomic environment prevailing in Latin American countries in the late 1970s and early 1980s was at the heart of massive capital flights from the region, and that efforts in the 1990s to stabilize the macroeconomic environment in the region have been credited with the repatriation of capital from abroad.

A number of other transmission mechanisms could also give rise to an adverse effect of inflation on investment and growth. In the cash-in-advance models (e.g., Stockman (1981)), anticipated inflation, by raising the cost of capital, lowers capital accumulation, and hence lowers economic growth. In a recent paper, De Gregorio (1993) has used two types of endogenous growth models to show that inflation can adversely affect growth in the steady state through its effect on both the rate and efficiency of investment. In the first model, an increase in inflation induces firms to economize in real money balances, thus raising transactions costs and the value of capital. The resulting increase in the price of capital goods leads to a reduction in the rate of investment, which in turn reduces capital accumulation and growth. In the second model, it is assumed that the productivity of capital depends on employment. An increase in inflation raises the inflation tax and hence lowers the incentive to work; a fall in employment leads to a reduction in growth. Also, Fischer (1993, p. 487) has noted that "the inflation rate serves as an indicator of the overall ability of the government to manage the economy. Since there are no good arguments for very high rates of inflation, a government that is producing high inflation is a government that has lost control."

b. Fiscal policy

The direction of the effects of fiscal policy on economic activity is ambiguous in the theoretical and empirical literature. In a broad sense, fiscal policy encompasses stabilization, growth, and distributional objectives. In this context, fiscal policy relates to: tax measures that generate increased revenues for the government, as well as influence economic incentives and equity in the economy; expenditure measures that

affect directly economic activity and encourage the development of the private sector through investments in physical and social infrastructure; and, finally, measures that influence the overall borrowing requirement of the government. The extent of government involvement in the economy and its ability to provide the necessary environment that is conducive to economic growth has received considerable attention in the development literature over the years. Indeed, this literature is quite large and controversial. 1/ In the empirical literature, emphasis has been placed on the overall budget deficit as a measure of the government's borrowing requirement. Other things being equal, a higher budget deficit will crowd out the private sector as a result of lower access to bank credit and/or higher real interest rates, and a more appreciated real exchange rate. Government investment has also been used in empirical studies as a direct proxy of the government's contribution to capital accumulation, as well as an indicator of the adequacy of basic economic and social infrastructure. Some studies have also included government consumption to allow for the concern of supply side theories that higher government spending creates expectations of future tax liabilities that in turn distort incentives and lower economic growth (e.g., Kormendi and Meguire (1985)).

Recent endogenous growth models have shown that fiscal policy can have significant effects on economic growth in the long run. Barro (1989 and 1990), in a model that assumes constant returns to scale with respect to government inputs and private capital combined but diminishing returns with respect to private capital alone, has shown that high levels of government taxation distort savings decisions, which in turn lower economic growth in the steady state. In addition, the way fiscal imbalances are corrected matters for private capital accumulation. On the one hand, declines in unproductive government expenditure, if viewed as permanent by the private sector, would reinforce the credibility of economic policies, and thus would be expected to stimulate private investment. On the other hand, however, if fiscal imbalances are corrected by curtailing public investment, private investment would be reduced, given the complementarity between public and private investment. 2/

A rising budget deficit is likely to be associated with declining government savings. From the theoretical literature, the effects of changes in government savings on domestic savings are ambiguous. According to the simple Keynesian view, an increase in government consumption, that is, a

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1/ See the paper by Lindauer and Velenchik (1992) for a survey of the issues involved in the context of developing countries. The paper by Easterly and Rebelo (1993) discusses the effects of fiscal policy on economic growth.

2/ In the current study, an attempt is made to isolate the empirical effect of the information content of the budget deficit ratio by including the government investment ratio in the empirical investment equation as a separate regressor.

decrease in government savings (and an increase in the budget deficit), increases income by a "multiplier effect." An increase in income, in turn, raises private savings. If the increase in private savings exceeds the decline in government savings, total saving increases. However, in an intertemporal environment where expectations play an important role, current government actions regarding its budgetary position are expected to affect the current and future time paths of macroeconomic variables, including private investment and savings. If the private sector expects an increase in future tax liabilities, current and future private consumption and savings would change depending on the income and substitution effects of these liabilities. The income effect of an increase in tax liabilities would lower consumption in all periods, whereas the substitution effect would encourage consumption in the current period. If the income effect were to dominate the substitution effect, consumption would fall in the current period, thus raising private savings. The opposite would be true if the income effect was dominated by the substitution effect.

In such an intertemporal framework, the "Ricardian equivalence" theory (Barro (1974)) suggests that in anticipation of an increase in future tax liabilities following a decrease in contemporaneous government savings (an increase in government expenditures), private savings increase by an equivalent amount so that national savings remain unaffected. 1/ Thus, according to this view, changes in government deficits would not be expected to affect national savings. In fact, the Ricardian equivalence theory maintains that for a given higher level of public expenditure, a temporary switch from tax finance to bonds finance, will not alter real variables (such as the real interest rate, output volume, and real investment) in the economy. This is because forward looking economic agents, having full knowledge of the government's budget constraint and using the same discount rate as the government, know that at some future time taxes would have to be increased. Hence, as economic agents are assumed to be concerned about the well-being of their heirs, they raise their savings to leave as bequests, so that the welfare of these heirs is not reduced when taxes actually increase at some point in the future. However, in the context of developing economies, the strict conditions required for the Ricardian equivalence theory to hold (such as the existence of perfect capital markets, the absence of liquidity constraints, the lack of uncertainty about the future course of fiscal policy, and the equality between public and private discount rates) are unlikely to be met. Thus, contrary to the Ricardian equivalence hypothesis, private savings would most probably not offset fully an increase in fiscal deficits. The empirical evidence to date tends to reject this hypothesis in the context of developing economies (e.g., Corbo and Schmidt-Hebbel (1991), Haque and Montiel (1989), Raut and Virmani (1990), and Rossi (1988)). In the context of developed economies, many of the early studies tended to reject the Ricardian equivalence. However, Seater (1993) notes that many of these studies have major weaknesses, such

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1/ Seater (1993) provides a detailed survey of the issues related to the Ricardian equivalence.

misspecified equations, simultaneity bias, measurement problems, and spurious correlations due to use of nonstationary series. Most of the recent studies in the context of developed economies, using more appropriate econometric techniques and better data, tend to support "approximate" Ricardian equivalence (see Seater (1993)).

c. Exchange rate policy

Given that the exchange rate is an important relative price influencing the external competitiveness of domestically produced exportable goods, exchange rate policy has received a significant amount of attention in adjustment efforts in developing economies. An overvalued exchange rate acts as an implicit tax on exports and a subsidy on imports, and thus leads to a trade deficit. An objective of a devaluation is to correct an overvaluation, thereby improving external competitiveness by inducing a real depreciation. 1/2/ Although a devaluation is expected to be beneficial to the trade balance and to economic growth, some observers have noted two characteristics of sub-Saharan African economies that would weaken the effectiveness of devaluations. First, they note that devaluations would be inflationary given the high dependence of the region on imports, including imported capital goods and other factors of production. Thus, if the rise in marginal costs of production following a devaluation were to exceed the increase in output price, the production incentives would be undermined. Second, the production of agricultural exports, which constitute the main source of exports of sub-Saharan African countries, is claimed to be inelastic with respect to relative price changes. Therefore, a devaluation would not be effective in stimulating agricultural output, even if it were successful at inducing a real depreciation.

Recent evidence, however, suggests that total and agricultural exports of African countries are quite responsive to price incentives. Bond (1983) reports an average long run elasticity of 0.21 for the major export crops. Also, Jaeger (1991) obtained price elasticities for aggregate agricultural export supply ranging from 0.1 to 0.3. In addition, Ghura and Grennes (1994) report price elasticities of 0.65 and 0.68 for total exports and primary product exports, respectively, for a group of 33 sub-Saharan African countries. In general, these studies tend to indicate that total and agricultural exports of African countries do in fact respond to price incentives, and that this response is stronger in the long run than in the short run.

1/ Many sub-Saharan countries have by now adopted more flexible exchange rate arrangements. The term "devaluation" here is used to refer to the array of policies, including exchange rate policies, that aim at maintaining the actual real exchange rate close to its equilibrium rate.

2/ For a detailed review of exchange rate policies in developing countries, see Aghevli and others (1991).

The direction of the effect of real exchange rate changes on the rate of investment is ambiguous in the theoretical literature. On the one hand, a real depreciation raises the cost of imported capital goods, and since a large component of investment goods is imported in developing countries, domestic investment would be expected to fall with a real depreciation. On the other hand, an appreciating real exchange rate would be expected to lower the profitability of exportable goods and thus export volumes. The resulting decline in export earnings might induce the authorities to impose exchange restrictions on imports, including imports of capital goods, in order to economize foreign exchange reserves. In addition, movements in the real effective exchange rate would be expected to capture the effects of outward-oriented trade strategies. A real depreciation, by raising the profitability of activity in the tradable goods sector, would be expected to stimulate private investment in this sector.

2. Trade policy

Outward-oriented trade strategies include policies to maintain the exchange rate close to its equilibrium level, lower import protection, and remove trade barriers. The main channels of transmission from openness to growth in the theoretical literature are through the effects of increased competition and access to trade opportunities on the efficiency of resource allocation, and through the positive externalities resulting from access to improved technology. Khan (1987, p. 28) notes that "tariffs, quotas, and other restrictions on trade and payments reduce the amount of trade and specialization and tend to foster import-substituting industries that lack the efficiency and flexibility of firms continuously exposed to international competition." In the endogenous growth models developed by Grossman and Helpman (1989a and 1989b), openness to international trade accelerates technological advancement from access to goods and services with embodied technology; technological advancement, in turn, is beneficial for economic growth. Lucas (1988) has considered a model of growth where access to essential production inputs from abroad accelerates the positive externalities stemming from learning-by-doing. Romer (1986 and 1990) has noted that increased openness is beneficial to growth because of the increased availability of technologies and the accompanying knowledge spillovers. Also, Krueger (1974) and Grossman and Helpman (1986b) have argued that the existence of import quotas divert productive resources to rent-seeking activities and hence slow down growth. 1/

1/ Roubini and Sala-i-Martin (1991) provide a survey of the linkages between trade orientation and economic growth. The main message of their survey is that existing theoretical models predict ambiguous effects of openness on growth. However, the authors note that the bulk of empirical studies show a positive linkage (e.g., World Bank (1987)).

3. Structural policies

Although macroeconomic stability is a necessary condition for sustained economic growth, it needs to be supplemented by structural and institutional reforms. Such reforms are necessary to enhance economic incentives and improve the allocation of resources, as well as remove the impediments to private sector development. Structural policies can be classified into two broad categories: policies to improve efficiency and resource allocation, and policies that expand productive capacity of the economy (Khan (1987)). Policies aimed at improving the efficiency of economic resources involve measures to reduce the wedges between prices and marginal costs, which typically arise from price controls (including on interest rates, exchange rates, and agricultural prices), imperfect competition, subsidies and tax exemptions, distortive taxes, and exchange and trade restrictions. Policies to expand capacity include those aimed at raising savings and investment. Although, in principle, structural reforms make it possible to raise output for a given level of economic resources without reducing consumption, in practice the rewards from such policies may be felt with a lag. A primary reason for this is that it takes time for factors of production to move from one sector (or activity) to another. In addition, special interest groups that benefit from the rent opportunities provided by existing price distortions may stand in the way of implementing of these policies. 1/

Other structural reforms include liberalization of administrative procedures for private sector activity and legal reforms. A common characteristic of countries with limited political rights and civil liberties is a lack of well-defined property rights and market-friendly legal institutions. The absence of these rights and institutions lowers the security for life and property, and as a consequence reduces the rate of accumulation and the efficiency of factors of production, including human and physical capital. The lack of political freedom, therefore, is expected to lower economic growth. 2/

1/ Given the complex nature of structural reforms, it is not possible to have a variable that accounts for them explicitly in empirical work. In the empirical section of the current study, an attempt is made to capture the effects of these reforms by the use of dummy variables for selected country groups. The sustained adjusters are considered to have made relatively more progress in the area of structural reforms than the countries with protracted macroeconomic imbalances during the period under review.

2/ Some empirical studies have attempted to capture the effects of the political and institutional environment on growth performance. See, for example, the papers by Barro (1991), Fosu (1992), and Kormendi and Meguire (1985).

4. Financial intermediation

McKinnon (1973) and Shaw (1973) emphasized the crucial role played by financial deepening in increasing the rate of domestic saving, thus in lowering the cost of borrowing, and in turn, in stimulating investment. In addition, if financial deepening contributes to an increase in the expected profitability of capital, it would also be expected to encourage investment. Recently, the endogenous growth literature has been extended to investigate the effects of financial deepening and intermediation on growth. 1/ This literature has emphasized the important role that financial intermediation plays in improving the efficiency of investment, and thus in stimulating economic growth. 2/

Efforts towards financial liberalization include lifting of ceilings on deposit and lending rates and making them more responsive to market conditions. 3/ From the theoretical literature, the effect of a change in interest rates on saving and consumption is ambiguous because the income and substitution effects of such a change work in opposite directions. An increase in the returns to savings raises the stream of future income and wealth, and thus is expected to raise current consumption. At the same time, the higher returns on savings are expected to encourage economic agents to raise savings because postponing current consumption would imply the possibility of larger future consumption out of current income. If the substitution effect of a rise in the returns to savings dominates the income effect, then an increase in interest rates would be expected to raise savings.

The empirical literature for developing countries does not provide a definitive answer to the ambiguity as regards the effects of changes in interest rates on the rate of savings. Fry (1978 and 1980) provides empirical evidence to support a positive (although small) relationship between the real interest rate and aggregate savings. However, subsequent work by Giovannini (1983 and 1985) found that Fry's results were not robust because they depended crucially on the experience with financial liberalization of the Republic of Korea. With a modified data set, Giovannini found negligible responses of aggregate savings to changes in the real interest rate. The lack of a significant and robust relationship

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1/ See, for example, the studies by Bencivenga and Smith (1991) and Greenwood and Jovanovic (1990). King and Levine (1992) provide a survey of studies investigating the empirical linkages between financial indicators (including the ratio of money to GDP) and economic growth.

2/ A number of empirical studies have found a positive relationship between the real interest rate and economic growth (e.g., World bank (1989b), Gelb (1989), and Roubini and Sala-i-Martin (1992)). See also the papers by King and Levine (1993), and De Gregorio and Guidotti (1992) on the beneficial effects of financial intermediation on growth.

3/ For a detailed review of interest rate policies in developing countries, see IMF (1983)

between the real interest rate and savings in the context of developing countries may reflect more a measurement problem than a substantive one with the existing theory concerning the role of financial intermediation. It is well known that savings data for developing countries are not very reliable. Also, during the time period used by most existing studies, interest rates in many developing nations were controlled, and thus they adjusted very slowly relative to economic fundamentals. Although the empirical evidence suggests that interest rate policies have small effects on savings rates, maintenance of negative real interest rates for prolonged periods could lead to a flight out financial savings.

5. External debt

A number of channels have been identified in the literature for the negative impact on private investment and savings of large ratios of external public debt to exports. Two of these channels are particularly relevant for sub-Saharan African countries. First, the resources used for servicing the debt crowd out public investment, which in turn discourages private investment, given the complementarity between these two types of investments. Second, the external debt ratio could be indicative of a "debt overhang", whereby the presence of high debt ratios leads economic agents to anticipate future tax liabilities for its servicing (Borensztein (1990a and 1990b) and Eaton (1987)). An increasing external debt ratio could induce these agents to transfer funds abroad, instead of saving domestically, thus rasing the implicit domestic cost of capital.

6. Terms of trade changes

The effect of a change in the terms of trade on growth is ambiguous in the theoretical literature. On the one hand, if an improvement in the terms of trade were to reduce input prices relative to output prices, firms would have an incentive to raise quantity supplied in the short run. However, this argument may not hold for many countries in sub-Saharan Africa for two reasons. First, the manufacturing and infrastructural bases in these countries are weak, thus limiting the capacity of economic agents to respond adequately to improvements in the terms of trade in the short run. Second, many African countries rely heavily on one or two primary commodities which have long gestation cycles and whose response to price incentives in the short-run is limited. On the other hand, an improvement in the terms of trade could lower growth in the short-run, as it would lead to an appreciation of the equilibrium real exchange rate, thus lowering the

profitability of tradable goods. 1/ By a symmetric argument, a permanent deterioration of the terms of trade would cause a depreciation of the equilibrium real exchange rate. If the nominal exchange rate did not adjust, it would become overvalued, thus undermining the incentives for producing tradable goods.

The effects of changes in the terms of trade on savings are also ambiguous in the theoretical literature. 2/ In the models proposed by Harberger (1950) and Laursen and Metzler (1950), a deterioration in the terms of trade, by lowering real income, lowers savings. Subsequent authors, using intertemporal models, have challenged the Laursen-Metzler-Harberger effect. For example, in a model proposed by Obsfeld (1982), savings actually increase with a deterioration of the terms of trade. In this model, the economy has a target level of real wealth; with a fall in real wealth following a deterioration of the terms of trade, savings are raised to maintain this target level of real wealth. The paper by Svensson and Razin (1983) has noted that a change in the terms of trade has ambiguous effects on savings, depending on whether this change was of a temporary or permanent nature. In addition, Persson and Svensson (1985) have shown that the effect of a change in the terms of trade on savings is ambiguous depending on whether or not this change is anticipated, and whether it is temporary or permanent.

In the context of sub-Saharan African countries, a deterioration in the terms of trade associated with a decline in the world prices of primary commodities exported by these countries would lead in the short term to a decline in export earnings, private disposable incomes, and to the extent that government revenue relies heavily on export taxes, to tax receipts. The impact on output growth would depend on the response of export volumes to the decline in export prices and of aggregate demand to the decline in real disposable income, as well as the response of policies to the deterioration in the terms of trade. Exchange rate depreciations and/or reductions in domestic costs could alleviate or compensate for the decline in the price of traded goods relative to nontraded goods, and over time reverse the decline in disposable incomes. Similarly, access to higher

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1/ It must be noted that the effect of a change in the terms of trade on the real exchange rate is ambiguous since it depends on substitution versus income effects (see Edwards (1989), and Khan and Ostry (1991)). If the income effect dominates the substitution effect, an improvement in the terms of trade would lead to an appreciation in the real exchange rate. Empirical evidence for sub-Saharan Africa suggests that improvements in terms of trade lead to appreciations in the real exchange rate, indicating that the income effect of changes in the terms of trade dominate the substitution effect (Ghura and Grennes (1993 and 1994)). Edwards (1989) provides similar empirical evidence for developing countries in general.

2/ See the papers by Persson and Svensson (1985) and Svensson and Razin (1983) for a summary of the issues related to the effects on savings of changes in the terms of trade.

foreign financing (including foreign assistance) could help sustain the level of aggregate demand, but would have no remedial impact on the relative price of exportable goods.

7. Foreign assistance

In an accounting framework where the current account deficit of the balance of payments equals the difference between national savings and investment, the effectiveness of foreign assistance on domestic economic performance is a priori indeterminate. The increase in disposable income resulting from an inflow of foreign assistance could be either invested or consumed, depending largely on the perceived permanence of the higher level of foreign savings. Thus, uncertainty regarding the permanency of aid inflows could discourage private investment. At the same time, the large increases in public sector investment frequently associated with foreign aid, even in the case of grants, can have a negative impact on domestic savings over the medium term if the recurrent cost implications lead to a deterioration in the fiscal position. In addition, the success of foreign aid, and the absorption of higher levels of aid in particular, are likely to depend to a large extent on the capacity of governments to use the aid efficiently. It is conceivable that once the absorptive capacity of foreign assistance has been reached, additional inflows of foreign aid could become counterproductive.

A branch of the literature on the real exchange rate, building on the "Dutch disease effect", has noted that foreign aid can have undesirable effects on economic performance. 1/ When part of foreign aid is spent in the nontraded goods sector, the ensuing upward pressure on the domestic price of nontraded goods causes the equilibrium real exchange rate to appreciate, thus harming external competitiveness. But, the resulting improvement in the profitability of the nontraded goods sector induces labor to move out of export-oriented activities (such as export-agriculture) into service-oriented activities. A fall in labor supply in agriculture puts upward pressure on labor costs in agriculture, thus lowering the profitability of this sector. The resulting decline in external competitiveness hurts export performance and, in turn, hurts economic growth. In fact, as noted by van Wijnbergen (1986), aid can create a vicious circle of poor export performance and aid dependency. The "Dutch disease effect" of an inflow of foreign assistance does not imply that the latter is always undesirable. Foreign assistance can also have beneficial effects, if it helps the development of economic and social infrastructure, thereby complementing private sector activities. The extent to which foreign aid is beneficial would depend on whether the positive effects of aid inflows were to dominate their undesirable effects.

1/ See van Wijnbergen (1986) for a theoretical exposition and empirical confirmation.

At the microeconomic level, foreign assistance would be expected to affect the labor-leisure choice of individuals, and as such would affect domestic saving efforts. Aid makes it possible, on average, for individuals to maintain a given level of income and consumption without having to offer the same number of hours of work (effort) as before the inflow of aid. That is, aid lowers the opportunity cost of work, thereby encouraging economic agents to substitute work efforts with leisure. As work effort decreases, income out of own-labor-supply falls, thus lowering savings. This adverse effect of aid on domestic savings would be more pronounced if the inflow of foreign assistance were perceived to be permanent. However, if at the macroeconomic level, aid were to help the development of the social and physical infrastructure, boosting employment, and raising the productivity of the labor force and physical capital, real income would rise. Thus, by potentially raising real income, aid can boost domestic savings. Hence, while the direct effect of foreign aid on domestic savings is likely to be negative, the indirect effect could be positive.

IV. Empirical Determinants of Growth, Savings, and Investment

This section reports the results of an empirical investigation of the factors that have influenced growth, savings, and investment in sub-Saharan Africa during 1986-92. A multiple regression framework is used to separate out the effects of macroeconomic stability on growth, savings, and investment, while controlling for the effects of other variables. The empirical methodology used is outlined in Appendix I. Actual data covering the period 1986-92 for 39 countries were used in the analysis. 1/ The time span covered by this study is somewhat short; and thus, the empirical findings should be viewed as preliminary and interpreted with caution. However, these results tend to indicate that the behavior of growth, private investment, and domestic savings in sub-Saharan Africa is consistent with certain theoretical regularities. The findings also confirm the results of several previous empirical studies of growth, savings, and investment. In particular, these aggregates reacted favorably to a stable macroeconomic environment during 1986-92. The evidence suggests that macroeconomic stability is conducive to higher rates of savings and investment, and to faster rates of economic growth. Nevertheless, the direction of causality between macroeconomic policy variables and foreign aid on the one hand, and growth, savings, and investment on the other hand are not clear cut. A full investigation of these causal relationships is beyond the scope of this study. However, the broad correlations presented in this section are indicative of the important linkages between macroeconomic stability and growth, savings, and investment.

1. Determinants of growth

Over the years, two opposing schools of thought have emerged on the causes of the poor growth performance in sub-Saharan Africa. Some observers have blamed external factors beyond the control of policy makers (such as a weak demand for the primary commodities exported by sub-Saharan African countries and unfavorable weather) for the sluggish growth. Others have suggested that policy failures (reflected in high and variable inflation rates, high budget deficits, overvalued real exchange rates, and administered interest rates and agricultural producer prices) were at the heart of the poor growth performance in the region. 2/

In a recent paper, Fischer (1991) has investigated the various channels through which macroeconomic policies influence economic growth. He notes two possible channels through which this influence may occur; macroeconomic policies may affect growth through their effect on the volume of investment,

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1/ South Africa and Zaire were excluded from the analysis.

2/ A recent World Bank study on Africa (World Bank (1994)) has noted that the generally weak economic performance of the countries in the region can be attributed more to inappropriate domestic policies than to external shocks.

or the efficiency of investment. Using pooled time-series and cross-section data for a diverse group of developing countries, Fischer provides empirical support for both transmission channels. Various other studies, using data for developed and developing countries, have provided support for the positive effects of macroeconomic stability on economic growth. 1/ Cross-section empirical studies of growth performance that have included a dummy variable for African countries have invariably found a significant negative sign on its estimated coefficient, indicating that over periods as long as two to three decades African economies have grown on average much slower than the rest of the world (e.g., Barro (1991) and Fischer (1991)). A natural conclusion from these results is that Africa is different in terms of its economic growth performance. A recent paper by Easterly and Levine (1993) found that the dummy variable for African countries remained significant, even after controlling for the effects of economic policies, human capital, factor endowments, and initial conditions. 2/ A possible explanation for the weak performance of Africa in comparison to other developing countries is the relatively slower contribution to growth from capital accumulation and the modest improvement in total factor productivity (see tabulation below).

1/ See, for example, the papers by Kormendi and Meguire (1985) and Grier and Tullock (1989). The paper by Levine and Renelt (1992) has a long list of other relevant studies; the same paper, using cross-section data for a large group of developed and developing countries and the Leamer extreme bounds analysis, has shown that the empirical linkages between macroeconomic variables and economic growth are quite fragile. It remains to be established, however, if the same conclusion would hold if the sensitivity analyses were done instead with pooled time-series and cross-section data for groups of countries in the different regions of the world, and for different time periods.

2/ There is only limited recent empirical evidence for the effects of macroeconomic policies on growth in Sub-Saharan Africa. The papers by Easterly and Levine (1993), Ghura (1992), and Ghura and Grennes (1993) are exceptions. The paper by Wheeler (1984) made an early attempt to investigate the relative importance of policies and external forces in explaining growth in the region. Recent empirical studies on the determinants of growth in sub-Saharan Africa have investigated the role of: exports (Fosu (1990)); capital instability (Fosu (1991)); political instability (Fosu (1992)); and export instability (Gyimah-Brempong (1991)).

Contribution to Trend Output Growth, 1971-91 1/

(Annual percentage changes)

	All developing countries	Africa	Asia	Latin America
Trend output growth 2/	5.2	3.4	6.5	4.0
Capital contribution	2.5	1.9	2.8	1.9
Labor contribution	1.3	1.3	1.1	1.5
Total factor productivity	1.3	0.2	2.6	0.5

In this subsection the channels through which macroeconomic policies affect growth in sub-Saharan Africa are investigated. The explanatory variables included are: the ratio of private investment to GDP (PIY), the ratio of government investment to GDP (GIY), population growth (PG), secondary school enrollment ratio in 1970 (SEC70), the ratio of the budget deficit to GDP (DEFY), inflation (INF) and the square of INF (INFSQ), the terms of trade (TTG), a dummy for countries of the CFA zone (CFADUM), a dummy for the sustained adjusters (SUSDUM), a dummy for countries with protracted macroeconomic balances (IMBDUM), a dummy for droughts (DRY), and an index of political rights and civil liberties (FREE). 3/ Table 17 reports the regression results; regressions (1)-(4) report results with pooled time-series and cross-section data, and regression (5) reports results with pooled cross-section and period average data. 4/ The rest of this subsection discusses the results.

The results indicate that the macroeconomic environment matters for growth. Thus, countries that had lower rates of inflation and budget deficit ratios, and faster convergence of the actual real effective exchange rates to their respective equilibrium levels, experienced faster rates of growth than the others. The negative effect of inflation lends support to the predictions of cash-in-advance models, thus confirming the results of many previous studies. 5/ The percentage change in the real effective exchange rate can be regarded as a proxy for: (i) the effects of movements

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1/ IMF, World Economic Outlook, May 1993

2/ Trend output is defined as a three-year moving average real GDP.

3/ See Table 16 for the definitions of the variables.

4/ The subperiods over which the averages of the series are taken are 1986-89 and 1990-92.

5/ De Gregorio (1993), Fischer (1991), Ghura (1992), Grier and Tullock (1989), and Kormendi and Meguire (1985) found significant negative effects of inflation on growth. Barro (1991), Fischer (1991), for a group of developing countries, and Easterly and Levine (1992), for sub-Saharan Africa, found significant negative effects of the budget deficit ratio on growth.

Table 16. Definitions of the Variables Used in the Regressions 1/

YG	Growth in real GDP.
YGPC	Growth in per capita real GDP.
PIY	Private investment as a ratio to GDP.
GIY	Government investment as a ratio to GDP.
NSY	National savings as a ratio to GDP, where nationals saving are defined as investment plus the current account balance.
DSY	Domestic savings as a ratio to GDP, where domestic savings are defined as national savings minus grants.
RYPC$	Per capita real GDP, expressed in US dollars.
PG	Population growth.
SEC70	Secondary school enrollment ratio in 1970. Data for the 1970 enrollment ratios are missing for Namibia, Sao Tome and Principe, and Seychelles. Also, since data for school enrollment are not available for 1970 for Malawi, the 1976 figure is used instead; for Cape Verde, the 1975 figure is used. Source: World Bank, World Tables.
DEFY	Overall budget deficit (including grants) as a ratio to GDP.
INF	Annual percentage change in the consumer price index (annual rate of inflation).
INFSD	Standard deviation of INF. Note that this variable is time invariant.
RERG	Percentage change in the real effective exchange rate.
RERGSD	Standard deviation of RERG. Note that this variable is time invariant.
BMY	Broad money as a ratio to GDP.
TTG	Percentage change in the terms of trade.
DETX	External debt as a ratio to total exports.
DETXSQ	DETX squared.
ODAY	Overseas development assistance as a ratio to GDP.
ODAYSQ	ODAY squared.
DRY	A dummy variable as a proxy for the extent of inadequate rainfall. This variable takes a value of 1 if the percentage change in the per capita food production is less than zero and it assumes a value of zero otherwise. The index of per capita food production was obtained for the period 1986-91 from the World Bank, World Tables.
DEPEND	Dependency ratio, defined as the ratio to total population of those below 15 and over 64. The proxy used to measure DEPEND is the ratio to total population of the difference between total population and the labor force (LABOR). Data for LABOR were unavailable for Sao Tome/Principe, and Seychelles. The labor force was obtained from the World Bank, World Tables.
FREE	Index of political freedom and civil liberties for the period 1986-91, obtained from McColm and others (1991). The methodology used by McColm and others (1991) for the calculation of this index is as follows: countries are on a seven-point scale for levels of political rights and civil liberties and they summarize these ratings in terms of overall assessments as free, partly free, and not free. For the purpose of the current study these three categories have been assigned the (arbitrary) numeric codes 2, 1 and 0, respectively. Data for this variable are missing for 1992. Political rights are defined by McColm and others (1991) as the rights to participate meaningfully in the political process, such as the right of all adults to vote and compete for public office, and for elected representatives to have a decisive vote on public policies. Civil liberties are defined as rights to free expression, to organize or demonstrate, as well as rights to a degree of autonomy such as is provided by freedom of religion, education, travel, and other personal rights. For a more complete description of the procedures used in the construction of the index of political freedom, refer to the above publication and also to Gastil (1987). A similar political index has been used in empirical work (e.g., Kormendi and Meguire (1985)).

Table 16. Definitions of the Variables Used in the Regressions (concluded) 1/

SUSDUM	Dummy variable for countries judged as sustained adjusters during 1986-93; they are Benin, Burundi, The Gambia, Ghana, Kenya, Lesotho, Malawi, Mali, Mozambique, Niger, Senegal, Tanzania, Togo, and Uganda.
IMBDUM	Dummy variable for countries with protracted imbalances during 1986-93; they are Burkina Faso, Cape Verde, Central African Republic, Chad, Cameroon, Comoros, Congo, Cote d'Ivoire, Equatorial Guinea, Ethiopia, Gabon, Guinea, Guinea-Bissau, Madagascar, Nigeria, Rwanda, Sao Tome/Principe, Sierra Leone, and Zambia.
CFADUM	Dummy variable for CFA franc countries; they are Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Côte d'Ivoire, Comoros, Congo, Equatorial Guinea, Gabon, Mali, Niger, Senegal, and Togo.

1/ See Table 5 for a list of countries included in this study. Complete data for the period 1986-92 are available for most variables, except for SEC70, RERG, TTG, DRY, FREE, and DEPEND. The data for FREE and DRY cover the period 1986-91 for all countries. All data (except for the ones indicated) are from the Economic Trends in Africa database.

Table 17. Estimates of the Growth Equation 1/

(Dependent variable: growth rate of per capita real GDP)
(Estimation method: Generalized Least Squares) 2/

Explanatory variables	Regression No. (1) 3/	(2) 3/	(3) 3/	(4) 3/	(5) 4/
PIY 5/	0.056 *** (2.71)	0.018 (0.62)	0.022 (0.76)	0.021 (0.75)	0.044 *** (2.75)
GIY	0.141 *** (4.53)	0.123 ** (2.43)	0.108 ** (2.12)	0.161 *** (3.17)	0.130 *** (3.86)
PG 5/	−0.754 ** (2.42)	−1.113 *** (3.27)	−1.057 *** (3.14)	−0.788 ** (2.19)	−0.812 *** (2.90)
SEC70	0.176 *** (4.92)	0.125 *** (3.01)	0.102 ** (2.45)	0.078 (1.63)	0.044 (1.13)
DEFY 5/	---	−0.156 *** (4.08)	−0.135 *** (3.31)	−0.124 *** (2.99)	−0.090 *** (2.80)
INF 5/	---	−0.044 *** (2.71)	−0.041 ** (2.53)	−0.031 * (1.77)	−0.086 *** (5.25)
INFSQ 5/	---	.0003 *** (2.90)	.0002 *** (2.77)	.0002 ** (2.03)	.0006 *** (4.17)
RERG 5/	---	−0.037 ** (2.50)	−0.038 ** (2.56)	−0.037 ** (2.44)	−0.130 *** (5.32)
TTG 5/	---	0.031 ** (2.10)	0.031 ** (2.15)	0.038 ** (2.43)	0.124 *** (4.34)
CFADUM	---	−1.95 *** (3.11)	−1.88 *** (3.00)	−1.86 *** (2.94)	−1.49 ** (3.12)
SUSDUM	---	0.71 * (1.67)	---	---	---
IMBDUM	---	---	−0.93 * (1.93)	---	---
DRY	---	---	---	−1.11 *** (2.67)	−1.39 *** (4.87)
FREE	---	---	---	0.76 ** (2.06)	1.27 *** (4.55)
PERIOD1 6/	---	---	---	---	2.93 ** (2.24)
PERIOD2 6/	---	---	---	---	1.07 (0.81)
OLS-RSQ 7/	0.214	0.393	0.394	0.435	0.711
F-VALUE 8/	12.68 ***	12.59 ***	12.82 ***	10.85 ***	41.57 ***
N 9/	216	186	186	155	62

1/ See Table 16 for the definition of the variables used. The numbers in parentheses below the estimated coefficients are the absolute values of the t-ratios. The symbols ***, **, and * besides the estimated coefficients denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

2/ See Appendix I for a description of the econometric methodology used in the estimation.

3/ Regressions (1)-(4) use pooled time-series and cross-section data.

4/ Regression (5) use pooled cross-section and period average data. For each country and each variable two observations were created with annual data covering 1986-92; these observations were the average of the data for the two subperiods: 1986-89 and 1990-92.

5/ These variables are lagged in regressions (1)-(4).

6/ PERIOD1 and PERIOD2 are dummy variables for the subperiods 1986-89 and 1990-92, respectively.

7/ OLS-RSQ is the coefficient of determination from the OLS step (see Appendix I for the rationale).

8/ F-VALUE is the statistic for the test of the null hypothesis that the joint effect of all the variables included on the R.H.S. of the estimated equation is zero.

9/ Number of observations used in estimation.

of that rate towards its equilibrium rate; 1/ and (ii) outward orientation. 2/ Also, the budget deficit ratio, the rate of inflation, and the percentage change in the real effective exchange rate all have significant effects on growth, even when they are all included in the same regression, implying that these policy variables are measuring different empirical effects. It is quite possible that, in addition to capturing the effects of the size and the level of inefficiency of the government, the budget deficit ratio is also capturing the crowding-out effect associated with large budget deficits.

Another important result refers to the effects of the rates of private and government investment on economic growth. The results of regression (1) indicate that both the private and government investment ratios are significantly correlated with growth. The significance of government investment is robust, regardless of specification, confirming a similar result found by Easterly and Robelo (1993). Also, the coefficient of the ratio of government investment to GDP is positive and significant when policy variables are included in the same regressions, implying that this variable has effects on growth other than through the efficiency channel. Thus, the ratio of government investment has a volume effect on growth; that is, higher rates of government investment lead to higher rates of growth. However, the magnitude and significance level of the estimated coefficient for private investment fall when policy variables are included together in the same regression. This result needs to be interpreted with caution; it does not imply that private investment is not an important variable in determining growth. Rather, once account is taken of the effects of the macroeconomic policy environment, private investment does not have an independent influence on growth. Thus, it appears that the effects of

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1/ There is only a limited amount of empirical evidence on the effects of devaluations on output and employment. The results of the existing studies are inconclusive. Some studies report expansionary effects of devaluations on output. These include the studies by Gylfason and Schmid (1983), Conolly (1983), Nugent and Glezakos (1982), and Nunnenkamp and Schweickert (1990). Other studies, however, have found that devaluations have contractionary effects. These include the studies by Branson (1986) for Kenya; Sheehey (1986) and Solimano (1986) for Latin America; and Agenor (1991), and Khan and Knight (1982) for a diverse group of developing economies. The study by Edwards (1986) found that devaluations have a neutral effect on output.

2/ A significant positive effect of outward orientation on growth has been reported by Agarwala (1983), Alam (1991), Cottani and others (1991), Dollar (1992), Edwards (1988 and 1992), Feder (1983), Ghura (1992), Ghura and Grennes (1993), Knight and others (1993), Ram (1987), and Roubini and Sala-i-Martin (1991). Also, a survey by Edwards (1993) provides a long list of empirical studies that found outward-oriented trade strategies to be beneficial to economic growth. However, Edwards (1993) points to several weaknesses of the existing studies, such as misspecified equations, simultaneity bias, questionable proxies, and problems of causality.

policy variables were registered more through their effect on the efficiency of private investment than on the volume of private investment during 1986-92. 1/2/

There are also indications that the marginal productivity of government investment is significantly higher than that of private investment; the coefficient of government investment in the regressions is 5-6 times higher than that of private investment. However, this result may be due to the fact that the measure of private investment includes investment by public enterprises. 3/ Contrary to the results of this study, Khan and Reinhart (1990) and Khan and Kumar (1993) found private investment to be more efficient than public investment for a diverse group of developing countries during 1970-79 and 1970-90, respectively. In these two studies public enterprise investment were excluded from the private investment series. However, they did not control for the effects of macroeconomic stability on growth. In addition, using data from a diverse group of countries, Easterly and Rebelo (1993) found that the public investment (excluding investment by public enterprises) to GDP ratio had a positive, strong, and robust effect on growth. Their estimated coefficient is, however, much larger than the ones found in this paper by a factor of about three, implying that public investment in sub-Saharan Africa has been about three times less efficient than for the world in general.

1/ As noted by Kormendi and Meguire (1985), if a policy variable works mainly through the efficiency channel, the inclusion of the private investment ratio in the growth equation would raise the significance of the coefficient of the policy variable, but would not change (substantially) the value of its coefficient. However, if a policy variable works mainly through the volume of investment channel, the inclusion of the private investment ratio would lower the significance and magnitude of the coefficient of the policy variable. Using the total investment ratio, De Gregorio (1993) finds that the effect of inflation on growth worked through its effect on the efficiency of investment; De Gregorio and Guidotti (1992) find that financial intermediation affect growth through its effect on the efficiency of investment; and Fischer (1991), and Kormendi and Meguire (1985) find support for the effects of policy variables through both the efficiency and volume channels.

2/ It would be interesting to investigate whether the same result would hold with data covering a longer period of time. The paper by Ghura (1992), using data for 33 countries in sub-Saharan Africa during 1970-87, shows that the effect on per capita growth of the total investment ratio is positive and significant when the latter is included in a regression together with macroeconomic policy variables. This result would seem to indicate that over the long run both the volume and efficiency of total investment matter for growth in the region.

3/ Private investment is taken as a residual between total investment and government investment. Since the data for investment by public enterprises are not available, it is not possible to separate out this type of investment from the private investment series.

The external environment seems to have also influenced growth in sub-Saharan Africa during 1986-92. The estimated effect of changes in the terms of trade is positive and significant at the 5 percent level; the effect of changes in the terms of trade comes with a one-year lag. 1/2/ This finding lends support to the notion that terms of trade losses have been, in part, responsible for the poor growth performance of sub-Saharan African countries during 1986-92. 3/ However, the adverse effects of losses in the terms of trade on per capita growth seem to have been offset by depreciations in the real effective exchange rate.

Structural and institutional reforms appear to also affect growth performance, after controlling for the effects of macroeconomic stability, the rate of investment, and the level of human capital. The dummy variable representing the sustained adjusters is statistically significant (albeit at the 10 percent level), indicating that the countries in this subgroup had a significantly higher average growth rate than other African countries (about 0.7 percentage point per year). This supports the view that broadly based structural reforms alleviate the impediments to private sector development and stimulate economic growth. In contrast, countries with protracted macroeconomic imbalances had significantly lower growth rates. Also, the dummy variable for the CFA franc countries is consistently negative and statistically significant. This group of countries had an average per capita growth rate about 2 percentage points per year lower than the average for sub-Saharan Africa during 1986-92, despite the fact that these countries had significantly lower levels of inflation than the rest of the countries in the region. An analysis of the data for the CFA franc countries indicates that, as a group, these countries had significantly lower average government investment rates, secondary school enrollment ratios, inflation rates, and degree of political freedom during 1986-92 (than the average for sub-Saharan Africa). Also, the real effective exchange rate of this group of countries was more appreciated than for the average of the region. Since the regressions control for all of these factors, the dummy for the CFA franc countries could be picking up the effects of the low confidence by the

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1/ Contemporaneous changes in the terms of trade did not have a significant effect on growth.

2/ The effects of the terms of trade on growth have been investigated by other empirical studies. Ghura and Grennes (1993) found that growth in sub-Saharan Africa was affected more by domestic policies than by the terms of trade during 1972-87. Fry (1986), in the context of Asian countries for the period 1961-83, and De Gregorio (1991) in the context of Latin America for the period 1950-85, found no support for the direct effect of the terms of trade on growth. Also, in the context of Latin American countries, Edwards (1983) found statistically significant relationships between the terms of trade and growth for only two of the six countries considered.

3/ Changes in the terms of trade could also affect economic growth through their effects on the real effective exchange rate. Edwards (1989), and Khan and Ostry (1991) discuss the effects of the terms of trade on the real exchange rate.

private sector in the thrust of government policies, and/or the impact of structural rigidities.

The measure of human capital is positively and significantly correlated with growth. 1/2/ As expected, population growth lowers per capita growth, notwithstanding the positive contribution to growth exerted by the associated faster growth of the labor force. One way to attenuate this effect in the period ahead would be to raise investment in human capital, as implied by the significant negative correlation between the level of human capital development and population growth. 3/ Regression (3) expands the number of explanatory variables to include two non-economic variables: an index of political rights and civil liberties (FREE); 4/ and a proxy for unfavorable weather (DRY). 5/ The estimation results suggest that progress toward political freedom enhances economic growth. This variable could be capturing the effects of the existence of market-friendly legal and institutional frameworks that facilitate growth-enhancing activities. 6/ The school enrollment ratio loses its statistical significance in this regression, although its effect remains positive; this could be due to the fact that it is highly (positively) correlated with the measure of political freedom. 7/ Adverse weather was also important in explaining growth in

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1/ Following the empirical literature on growth, human capital is measured by an initial level of education, in this case the level of secondary school enrollment ratio in 1970. It is expected that the effects of human capital on growth, especially that of secondary school enrollment, occur with a lag; thus the choice of the 1970 school enrollment ratio for the time period investigated is reasonable.

2/ The positive effects of human capital development have been found by many other researchers (e.g., Barro (1989) and Mankiw and others (1992)). In the context of sub-Saharan Africa, Ghura (1992) reports a positive and significant effect of the life expectancy at birth on growth.

3/ This correlation coefficient is -0.28 and highly significant for this group of countries.

4/ Gastil (1987) and McColm and others (1991) have constructed indices of political rights and civil liberties for many countries, including all the countries included in this study. The index developed by McColm and others (1991) is used in the empirical analysis of this study to investigate the effect of political liberalization on growth. Table 16 describes the methodology used by McColm and others (1991) to construct the political reform index.

5/ See Table 16 for a description of how DRY is measured. Due to data limitations for the variables DRY and FREE, this regression covers the period 1986-91.

6/ Botswana and Mauritius are two of the outliers as regards the degree of political freedom; they both had a significantly higher degree of political freedom (than the rest of the countries) during 1986-91. When these two countries are removed from the sample, the results do not change.

7/ The secondary school enrollment ratio is still significant at the 5 percent level for the one-tail test.

the region. Inadequate rainfall lowered by 1.1 percentage points per year the average growth rate in sub-Saharan Africa during the period under review. 1/

The growth equation was also estimated on the basis of period average data for 1986-89 and 1990-92 for all the country-specific variables, with a view to eliminating the year-to-year variability in the data and capturing the underlying trends. Regression (4) which gives the estimation results, confirms the robustness of the results of the regressions based on pooled time-series and cross-section data. In addition, the absolute value of the coefficients of most explanatory variables and their statistical significance are higher, while the coefficient of determination is substantially higher. 2/ In fact, the coefficient of private investment becomes significant in this regression which includes the variable indicating the degree of political freedom. 3/ However, the coefficients on the dummies SUSDUM and IMBDUM are not significant in this regression.

Table 18 reports the estimated beta coefficients of the explanatory variables and the contribution of the latter to per capita growth, based on regression (4) of Table 17. The beta coefficients are unit-free and measure the relative impact of explanatory variables on per capita growth. Of the three macroeconomic policy variables, the inflation rate, the deficit ratio, and changes in the real effective exchange rate, the latter had the largest impact on growth. The combined relative effect of the policy variables was by far the largest of all explanatory variables. It is noteworthy, in particular, that the beta coefficient of changes in the real effective exchange rate was larger in absolute terms than the beta coefficient of changes in the terms of trade.

Since the various explanatory variables behaved rather differently during 1986-92, it is also interesting to evaluate the contribution of each of these variables to per capita growth at the sample mean. The results of this exercise are shown in the last column of Table 18. It is clear that rapid population growth and adverse rainfall were responsible to a large extent for the poor performance regarding per capita growth in the region. On the policy front, the real effective exchange rate contributed positively to per capita growth. However, this positive contribution was overshadowed by the adverse effects of the budget deficit ratio and inflation, which

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1/ Fry (1986), using the rate of change in agricultural output adjusted for the relative size of agriculture as a measure of weather, found that it had a significant positive effect on growth in the Asian context during the period 1961-83.

2/ This is due to the removal of the year-to-year variability from the data. This smoothing of the series (especially for growth) maps the original data onto a tighter range, thus allowing a better fit.

3/ This result is not robust because, as shown below, the inclusion of foreign assistance in this regression weakens the significance of private investment.

Table 18. Beta Coefficients and Contribution of Explanatory Variables to Per capita GDP Growth

Explanatory variable 1/	Estimated coefficient 2/	Estimated beta coefficient 3/	Estimated mean of the variable	Contribution to per capita growth 4/
PIY	0.04	0.11	11.55	0.46
GIY	0.13	0.21	8.85	1.15
PG	−0.81	−0.17	2.85	−2.31
SEC70	0.04	0.07	7.69	0.23
DEFY	−0.09	−0.19	5.65	−0.51
Inflation	---	−0.11	---	−0.83
INF	−0.09	−0.86	19.22	−1.73
INFSQ	0.0006	0.77	1504.1	0.90
RERG	−0.13	−0.30	−4.80	0.62
TTG	0.12	0.24	−4.19	−0.50
DRY	−1.39	---	0.58	−0.81
FREE	1.27	0.23	0.42	0.53

1/ See Table 16 for the definition of the variables.
2/ These coefficients are from regression (5) of Table 17.
3/ The beta coefficient of an explanatory variable X, for example, is obtained simply by multiplying the estimated coefficient of X by the standard deviation of X, and then dividing the resulting product by the standard deviation of the dependent variable. Since the estimated coefficients are from the regressions using period average data, the standard deviations are correspondingly calculated with period average data.
4/ The contribution of variable X, for example, to per capita growth is simply its estimated coefficient multiplied by the mean of X.

together contributed to a substantial lowering of per capita growth. The losses in the terms of trade also contributed to the poor growth performance in sub-Saharan Africa, but this adverse effect was more than offset by the depreciation of the real effective exchange rate. The terms of trade effect was also exceeded markedly by the combined negative contribution of the budget deficit ratio and inflation. Thus, after population growth and unfavorable weather, inappropriate macroeconomic policies were the second most important set of factors in explaining the poor per capita growth performance in sub-Saharan African countries during 1986-93. It should also be noted that increases in the private investment ratio and political liberalization had strong positive effects on growth.

The results presented in this subsection reinforce the importance of growth-oriented adjustment policies, entailing the attainment and maintenance of stable macroeconomic conditions, including the maintenance of an appropriate exchange rate, and the acceleration of structural reforms, so as to stimulate the expansion of government and private investment. While, lowering the budget deficit would help to enhance economic growth, doing so by cutting government investment could actually hurt the growth process. The empirical results would also suggest that, other things being equal, an increase in government investment, financed by higher tax receipts, without an increase in the budget deficit ratio, would promote growth. As many sub-Saharan African countries are characterized by narrow tax bases, weaknesses in tax administration, and a proliferation of tax exemptions, there is a significant potential for raising tax receipts through a broadening of the tax base, improvements in tax administration, and a rationalization of the tax system. Such reforms would allow an increase in government revenue and investment without necessarily raising tax rates that would tend to undermine private investment. Increased emphasis on government expenditure on education and health would help raise human capital and contribute to growth, both directly and indirectly, through a slowdown over the long term in population growth. In addition, a stable macroeconomic environment, by raising the efficiency of private investment can speed up the process of achieving sustainable growth.

2. Determinants of savings and private investment

Section II has provided an extensive discussion of the behavior of aggregate and sectoral savings and investment balances in sub-Saharan Africa and in certain subgroups during 1986-93. It was noted that, notwithstanding the generally poor performance observed in the aggregate trends of savings and investment during this period, a considerable degree of diversity prevailed in the behavior of these aggregates in the countries considered. An understanding of the sources of these differences would help to identify ways of enhancing the performance of savings and investment, and thus economic growth in the region. In this context, a principal objective of this subsection is to empirically investigate the role of macroeconomic policies in explaining the diversity in experiences regarding the behavior of savings and private investment. The recent surge in interest on the

policy determinants of economic growth in developing countries has also increased interest in analyzing the effects of the same factors on aggregate investment. 1/ The main message from the existing empirical literature is that, broadly speaking, the same set of macroeconomic policy indicators that are correlated with growth over periods as long as two to three decades are also correlated with the rate of investment. 2/

A number of macroeconomic variables have been included in savings and investment studies to account for the effects of monetary, fiscal, and exchange rate policies. Table 19 provides a list of some of the variables that have been used in recent empirical studies. The same table, which is by no means exhaustive, also provides a summary of the expected effects of these variables on private investment. The current study includes the following variables in the empirical investment equation: the rate of inflation (INF); the standard deviation of inflation (INFSD); the overall budget deficit (including grants) as a ratio to GDP (DEFY); government investment as a ratio to GDP (GIY); the standard deviation of the percentage changes in the real effective exchange rate (RERGSD); the stock of foreign public debt as a ratio to exports (DETX); the square of DETX (DETXSQ); and broad money as a ratio to GDP (BMY). Also, the following variables are included in the empirical savings equation: INF, INFSD, DEFY, GIY, DETX, DETXSQ, BMY, the percentage change in the terms of trade (TTG), and the dependency ratio (DEPEND). The regression results are reported in Table 20 and are discussed in the rest of this subsection.

The results suggest that macroeconomic stability is an important factor in stimulating savings and private investment. Thus, the rates of savings and private investment are enhanced in an environment where the rate of inflation and budget deficit ratio are low. 3/4/ In addition, macroeconomic uncertainty, as measured by the standard deviation of inflation or the standard deviation of changes in the real effective

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1/ A recent book by Serven and Solimano (1993) provides a comprehensive survey of the current research on the determinants of private investment. The paper by Oshikoya (1994) investigates the macroeconomic determinants of private investment in eight African economies.

2/ See the papers by Fischer (1991) and Kormendi and Meguire (1985).

3/ Note that the negative effect of inflation on domestic savings is significant only when the dummy variable for sustained adjusters or for countries with protracted imbalances is included.

4/ The studies by Gupta (1987), Lahiri (1989) and Schmidt-Hebbel and others (1992) investigated the effects of inflation on savings in developing countries. The results are mixed, and generally statistically insignificant.

Table 19. Empirical determinants of Private Domestic Investment for Developing Countries

	Suggested variable in the regression	Mechanism/rationale/effect	Source 1/
Monetary Policy	Real interest rates: Volume of direct credit to the private sector:	. Under restrictive credit policy, higher interest rates would imply higher user cost of capital due to an increase in the real cost of bank credit or increase in the opportunity cost of retained earnings. . Under financial repression, interest rate may be a poor proxy for the direction of monetary policy as well as the user cost of capital. Direct credit may be more appropriate.	Greene and Villanueva (1991) Bier (1992)
Fiscal Policy	Budget deficit: Government spending on infrastructure investment:	. Crowding out of private sector investment through higher interest rates or lower credit availability. . The mix of tax increases and spending reductions may adversely affect private sector; also through the complementary nature of public and private investment.	Fischer (1991 and 1993) Blejer and Kahn (1984); Sakr (1993)
Exchange Rate Policy	Real depreciation/appreciation:	. A high dependence on imported capital and intermediate goods, along with a low share of traded goods in total investment, would result in a contraction of investment in the face of a real depreciation while a real appreciation creates an unsustainable investment boom. . A depreciation causes increase in real debt burden and decline in the firms' (in the home goods sector) net worth. . Higher variability would imply higher uncertainty.	Serven and Solimano (1992)
Inflation	Inflation:	. Creates rent-seeking behavior and induces households and firms to divert resources from productive activities to other activities that allow them to reduce the burden of the inflation tax. . Higher viability would imply higher uncertainty.	Fischer (1991 and 1993)
Growth	Growth rate of GDP:	. Proxy for aggregate demand developments.	Serven and Salimano (1992)
Foreign Capital Inflows	Level of foreign direct investment:	. Eases domestic financing constraint. Creates crowding-in effects by creating linkages and externalities.	Sakr (1993)
External Debt	Debt service-GDP ratio:	. Debt-overhang effect: investors' perceptions of future returns will be affected as concerns arise about the country's ability to meet future contractual debt servicing without increasing taxation.	Greene and Villanueva (1991)

1/ The sources are not meant to be exhaustive. See the cited reference in the column for further sources.

Table 20. Estimates of the Investment and Savings Equations 1/

(Estimation method: Generalized Least Squares) 2/

Explanatory variables	Dependent Variable = Private Investment Rate (PIY) Regression No. (1)	(2)	(3)	(4)	(5)	Dependent Variable = Domestic Savings Rate (DSY) Regression No. (6)	(7)	(8)	(9)
LAG_YG	−0.054 (0.79)	−0.069 (0.88)	−0.058 (0.89)	−0.041 (0.61)	−0.102 (1.27)	0.156 ** (2.26)	0.125 * (1.69)	0.144 * (1.90)	0.135 * (1.75)
LAG_RYPC$	---	---	---	---	---	0.007 *** (14.69)	0.007 *** (14.31)	0.007 *** (13.07)	0.007 *** (14.54)
LAG_GIY	0.369 *** (4.97)	0.359 *** (4.67)	0.334 *** (5.15)	0.379 *** (5.12)	0.340 *** (4.32)	---	---	---	---
LAG_INF	−0.018 *** (3.73)	---	---	−0.017 *** (3.60)	−0.019 *** (3.54)	−0.007 (1.00)	---	−0.022 ** (2.29)	−0.022 ** (2.25)
INFSD	---	−0.071 *** (3.51)	---	---	---	---	−0.052 ** (2.30)	---	---
RERGSD	---	---	−0.389 *** (11.12)	---	---	---	---	---	---
LAG_DEFY	−0.221 *** (4.45)	−0.204 *** (3.85)	−0.070 (1.46)	−0.231 *** (4.38)	−0.195 *** (3.42)	−0.225 *** (4.78)	−0.241 *** (5.08)	−0.145 ** (2.32)	−0.132 ** (2.15)
LAG_BMY	0.201 *** (6.75)	0.183 *** (5.92)	0.140 *** (5.41)	0.196 *** (6.65)	0.203 *** (6.55)	0.350 *** (10.94)	0.332 *** (10.16)	0.330 *** (9.83)	0.328 *** (9.54)
TTG	---	---	---	---	---	0.023 (1.03)	0.025 (1.09)	0.002 (0.08)	−0.014 (0.56)
LAG_DETX	−0.003 ** (2.37)	−0.002 * (1.93)	−0.002 * (1.69)	−0.003 ** (2.12)	−0.004 *** (2.62)	−0.003 *** (3.36)	−0.005 *** (3.50)	−0.004 *** (3.34)	−0.002 * (1.66)
LAG_DETXSQ	5.9 x E−7 * (1.67)	5.2 x E−7 (1.28)	6.0 x E−7 ** (2.06)	5.1 x E−7 (1.5)	7.3 x E−7 * (1.93)	7.0 x E−7 ** (2.38)	6.2 x E−7 *** (2.79)	7.1 x E−7 ** (2.38)	4.0 x E−7 (1.24)
DEPEND	---	---	---	---	---	−0.173 *** (3.07)	−0.196 *** (3.19)	−0.088 * (1.68)	−0.140 *** (3.12)
CFADUM	−2.41 *** (4.38)	−2.92 *** (4.84)	−4.74 *** (10.01)	−2.19 *** (3.98)	−2.49 *** (4.12)	−6.47 *** (14.47)	−7.01 *** (13.97)	−7.96 *** (12.27)	−6.94 *** (11.61)
SUSDUM	---	---	---	−0.09 (0.76)	---	---	---	2.69 *** (4.45)	---
IMBDUM	---	---	---	---	−1.02 (1.62)	---	---	---	−2.81 *** (4.30)
OLS−RSQ 3/	0.699	0.705	0.724	0.699	0.700	0.814	0.821	0.825	0.826
F−VALUE 4/	199.6 ***	175.5 ***	272.9 ***	203.6 ***	156.1 ***	407.6 ***	340.6 ***	309.7 ***	303.6 ***
N 5/	192	192	192	192	192	216	216	216	216

1/ See Table 16 for the definitions of the variables. The numbers in parentheses besides the estimated coefficients are the absolute values of the t−ratios. The symbols ***, **, and * below the estimated coefficients denote statistical significance at the 0.01, 0.05 and 0.10 level, respectively. All the regressions include dummies for the years.

2/ See Appendix I for a description of the methodology used in estimation.

3/ OLS−RSQ is the coefficient of determination from the OLS step (see Appendix I for the rationale).

4/ F−VALUE is the statistic for the test of the null hypothesis that the joint effect of all the variables included on the R.H.S. of the estimated equation is zero.

5/ Number of observations used in estimation. Data are available for the period 1986−92; however, one observation is lost with the one−period lag.

exchange rate, has adverse effects on savings and investment. 1/2/ This result is an indication that uncertainties about the returns or the direction of policies have deleterious effects on savings and investment. Thus, progress toward macroeconomic stability plays a crucial role in affecting domestic savings and private investment for sub-Saharan African countries. This confirms similar results for total investment by Fischer (1991) and Kormendi and Meguire (1985), and for private investment by Greene and Villanueva (1991), and Ozler and Rodrik (1992). It should be noted that once account is taken of the effects of macroeconomic policies, output growth has no independent effect on the rate of private investment, confirming a similar result by Ozler and Rodrik (1992).

Another interesting result relates to the positive and significant effect of the broad money to GDP ratio on savings and investment, confirming the potential for payoffs relating to the ongoing process of financial deepening in African economies. The real interest rate was used as an additional variable to capture the effects of financial liberalization and deepening. This variable, however, was highly correlated with the rate of inflation (with a correlation coefficient of 0.96), indicating that during 1986-92, nominal rates in sub-Saharan African countries adjusted rather slowly to changes in economic fundamentals and that, on average, changes in inflation were dominating the movements in real interest rates. 3/

The estimation results support the complementary effects of public investment on private investment, confirming similar results by Blejer and Khan (1984), Greene and Villanueva (1991) and Tun Wai and Wong (1982) for a

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1/ The percentage change in the real effective exchange rate did not have a significant effect on the rate of private investment for this sample of countries during 1986-92. Solimano (1989), using time-series data for Chile, found empirical support for a negative effect of the real exchange rate on private investment in the short-run. However, his findings suggest that in the medium-term, private investment is stimulated by a real depreciation.

2/ It must be noted that when RERGSD is included in the regression for private investment, the effect of the budget deficit ratio remains negative but loses its significance.

3/ The rigidity of interest rates in the context of sub-Saharan Africa has, aside from government controls, been due to a number of factors, including (i) the oligopolistic nature of the domestic banking system, (ii) inadequate banking supervision, and (iii) thin domestic money, credit, and capital markets.

diverse group of developing countries, and Sakr (1993) for Pakistan. 1/ Thus, government investment in sub-Saharan African countries, by providing positive externalities, foster both private capital accumulation and economic growth. In addition, both the budget deficit ratio and the public investment rate are significant when included in the same regression for private investment. One implication is that although lowering the deficit would be beneficial to private investment, achieving this objective by cutting government investment expenditure would be counterproductive, as evidenced in particular by the experience of CFA franc countries (see Section II). Another implication of the joint significance of the budget deficit and public investment ratios is that the former is most likely capturing a crowding-out effect.

As regards the effects of external debt, the results are consistent with the "debt overhang" hypothesis. Increases in the ratio of external public debt to exports has dampening effects on both private investment and domestic savings, confirming similar results for private investment by Borensztein (1990a and 1990b), Greene and Villanueva (1991), and Oshikoya (1994). Furthermore, this variable has a nonlinear effect on private investment and domestic savings; the results indicate that even low ratios of external debt have counter-productive effects on domestic savings and private investment. 2/

Progress in implementing structural reforms was also found to be significant in raising savings and private investment. Thus, the countries with protracted macroeconomic imbalances as a group had average rates of savings significantly below the average for the region. The CFA franc countries had significantly lower rates of private investment and domestic savings than the average. In addition, the sustained adjusters as a group had savings rates significantly higher than the average. As account has already been taken of differences in the policy stance, the dummy variables are most likely capturing the effects of the differentiated progress

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1/ Blejer and Khan (1984) and Sakr (1993) have distinguished between government investment on infrastructure and other government investment; they have found that the former has a larger positive impact on private investment, while the latter can actually be counterproductive to private investment. Similarly, investigating the responsiveness of farm output to government investment in infrastructure, Antle (1983) and Binswanger and others (1987) provide empirical evidence that investment in rural infrastructure (such as roads and irrigation networks) have a significant positive impact on farm output in developing countries.

2/ Fry (1989) found low levels of foreign debt to GDP ratios to stimulate the rates of national savings and total investment for a group of 28 highly-indebted developing countries during 1967-85. The paper by Aghevli and others (1990), using data for 86 developing countries during 1982-88, found that countries without debt-servicing problems had significantly higher rates of national savings.

registered by these country groups in alleviating structural and institutional impediments to private sector development.

Changes in the terms of trade did not have significant effects on savings during 1986-92. 1/ Fry (1985 and 1986) found the terms of trade to have significant positive effects on national savings rates in Asia. Also, Fry (1989) found similar results for a group of highly indebted developing countries. However, his results on the effects of the terms of trade and the results of this study are not directly comparable. His objective was to capture the income effects of changes in the terms of trade, which he measured as the rate of change of the terms of trade divided by the lagged ratio of imports of goods and services to GNP measured at current prices. The objective of the current study is to measure the pure effects of changes in the relative international prices of the exports and imports of the economies concerned. The income effects of the changes in the terms of trade for the current group of countries would be expected to be captured in part by the growth rate (YG) and per capita real GDP (RYPC$).

The domestic savings rate is positively correlated with the per capita level and growth of real GDP. Broadly speaking, the same macroeconomic policy variables that affect the growth rate of real GDP also affect domestic savings, suggesting that these policies have both direct and indirect effects on the savings behavior. Also, the estimation results indicate that domestic savings rates are higher in countries at higher levels of development (measured by their real GDP per capita, expressed in U.S. dollars), confirming similar results by Fry (1978 and 1980). 2/ The ability of an economy to mobilize domestic savings to finance investment activities depends in part on its level of development; thus, countries that are at low levels of development can devote fewer domestic resources to finance private investment activities.

The dependency ratio has a significant negative effect on the rate of savings. A number of studies have investigated the effects of demographic factors on the rate of savings. 3/ The evidence to date is not definitive and remains somewhat controversial; it appears that the results are highly dependent on the sample and time period considered, the specification used, and the variables included (or excluded).

1/ In a pooled analysis of eight African economies, Oshikoya (1994) found the effect of the changes in the terms of trade on private investment to be insignificant.

2/ Greene and Villanueva (1991) included the level of real per capita GDP in their estimated private investment equation, with a view to capturing the effects of changes in savings, and found its effect to be statistically insignificant for the period 1975-87.

3/ See the papers by Aghevli and others (1990), Collins (1989), Fry (1986), Lahiri (1989), Leff (1969), Mason (1988), Ram (1982), and Rossi (1989). See also the survey article by Hammer (1986).

Overall, the empirical findings of this subsection indicate that maintenance of a stable macroeconomic environment is critical to efforts toward mobilizing domestic savings and encouraging private investment, and thus toward laying the foundations for sustained economic growth.

3. Effects of foreign aid on savings, investment, and growth

Foreign aid to sub-Saharan Africa has been substantial during the past decade (Table 21). Foreign assistance flows, based on data compiled by the OECD, have increased sharply in recent years, reaching 11.5 percent of GDP in 1992 (14 percent, excluding Nigeria) from about 6 percent of GDP in the mid-1980s (7 percent, excluding Nigeria). 1/ The results of the previous subsections indicate that, besides a stable macroeconomic environment, government investment (including investment in human capital) can play an important catalytic role in increasing domestic savings, private investment and economic growth. The narrow domestic revenue base in many sub-Saharan countries has meant that government investment remains largely foreign-financed, and foreign assistance is likely to continue to play an important role in the economies of sub-Saharan Africa in the period ahead.

This subsection examines the contribution of foreign aid to savings, investment, and growth in sub-Saharan Africa. 2/ Killick (1991) notes that during 1980-88, sub-Saharan Africa received on average US$22 per person a year in foreign assistance, compared with US$5 per person for other developing countries; also, during the same period, foreign aid to sub-Saharan Africa amounted to 33.5 percent of gross investment, compared with 3.3 percent for other developing countries. Previous studies have found that, in comparison with other regions, the effectiveness of foreign aid has been low in sub-Saharan Africa. The studies by Cassen (1986), Gupta and Islam (1983), and Mosley (1987) have found the relationship between aid and economic performance (including growth) in sub-Saharan Africa to be much weaker than in other developing regions.

1/ As elsewhere in this paper, the data should be regarded with some caution. Foreign assistance flows used in this subsection are based on reporting by donor countries to the OECD. They are likely to be biased upward, to the extent that some donors may exaggerate the value of their aid in kind, and they include technical assistance, which for some countries can account for as much as one-third of foreign aid. On the other hand, the data do not include debt rescheduling, which in many countries provided substantial balance of payments relief during the period under review.

2/ An issue not addressed in this subsection is that of the sustainability of foreign assistance itself, particularly for countries that rely heavily on foreign aid.

Table 21. Sub-Saharan Africa: Overseas Development Assistance

(In percent of GDP)

	1986	1987	1988	1989	1990	1991	1992	1986-92 Average
Sub-Saharan Africa								
Excluding South Africa	6.0	7.7	8.3	9.2	10.1	10.1	11.3	9.0
Excluding South Africa and Zaire	5.9	7.5	8.3	9.0	9.9	10.1	11.5	8.9
CFA franc countries	7.1	6.9	7.9	8.9	9.7	8.9	9.1	8.4
Non-CFA franc countries 1/	5.4	7.9	8.5	9.1	10.0	10.8	12.9	9.2
Posistive per capita growth countries	5.1	7.2	7.4	8.8	9.1	8.7	9.4	8.0
Negative per capita growth countries 1/	7.1	7.9	9.5	9.3	10.9	12.0	14.2	10.1
Sustained adjusters	10.9	13.9	16.0	18.0	19.3	18.4	19.6	16.6
Low macro imbalances countries	4.7	5.1	4.0	4.1	5.0	5.2	7.2	5.0
Protracted imbalances countries 1/	3.8	4.8	5.4	5.7	6.4	7.2	8.2	5.9

Source: OECD, Geographical Distribution of Financial Flows to Developing Countries, 1987/92.

1/ Excluding Zaire.

The economic impact of foreign assistance, and its effectiveness in stimulating investment and economic growth, have been a recurring subject of debate. Bauer (1981) argues passionately against foreign aid, and attributes much of the failure of development programs to the flood of foreign assistance. Most other studies are less definitive, however. Early investigations, using mainly data from the 1960s, have tended to show a negative relationship between foreign aid and savings. Using data for 44 countries, and a time period spanning 1953-66, Weisskopf's (1972) econometric results support the hypothesis that the impact of foreign capital inflow on ex ante domestic savings is significantly negative. Ex post, however, his results hold only for those cases where savings, rather than the balance of payments, is the binding constraint on investment. Gupta and Islam (1983) use a simultaneous equation model to account for the fact that foreign capital affects savings and growth directly as well as indirectly, because of the interdependence between savings and growth. Their overall conclusion is that the impact is ambiguous, with the results showing a weak positive impact of foreign aid on growth, while domestic savings appeared to be somewhat negatively affected. In addition, Fry (1978 and 1980) and Giovannini (1985) found the effect of foreign assistance on domestic savings to be negative and statistically significant. Schmidt-Hebbel and others (1994) found a statistically significant negative effect of foreign savings on household savings in the context of developing economies.

A comprehensive review of aid effectiveness by Cassen (1986) concludes that the statistical relationship between foreign aid and economic growth is weak, but attributes the result largely to shortcomings in the methodology applied in most research. Criticizing the cross-section studies that show little link between foreign aid inflows and growth, Cassen argues that on an individual country basis, particularly in South Asia, the relationship is much more significant. Mosley (1987) also concedes that there is no statistically significant correlation between foreign aid on the one hand and economic growth and savings on the other. Citing what he calls the "micro-macro paradox" he contrasts this with the well-documented success of many development projects in the field. He concludes that the fungibility of foreign aid has contributed to the shifting of some domestic expenditures to less productive purposes, and argues for both an increased focus of aid on countries that have a proven track record in using it effectively, as well as increased policy conditionality in the use of aid funds. Nord and others (1993) focus on a subset of more successful adjustment programs in sub-Saharan Africa, and conclude that large increases in foreign aid did not appear to have led to a decline in domestic savings rates. The World Bank (1994), which also adopted an approach of dividing sub-Saharan Africa in groups characterized by their adjustment performance during 1987-91, found that while some foreign savings financed consumption, domestic savings rates in the better performing countries improved during the period.

In the face of the recorded large increases in foreign aid in sub-Saharan Africa, two principal questions arise. First, did the increased foreign assistance stimulate or crowd out domestic savings? Second, did

investment increase proportionately, and did foreign aid affect private investment differently from public investment? This leads to an additional question: did foreign aid stimulate economic growth? The rest of this subsection attempts to answer these questions.

Using pooled time-series and cross-section data for 39 countries in sub-Saharan Africa during 1986-92, and the same country groupings as before, yielded some interesting results. A simple ordinary least squares estimation is shown in Table 22. 1/ For sub-Saharan Africa as a whole, the impact of foreign assistance on domestic savings is negative. Looking at the sub-groups, however, reveals that the negative impact is concentrated in those countries with protracted imbalances and negative per-capita growth, while in the group of sustained adjusters, foreign aid would appear to have stimulated domestic savings. Government investment is, not surprisingly, strongly related to foreign aid, which is explained by the high proportion of government capital expenditure financed by aid. The results for private investment are mixed, possibly because of data weakness. They do show, however, that the impact of aid is likely to be positive for the group of sustained adjusters. In countries with negative per-capita growth performance over the period, on the other hand, foreign assistance would appear to have discouraged private investment.

Using a multivariate framework similar to that applied in the previous subsections yields very similar results (Tables 23 and 24). Domestic savings and private investment are both adversely affected by foreign assistance flows. Part of the negative impact of foreign aid on private investment could reflect the impact of the debt overhang on private investment behavior, since the external debt ratio is no longer significant in this framework, in sharp contrast with the results presented in the previous subsection. 2/ The effects of the other variables on private investment remain robust. In particular, the budget deficit ratio continues to have a significant negative effect, which would indicate that foreign aid itself is not crowding out investment. Also, in contrast with the findings of the previous subsection, the dummy variables for the group of sustained adjusters and the countries with protracted imbalances are significant and have the expected signs.

The simple correlation between foreign aid and growth in sub-Saharan Africa is zero for this group of countries, confirming previous findings at high levels of aggregation. Also, at the level of the country subgroups,

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1/ The high correlation between foreign aid and domestic economic variables indicates potential endogeneity problems; attempt to address these problems is made in this study by lagging foreign aid by one period - see Appendix I for details.

2/ The foreign assistance and external debt variables are highly correlated, with a correlation coefficient of 0.64.

Table 22. Partial Effects of ODA on Savings, Investment, and Growth 1/

(Estimation method: Ordinary Least Squares)

Dependent variable	Explanatory variables	Estimated Coefficients For: Sub-Saharan Africa [N=234] 2/	Countries with Low Macro Imbalances [N=36] 2/	Sustained Adjusters [N=84] 2/	Countries with Protracted Macro Imbalances [N=114] 2/	Countries with Positive Per Capita GDP Growth [N=132] 2/	Countries with Negative Per Capita GDP Growth [N=102] 2/
Private investment/GDP	LAG_ODAY	−0.050	0.784	0.530 *	−0.125	0.239	−0.581 ***
		(0.56)	(0.76)	(1.90)	(1.29)	(1.55)	(5.25)
	LAG_ODAYSQ	0.001	−0.106	−0.005	−0.002 **	−0.002	−0.006 ***
		(1.24)	(1.30)	(1.40)	(2.00)	(1.28)	(5.73)
	Intercept	11.86 ***	14.85 ***	4.69	10.72 ***	10.78 ***	15.26 ***
		(10.06)	(4.85)	(1.19)	(7.95)	(5.78)	(11.43)
	F-VALUE 3/	1.97	2.06	2.83 *	3.24 **	1.37	16.56 ***
Government investment/GDP	LAG_ODAY	0.290 ***	0.785	0.345 ***	0.295 ***	−0.020	0.296 ***
		(6.07)	(0.90)	(2.85)	(4.82)	(0.26)	(5.35)
	LAG_ODAYSQ	−0.002 ***	−0.041	−0.001	−0.002 ***	0.003 ***	−0.003 ***
		(3.12)	(0.60)	(0.73)	(3.07)	(2.99)	(4.60)
	Intercept	4.80 ***	5.67 **	3.36 *	4.08 ***	8.83 ***	3.13 ***
		(7.60)	(2.19)	(1.96)	(4.80)	(9.61)	(4.70)
	F-VALUE 3/	39.7 ***	0.74	27.0 ***	19.0 ***	36.1 ***	15.24 ***
Domestic savings/GDP	LAG_ODAY	−0.296 ***	5.163 ***	0.620 **	−0.593 ***	−0.314	−0.846 ***
		(2.71)	(2.92)	(2.21)	(5.53)	(1.62)	(8.11)
	LAG_ODAYSQ	0.002	−0.390 ***	−0.006 *	0.005 ***	0.003	0.006 ***
		(1.45)	(2.81)	(1.71)	(3.79)	(1.00)	(6.13)
	Intercept	18.64 ***	9.33 *	7.60 *	18.01 ***	21.46 ***	20.73 ***
		(12.95)	(1.79)	(1.92)	(12.10)	(9.12)	(16.49)
	F-VALUE 3/	7.55 ***	4.27 **	3.38 **	22.2 ***	2.66 *	43.34 ***
Per capita GDP growth	LAG_ODAY	0.042	0.806	0.058	0.149 ***	−0.075	0.122 *
		(0.96)	(0.71)	(0.53)	(2.84)	(1.36)	(1.71)
	LAG_ODAYSQ	−0.0005	−0.048	−0.001	−0.001 **	0.001	−0.001
		(0.86)	(0.53)	(0.72)	(2.13)	(0.74)	(1.42)
	Intercept	−0.61	0.28	−0.39	−3.32 ***	2.94 ***	−4.06 ***
		(1.06)	(0.08)	(0.30)	(4.55)	(4.39)	(4.71)
	F-VALUE 3/	0.46	0.35	0.28	4.97 ***	2.41 **	1.63

1/ The numbers in parentheses below the estimated coefficients are the absolute values of the t-ratios. The symbols ***, **, and * besides the estimated coefficients denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

2/ Number of observations used in estimation.

3/ F-VALUE is a statistic for the test of the null hypothesis that the joint effect of all the variables included on the R.H.S. of the estimated equation is zero.

Table 23. Estimates of the Effects of ODA on Investment and Savings 1/

(Estimation method: Generalized Least Squares) 2/

	Dependent Variable is			
	Private Investment Rate		Domestic Savings Rate	
	Regression No.			
Explanatory Variables	(1)	(2)	(3)	(4)
ODAY 3/	−0.390 *** (4.74)	−0.405 *** (5.10)	−0.352 *** (4.97)	−0.326 *** (5.10)
ODAYSQ 3/	0.005 *** (3.54)	0.005 *** (3.75)	0.004 *** (3.52)	0.003 *** (3.05)
YG 3/	−0.025 (0.34)	−0.072 (0.93)	0.185 ** (2.43)	0.190 *** (2.39)
RYPC$ 3/	---	---	0.006 *** (12.06)	0.006 *** (11.17)
GIY 3/	0.348 *** (4.61)	0.351 *** (4.53)	---	---
INF 3/	−0.027 *** (4.38)	−0.025 *** (3.90)	−0.027 *** (2.79)	−0.030 *** (3.13)
DEFY 3/	−0.199 *** (3.48)	−0.147 *** (2.42)	−0.206 *** (3.34)	−0.153 ** (2.51)
BMY 3/	0.226 *** (7.87)	0.216 *** (7.34)	0.312 *** (8.97)	0.299 *** (8.37)
TTG	---	---	0.019 (0.78)	0.001 (0.04)
DETX 3/	2.1 x E−5 (0.01)	8.7 x E−5 (0.05)	0.0004 (0.26)	0.002 (1.25)
DETXSQ 3/	1.2 x E−67 (0.24)	1.6 x E−7 (0.31)	7.5 x E−8 (0.21)	1.8 x E−7 (0.50)
DEPEND	---	---	−0.110 ** (2.36)	−0.146 *** (3.51)
CFADUM	−2.62 *** (4.20)	−2.19 *** (3.52)	−6.96 *** (10.62)	−6.21 *** (9.84)
SUSDUM	1.16 * (1.90)	---	3.45 *** (5.37)	---
IMBDUM	---	−2.37 *** (3.28)	---	−3.66 *** (5.56)
OLS−RSQ 4/	0.710	0.711	0.833	0.832
F−VALUE 5/	151.2 ***	139.0 ***	274.0 ***	268.4 ***
N 6/	192	192	216	216

1/ See Table 16 for the definition of the variables. The numbers in parentheses besides the estimated coefficients are the absolute values of the t−ratios. The symbols ***, **, and * below the estimated coefficients denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively. All the regressions include dummies for the years.

2 See Appendix I for a description of the econometric methodology used in the estimation.

3/ These variables are lagged in the regressions.

4/ OLS−RSQ is the coefficient of determination from the OLS step (see Appendix I for the rationale).

5/ F−VALUE is a statistic for the test of the null hypothesis that the joint effect of all the variables included on the R.H.S. of the estimated equation is zero.

6/ Number of observations used in estimation. Data are available for the period 1986−92; however, one observation is lost with the one−period lag.

Table 24. Estimates of the Effects of ODA on Growth 1/

(Dependent variable: growth rate of per capita real GDP)
(Estimation method: Generalized Least Squares) 2/

Explanatory variables	Results of Estimation With: Times-series cross-section data 3/	Results of Estimation With: Cross-section period average data 4/
ODAY	0.098 ** (2.22)	0.077 *** (3.44)
ODAYSQ	-0.002 ** (2.57)	-0.001 *** (5.25)
PIY	0.014 (0.53)	0.023 (0.87)
GIY	0.178 *** (3.43)	0.194 *** (4.18)
PG	-0.890 ** (2.54)	-0.704 (2.27)
SEC70	0.161 *** (3.36)	0.159 *** (4.77)
DEFY	-0.168 *** (4.61)	-0.189 *** (4.77)
INF	-0.034 * (1.94)	-0.072 *** (3.55)
INFSQ	.0002 ** (2.27)	.0005 *** (3.23)
RERG	-0.045 *** (2.94)	-0.125 *** (3.66)
TTG	0.029 ** (1.99)	0.100 *** (4.29)
CFADUM	-1.85 *** (2.88)	-1.29 *** (2.98)
PERIOD1 5/	---	1.09 (0.70)
PERIOD1 5/	---	-0.97 (0.64)
OLS-RSQ 6/	0.403	0.666
F-VALUE 7/	12.9 ***	122.9 ***
N 8/	186	62

1/ See Table 16 for the definition of the variables used. The numbers in parentheses below the estimated coefficients are the absolute values of the t-ratios. The symbols ***, **, and * besides the estimated coefficients denote statistical significance at the 0.01, 0.05, and 0.10 level, respectively.

2/ See Appendix I for a description of the econometric methodology used in the estimation.

3/ This regression uses pooled time-series and cross-section data. The variables ODAY, ODAYSQ, PIY, PG, DEFY, INF, INFSQ, RERG, and TTG are lagged one period in this regression. Also, this regression includes dummies for all the years for the sample period.

4/ This regression uses cross-country and period average data. For each country and each variable, two observations were created with annual data covering 1986-92; these two observations were the average of the data for the two subperiods: 1986-89 and 1990-92.

5/ PERIOD1 and PERIOD2 are dummy variables for the subperiods 1986-89 and 1990-92, respectively.

6/ OLS-RSQ is the coefficient of determination from the OLS step (see Appendix I for the rationale).

7/ F-VALUE is a statistic for the test of the null hypothesis that the joint effect of all the variables included on the R.H.S. of the estimated equation is zero.

8/ Number of observations used in estimation. Due to data limitations, only 31 countries were included in these regressions.

results are mixed, and the only statistically significant results would seem to indicate that for the poor performers, i.e. the countries with protracted imbalances and/or negative per-capita growth over the period, foreign aid enhanced economic growth (Table 22). 1/ The non-linearity of the relationship between foreign aid and growth is shown in Table 24. 2/ In a multivariate framework, which introduces several additional possible influences on growth, the results indicate that foreign aid stimulates growth initially; beyond a certain threshold, however, it would appear to have a negative impact on growth. 3/ This would mean that too much foreign assistance can hurt an economy, possibly because of the limited capacity of many sub-Saharan African countries in absorbing foreign resources. Most of the foreign resources must pass through the public sector in one way or another, and it is not unlikely that arising distortions are magnified beyond a certain level of inflows. 4/

Overall, foreign aid appears to have had an initial positive impact on economic growth; beyond a certain level of assistance, however, the costs of administering foreign inflows through the public sector seems to outweigh the benefits of additional investment resources. This threshold should not be seen, however, as an optimal level of foreign aid. Even at lower levels of aid, concerns about the effectiveness of its use remain pertinent, particularly in countries where a large proportion of foreign assistance is channeled through the public sector. If, as suggested before, the impact of investment on economic growth lies mainly in the efficiency of its utilization, rather than in its volume, then this is likely to hold for foreign aid as well.

Most of the foreign assistance extended to sub-Saharan African countries reflects much more the low levels of per capita incomes, and the deep-rooted constraints to economic development faced by these countries, and less linkages with actual economic performance. Bilateral foreign aid, in particular, is based mainly on humanitarian considerations. Cash non-project assistance (balance of payments support or adjustment lending), although rising in recent years, has remained modest in relation to total assistance. This partly reflects the fact that performance-linked

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1/ This result should be interpreted with caution, bearing in mind that growth rates were by definition very low in these countries during the period.

2/ Using a generalized least squares estimation method, and growth of real per capita GDP as the dependent variable, both foreign aid and the square of foreign aid are introduced among other explanatory variables. Both are significant, but the square of foreign aid carries a negative sign.

3/ The first estimated regression in Table 24 yields a threshold of foreign aid equivalent to about 25 percent of GDP.

4/ It would be interesting to examine whether the threshold beyond which foreign aid harms economic growth is influenced by the composition of the aid inflows (e.g. food aid and project aid against balance of payments support), but this is beyond the scope of this study.

assistance takes primarily the form of debt relief or debt rescheduling and is not included in ODA.

The experience of the past decade would indicate that pursuit of sound economic policies has had a profound impact on the effectiveness of foreign aid on economic development. The narrow domestic resource base of many sub-Saharan African countries, and the urgent needs of countries for investment in basic infrastructure and social services, means that foreign assistance will continue to play an important role in the region in the near future. In the face of limited donor resources, the need for such assistance is increasing rapidly, as more developing countries in Africa and elsewhere (including the former Soviet Union) are embarking on intensified reform efforts. In such an environment, foreign assistance would tend to be linked, at least implicitly, to economic performance. This underscores the need for sub-Saharan African countries to pursue stable macroeconomic policies and implement broad-based structural adjustment programs so as to maximize the beneficial effects of foreign assistance and attract adequate aid inflows. Such policies, would also strengthen over time domestic savings and facilitate a reduced reliance on foreign aid.

The challenge for sub-Saharan Africa therefore is to make judicious use of foreign assistance that is available, concentrating on the provision of public goods, such as infrastructure, health, and education services, while at the same time creating an environment that encourages private sector initiative. Over time, investment will need to depend more on private sector resources, both domestic and foreign.

V. Conclusions and Policy Implications

The analysis of this paper has demonstrated that poor economic performance of sub-Saharan African countries as a group since the mid-1980s has reflected primarily differences in the policies pursued by individual countries or country groups, particularly in the context of a deteriorating external environment. The country groups that have cushioned the impact of the large cumulative terms of trade losses through improvements in their external competitiveness and the implementation of broad-based structural adjustment measures have done better than others. The adjusting countries have made progress toward attaining macroeconomic stability and alleviating the structural and institutional impediments to private sector development. Thus, they have managed to raise government investment and stimulate a notable expansion in private savings and investment, and to experience positive growth in per capita real GDP. In contrast, the slow-adjusting countries experienced declines in savings and investment, by both the public and private sectors, and recorded sizable losses in their real per capita incomes.

The empirical results with actual data during 1986-92 have indicated that macroeconomic stability and structural reforms help to boost growth, savings, and investment. The evidence suggests that inappropriate macroeconomic policies were the second largest contributing factor to the poor growth performance of sub-Saharan African countries as a group during 1986-92, after the impact of rapid population growth rates and unfavorable weather. The adverse effects on growth of the terms of trade losses were less significant and appear for the non-CFA franc countries to have been more than offset by real exchange rate adjustments. Macroeconomic policies influence economic growth directly, through their impact on productivity gains, and indirectly, through their impact on capital accumulation. Progress toward macroeconomic stability and increasing government investment play a major role in stimulating private investment and savings. Stable macroeconomic conditions are also necessary for enhancing the benefits from foreign assistance in an environment of heightened competition for limited donor resources. In addition, the empirical findings indicate the positive contribution to growth of improvements in human capital (both directly and indirectly through its impact on population growth) and progress toward political liberalization.

In the aftermath of declines in real per capita incomes registered during the past two decades, a principal objective of sub-Saharan African countries during the rest of the 1990s and beyond is to accelerate on a lasting basis their output growth, while also attaining external viability. This would require more the adoption and effective implementation of appropriate structural adjustment policies rather than a change in the thrust of these policies. The key ingredient of such a growth-oriented adjustment strategy is the encouragement of a substantially stronger expansion in private savings and investment than hitherto, through intensified efforts to restore and maintain stable macroeconomic conditions and accelerated structural reforms. A challenge facing many countries in

sub-Saharan Africa is to combine the achievement of sustained gains in real per capita incomes with stepped up efforts toward political liberalization. The latter process would be expected to be complementary to private sector development, as it would entail increased transparency in economic decisions, improvements in the institutional framework, and promotion of better governance.

It should be recognized, however, that the adjustment process is likely to be a protracted one, given the existing imbalances and the deep-rooted developmental constraints that confront sub-Saharan African countries. The challenge of attaining and maintaining stable macroeconomic conditions and of removing structural rigidities is a permanent one, but the payoffs in terms of gains in growth in per capita incomes are sizable and immediately realizable.

Empirical Framework and Methodology

1. Data sources

Most of the data series used for this study were obtained from the African Economic Trends (AET) database maintained by the African Department of the IMF. A few series were obtained from World Bank sources. The AET database is revised and updated frequently to ensure consistency and reliability across countries. Nevertheless, problems that may remain in this data set would reflect mainly measurement errors at the primary level. Table 16 in the text gives the definitions and sources of the variables used in this study.

In line with the WEO methodology, the aggregate variables for sub-Saharan Africa as a whole and a number of subgroups of countries for Sections I and II have been derived as follows: the aggregate levels for nominal and real GDP, the budget balance, the external current account deficit, exports, imports, and external public debt have been derived as the sum of the levels of these variables for individual countries, expressed in U.S. dollars at current exchange rates. Such an aggregation method ensures the consistency between changes in fiscal balances, sectoral savings and investment balances, and the external current account balance. The rate of growth of broad money, the inflation rate, and the aggregate indices for the real and nominal effective exchange rates and the terms of trade have been derived as the weighted average of individual country rates of growth or indices, using the purchasing power parity (PPP) based weights estimated by the Fund's Research Department for the World Economic Outlook; these weights are shown in Table A1. Real GDP growth has been estimated both as the change in aggregate real GDP as well as the PPP-based weighted average of individual country growth rates. For details on the methodology for deriving the PPP-based weights, see IMF (1993a), and Gulde and Schulze-Ghattas (1993). More detailed data on the various country groups are shown in Tables A2-11 attached to this appendix.

2. Empirical framework

Consistent with the empirical literature, a conceptual framework that captures the effects of macroeconomic stability on economic growth, savings, and private investment can be written as follows:

$$YGPC_{it} = X_{it}A + W_{it}B + e_{it} \quad (1)$$

$$PIY_{it} = M_{it}C + N_{it}D + w_{it} \quad (2)$$

$$DSY_{it} = M_{it}E + O_{it}F + v_{it} \quad (3)$$

where YGPC is the growth rate of per capita real GDP; PIY is the ratio of private investment to GDP; DSY is the ratio of domestic savings to GDP; X is

a vector of the conventional factors of production that include growth of the labor force, and the rate of investment in physical and human capital; W is a vector of variables used to capture the effects of macroeconomic stability and other factors on growth; M is a vector of explanatory variables that is common to the investment and savings equations; N is a vector of variables that affect investment but not savings; O is a vector of other factors that affect savings but not investment; 1/ A, B, C, D, E, and F are vectors of parameters to be estimated; e, w, and v are error terms; and i and t are country and time subscripts, respectively. 2/

The variables used to capture the effects of macroeconomic stability on growth are: the rate of inflation (INF), the budget deficit (including grants) as a ratio of GDP (DEFY), and the percentage change in the real effective exchange rate (RERG). In addition, a variable to account for the effect of political liberalization (FREE) on efficiency is included. The variables that are included in vector M are: growth in real GDP (YG), the rate of inflation (INF), the overall budget deficit as a ratio to GDP (DEFY), the ratio of broad money to GDP (BMY), the ratio of foreign public debt to total exports (DETX), and the square of DETX (DETXSQ); and the standard deviation of inflation (INFSD). The variables in the vector N are the government investment as a ratio to GDP (GIY), the percentage change in the real effective exchange rate (RERG); and the standard deviation of RERG (RERGSD). The variables in vector O are: per capita real GDP, expressed in U.S. dollars (RYPC$), the percentage changes in the terms of trade (TTG), and the dependency ratio (DEPEND). Table 16 in the text gives the definitions of the variables used in the empirical analysis.

3. Empirical methodology

A multiple regression framework is used to empirically isolate the effects of macroeconomic stability on growth, savings, and investment. Using pooled time-series and cross-section data, each variable of interest (growth, savings, and investment) is regressed on indicators of macroeconomic stability while controlling for the effects of other variables. However, when dealing with pooled time-series and cross-country

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1/ Since the rates of private investment and domestic savings are highly correlated, however, it may be empirically difficult to identify the variables that belong to the vector N and not to O, and vice versa. The approach taken here is to follow as much as possible previous studies on savings and investment to identify variables that would shift only the investment function and those that would shift only the savings functions. From an empirical point of view, this would be an important consideration if equation (2) is measuring a demand relationship and equation (3) is measuring the supply of loanable funds.

2/ Note that the vectors X and W can contain two types of variables: those that vary across countries and time; and those that vary across countries only, for which the subscript t could be removed.

data, a few important econometric issues need to be given due consideration. These include: country heterogeneity, time effects, and heteros -cedasticity. 1/2/ In addition, when a number of variables are used as proxies to capture the effects of macroeconomic stability, the issue of multicollinearity must be addressed. This issue is not easy to tackle; it is addressed in this study by considering the correlation between pairs of variables used. If the correlation coefficient is large between two variables, it is assumed that the latter contain largely the same information and they are not included together in the same regression.

In regard to the treatment of country heterogeneity, researchers have tended to address this issue by implementing a least squares dummy variables (LSDV) procedure. The latter is widely used because of the ease of its application which entails the inclusion of dummy variables to account for a different slope intercept for each country. This procedure can also account for the effects of omitted variables. However, two aspects of the current investigation precludes the implementation of this procedure. First, and most important, with the inclusion of time-invariant variables (SEC70, INFSD, and RERGSD) 3/ in the regression analysis, the LSDV procedure cannot be used because the vector of dummy variables would be perfectly collinear with these variables. Second, the inclusion of 39 dummy variables for the 39 countries included in the empirical analysis would lead to a large loss of degrees of freedom.

The current study uses dummy variables for subgroups of countries to account for the possibility of fixed effects stemming from a priori information regarding the characteristics and institutional arrangements of these subgroups. These dummy variables are: CFADUM to account for the special characteristics and exchange rate arrangement of the countries of the CFA franc zone; SUSDUM to account for the effects of sustained adjusters, such as implementation of structural reforms; and IMBDUM to account for the effects of countries with protracted imbalances. 4/ It should be noted that ignoring these group effects in the regression analysis would bias the estimated coefficients for the included variables due to the missing variables problem.

Alternatively, one could use a "random-effects" procedure to account for country heterogeneity. The main disadvantage of this procedure, and which seems to be quite relevant for the data set considered in this study, is that if the unobserved effects are correlated with the included regressors, then the resulting estimators would be inconsistent, a serious

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1/ In addition, if the time period considered for each country is long enough, the issue of serial correlation needs to be considered.

2/ See Hsiao (1986) for a concise treatment of issues related to panel data. See also Judge and others (1985, pp. 516-51).

3/ See Table 16 in the text for the definitions of these variables.

4/ The variables SUSDUM and IMBDUM are not included together in the same regressions because taken together they are almost collinear.

econometric problem indeed. An assumption underlying the random effects procedure is that the group of countries under investigation is drawn at random from a given population. 1/

In addition, all multivariate regressions in this study were estimated with dummies for all the years of the sample period to account for time effects. Thus, since most regressions used six annual observations (one observation was lost with one lag, with original data covering 1986-92) for each country, six dummies were included in each equation and the resulting regression equation was estimated without an intercept. These year dummies are expected to capture the effects of shocks that are common to all the countries in each of the years but which are not captured by other included variables.

Preliminary investigation, using the Breusch-Pagan (1979) test, indicated the presence of heteroscedasticity by country. Thus, in the estimation of each multivariate regression equation, a feasible Generalized Least Squares (GLS) procedure was implemented in two steps. First, an Ordinary Least Squares (OLS) procedure was used to estimate the regression equation with pooled data. The residuals from this step were used to calculate the standard deviation (of the residuals) for each country. Then the standard deviation for each country was used to scale (weigh) all the included variables for that country. An OLS procedure was applied again to the pooled transformed data to obtain the feasible GLS estimators. In most cases, the estimated standard errors of the coefficients derived from the feasible GLS step indicated significance at higher levels of statistical confidence than with the ones from the OLS step.

It should be noted, however, that when testing for heteroscedasticity, a significant test statistic may also be an indication of other problems, such as a misspecified model and omitted variables. Judge and others (1985, p. 455) have indicated that this is certainly true for the White (1980) and Goldfeld-Quandt (1965) tests. But, in this study, the presence of heteroscedasticity due to missing variables can be safely ruled out because most of the multivariate regressions use a number of variables that are consistent with theoretical predictions. Furthermore, even for the regressions that include only a subset of the relevant variables, the significance levels of most variables remain robust when other variables are added, except when multicollinearity problems are introduced with variables that are highly correlated. In addition, when a feasible GLS procedure is used, the conventional coefficient of determination, denoted by R^2, no longer has its usual interpretations. 2/ In the current study, the R^2 from the OLS step (denoted OLS-RSQ) is reported instead as a reasonable

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1/ This assumption is relevant when working with samples from a large population, such as polling a small sample of voters drawn at random from a large group of voters.

2/ See Judge and others (1985, pp. 31-32) for more details on this issue.

approximation of the "goodness of fit." One advantage of the OLS-RSQ is that it is based on the original data.

The estimation of a semi-reduced form equations like the ones in the study present the problem that some of the right-hand-side variables may be endogenous. This problem may be especially severe when working with data that has a time-series dimension. Previous researchers, using pooled data have attempted to overcome this problem either by removing the time dimension from the data (that is, by taking the period average of all variables for each country), or by using an instrumental variables technique for estimation. The instruments would have to be highly correlated with the right-hand-side endogenous variable but not with the error term. In the current study, to overcome the problem of simultaneity bias, the contemporaneous values of each of the potentially endogenous variable on the right-hand-side are replaced with their own lagged values.

Table A1. Sub-Saharan Africa: Purchasing Power Parity-Based Weights, 1992

Main countries	Including South Africa	Excluding South Africa
South Africa	31.9	--
Nigeria	22.8	33.5
Zaire	5.1	7.5
Ghana	4.6	6.7
Kenya	3.7	5.5
Cameroon	2.7	3.9
Ethiopia	2.5	3.7
Côte d'Ivoire	2.4	3.5
Tanzania	2.3	3.3
Zimbabwe	2.1	3.1
Mozambique	1.8	2.7
Uganda	1.8	2.7
Senegal	1.5	2.2
Subtotal	85.2	78.2
Other countries	14.8	21.8
Total	100.0	100.0

Source: IMF, World Economic Outlook.

Table A2. Sub-Saharan Africa: Selected Economic and Financial Indicators, 1986-93

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
	(In millions of U.S. dollars, unless otherwise indicated)							
General statistics:								
Population (in millions)	397.5	409.2	421.5	434.2	447.1	460.5	474.2	488.2
Real GDP (at 1990 prices) 1/	215,684.8	218,364.2	226,991.2	234,393.7	237,250.6	239,844.5	238,138.2	242,331.6
Real GDP growth	1.4	1.2	4.0	3.3	1.2	1.1	-0.7	1.8
Per capita nominal GDP (US-dollars)	512.1	516.8	544.7	527.0	562.0	559.6	546.6	519.2
Per capita real GDP (US-dollars)	542.6	533.6	538.5	539.8	530.6	520.8	502.2	496.3
Per capita real GDP growth	-1.5	-1.7	0.9	0.2	-1.7	-1.8	-3.6	-1.2
Inflation rate (CPI)	18.1	24.7	28.3	27.8	17.5	133.9	218.9	197.7
Monetary indicators:								
Money supply growth	15.7	26.6	35.2	23.8	30.7	144.0	234.8	125.0
Nominal interest rate 2/	11.0	11.8	13.7	17.6	19.2	19.0	20.3	...
Real interest rate 2/	-7.1	-13.0	-14.6	-10.2	1.7	-114.9	-198.6	-181.5
External sector indicators:								
Current account balance								
Including official transfers	-4,736.9	-3,767.1	-7,301.8	-3,616.2	-1,738.5	-3,635.5	-5,458.0	-6,691.1
In percent of GDP	-2.3	-1.8	-3.2	-1.6	-0.7	-1.4	-2.1	-2.6
Excluding official transfers	-6,969.8	-6,252.5	-10,358.1	-7,117.5	-5,111.5	-6,996.5	-8,852.3	-10,216.5
In percent of GDP	-3.4	-3.0	-4.5	-3.1	-2.0	-2.7	-3.4	-4.0
Merchandise exports	46,625.9	51,294.8	52,446.3	56,516.4	63,755.9	61,469.3	60,277.0	56,812.7
In percent of GDP	22.9	24.3	22.8	24.7	25.4	23.9	23.3	22.4
Merchandise imports	38,332.6	42,943.2	48,009.9	48,492.3	52,149.0	52,815.3	54,418.2	51,941.4
In percent of GDP	18.8	20.3	20.9	21.2	20.8	20.5	21.0	20.5
External public debt outstanding	94,431.3	110,145.4	111,989.6	116,358.1	126,688.4	133,431.9	131,953.5	139,052.3
In percent of GDP	46.4	52.1	48.8	50.8	50.4	51.8	50.9	54.9
In percent of merchandise exports	202.5	214.7	213.5	205.9	198.7	217.1	218.9	244.8
Real eff. exchange rate (1985=100)	85.7	79.2	75.8	73.7	70.9	69.9	68.8	67.0
Percentage change	-14.3	-7.5	-4.3	-2.8	-3.8	-1.4	-1.6	-2.6
Nominal eff. exch. rate (1985=100)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Percentage change	...	...	...	...	...	...	...	...
Terms of trade (1985=100)	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.7
Percentage change	-11.0	-3.9	0.6	-3.7	-1.4	-3.8	-4.2	-4.2
External assistance (ODA)	...	...	...	...	...	...	...	...
In percent of GDP	...	...	...	...	...	...	...	...
	(In percent of GDP)							
Fiscal indicators:								
Overall budget balance								
Including grants	-5.0	-6.0	-6.0	-3.8	-4.5	-5.4	-8.0	-6.7
Excluding grants	-6.1	-7.2	-7.3	-5.3	-5.8	-6.7	-9.3	-8.1
Primary budget balance								
Including grants	-1.1	-1.3	-1.1	1.2	1.0	0.3	-2.2	-1.3
Excluding grants	-2.2	-2.5	-2.4	-0.3	-0.4	-1.0	-3.5	-2.7
Savings and investment balances:								
Total investment	17.4	18.5	19.6	18.8	18.5	17.8	16.9	17.5
Total national savings	15.1	16.7	16.4	17.2	17.8	16.4	14.8	14.9
Domestically generated savings	14.0	15.6	15.1	15.7	16.5	15.1	13.5	13.5
Grants	1.1	1.2	1.3	1.5	1.3	1.3	1.3	1.4
Government investment	7.2	7.0	6.6	6.1	5.9	6.3	5.9	5.5
Government savings								
Including grants	2.2	1.0	0.7	2.3	1.4	0.9	-2.1	-1.2
Excluding grants	1.1	-0.2	-0.7	0.7	0.1	-0.4	-3.4	-2.6
Nongovernment investment	10.3	11.5	13.0	12.7	12.7	11.5	11.0	12.0
Nongovernment savings	12.9	15.8	15.7	14.9	16.4	15.5	16.9	16.1

Sources: African Economic Trends Data, August 1993; WEO, Autumn 1993, and IMF, International Financial Statistics.

1/ At average U.S. dollar exchange rates during 1989-91.
2/ Deposit rates 6-12 months; real interest rates are deflated by actual CPI inflation rate.

Table A3. Sub-Saharan Africa (excluding South Africa): Selected Economic and Financial Indicators, 1986-93

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
	(In millions of U.S. dollars, unless otherwise indicated)							
General statistics:								
Population (in millions)	363.7	374.6	386.1	398.0	410.0	422.5	435.3	448.5
Real GDP (at 1990 prices) 1/	123,894.0	124,645.0	129,335.7	134,495.5	137,811.5	140,792.2	141,203.6	144,912.3
Real GDP growth	2.4	0.6	3.8	4.0	2.5	2.2	0.3	2.6
Per capita nominal GDP (US-dollars)	388.5	348.9	369.0	351.4	363.9	354.6	331.7	311.2
Per capita real GDP (US-dollars)	340.7	332.8	335.0	338.0	336.1	333.2	324.4	323.1
Per capita real GDP growth	-0.6	-2.3	0.7	0.9	-0.5	-0.9	-2.7	-0.4
Inflation rate (CPI)	17.9	29.2	36.4	34.6	19.1	191.3	314.9	282.1
Monetary indicators:								
Money supply growth	21.6	29.5	35.3	22.0	39.4	206.0	339.7	176.2
Nominal interest rate 2/	10.9	13.3	13.7	17.6	19.7	19.8	23.3	...
Real interest rate 2/	-7.0	-15.9	-22.6	-17.0	0.6	-171.5	-291.6	-263.9
External sector indicators:								
Current account balance								
Including official transfers	-7,414.3	-6,712.0	-8,502.2	-4,801.4	-3,974.9	-6,323.7	-6,955.7	-7,755.1
In percent of GDP	-5.2	-5.1	-6.0	-3.4	-2.7	-4.2	-4.8	-5.6
Excluding official transfers	-9,639.4	-9,189.6	-11,415.9	-8,174.6	-7,231.5	-9,559.4	-10,217.9	-11,155.2
In percent of GDP	-6.8	-7.0	-8.0	-5.8	-4.8	-6.4	-7.1	-8.0
Merchandise exports	28,647.0	29,867.7	30,053.9	34,278.2	40,393.5	37,721.2	36,780.0	35,472.7
In percent of GDP	20.3	22.9	21.1	24.5	27.1	25.2	25.5	25.4
Merchandise imports	27,106.0	28,809.0	30,875.4	31,589.7	35,106.9	35,365.9	36,223.8	36,023.5
In percent of GDP	19.2	22.0	21.7	22.6	23.5	23.6	25.1	25.8
External public debt outstanding	84,198.3	100,131.4	103,574.6	108,469.1	119,928.4	126,665.9	125,462.5	132,694.3
In percent of GDP	59.6	76.6	72.7	77.6	80.4	84.6	86.9	95.1
In percent of merchandise exports	293.9	335.2	344.6	316.4	296.9	335.8	341.1	374.1
Real eff. exchange rate (1985=100)	82.2	65.9	63.8	60.6	55.4	52.3	49.3	48.8
Percentage change	-17.8	-19.8	-3.2	-5.0	-8.6	-5.6	-5.7	-1.0
Nominal eff. exch. rate (1985=100)	76.7	56.6	52.5	51.0	52.9	50.7	50.3	48.0
Percentage change	-23.3	-26.2	-7.3	-2.9	3.7	-4.1	-0.8	-4.4
Terms of trade (1985=100)	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7
Percentage change	-17.0	-6.7	-0.2	-0.9	-0.9	-5.4	-3.5	-4.5
External assistance (ODA)	8,448.0	10,092.5	11,852.8	12,807.5	15,105.0	15,115.5	16,313.1	...
In percent of GDP	6.0	7.7	8.3	9.2	10.1	10.1	11.3	...
	(In percent of GDP)							
Fiscal indicators:								
Overall budget balance								
Including grants	-5.0	-6.7	-7.6	-5.2	-4.8	-5.9	-7.0	-5.4
Excluding grants	-6.5	-8.6	-9.7	-7.6	-7.0	-8.0	-9.2	-7.9
Primary budget balance								
Including grants	-1.1	-1.6	-2.3	0.2	1.3	0.3	-0.9	0.5
Excluding grants	-2.6	-3.5	-4.4	-2.2	-0.9	-1.8	-3.2	-2.0
Savings and investment balances:								
Total investment	16.8	18.0	18.4	17.2	18.2	19.0	18.4	17.8
Total national savings	11.5	12.9	12.4	13.8	15.5	14.8	13.6	12.3
Domestically generated savings	9.9	11.0	10.4	11.4	13.3	12.7	11.4	9.8
Grants	1.6	1.9	2.0	2.4	2.2	2.2	2.3	2.4
Government investment	8.3	8.7	8.2	7.5	7.6	8.4	8.2	7.3
Government savings								
Including grants	3.3	2.0	0.5	2.3	2.7	2.5	1.3	1.8
Excluding grants	1.7	0.1	-1.5	-0.1	0.6	0.4	-1.0	-0.6
Nongovernment investment	8.5	9.3	10.2	9.8	10.6	10.7	10.2	10.6
Nongovernment savings	8.2	10.8	11.9	11.5	12.8	12.3	12.4	10.4

Sources: African Economic Trends Data, August 1993; WEO, Autumn 1993, and IMF, International Financial Statistics.

1/ At average U.S. dollar exchange rates during 1989-91.
2/ Deposit rates 6-12 months; real interest rates are deflated by actual CPI inflation rate.

Table A4. Sub-Saharan Africa (excl. South Africa and Zaire): Selected Economic and Financial Indicators, 1986-93

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
	(In millions of U.S. dollars, unless otherwise indicated)							
General statistics:								
Population (in millions)	332.4	342.4	352.9	363.8	374.8	386.2	398.0	410.0
Real GDP (at 1990 prices) 1/	123,209.0	123,941.6	128,614.7	133,770.1	137,081.7	140,106.2	140,572.5	144,312.8
Real GDP growth	2.4	0.6	3.8	4.0	2.5	2.2	0.3	2.7
Per capita nominal GDP (US-dollars)	408.4	364.8	385.4	367.7	383.0	373.6	350.6	329.2
Per capita real GDP (US-dollars)	370.7	362.0	364.4	367.7	365.8	362.8	353.2	352.0
Per capita real GDP growth	-0.6	-2.3	0.7	0.9	-0.5	-0.8	-2.6	-0.3
Inflation rate (CPI)	15.0	22.7	31.6	29.0	13.7	15.8	29.5	25.9
Monetary indicators:								
Money supply growth	17.7	22.4	25.6	18.1	25.0	25.2	35.7	20.9
Nominal interest rate 2/	9.9	11.3	11.7	13.0	15.5	15.6	17.9	19.8
Real interest rate 2/	-5.0	-11.4	-19.9	-16.0	1.8	-0.2	-11.6	-6.1
External sector indicators:								
Current account balance								
Including official transfers	-6,999.9	-6,066.7	-7,923.0	-4,190.0	-3,333.9	-5,652.7	-6,503.7	-7,030.1
In percent of GDP	-5.2	-4.9	-5.8	-3.1	-2.3	-3.9	-4.7	-5.2
Excluding official transfers	-9,040.7	-8,330.8	-10,611.7	-7,287.4	-6,365.8	-8,787.2	-9,668.3	-10,376.9
In percent of GDP	-6.7	-6.7	-7.8	-5.4	-4.4	-6.1	-6.9	-7.7
Merchandise exports	26,801.5	28,136.2	27,874.8	32,077.0	38,254.5	36,072.2	35,334.0	34,398.7
In percent of GDP	19.7	22.5	20.5	24.0	26.7	25.0	25.3	25.5
Merchandise imports	25,577.5	27,173.2	28,917.0	29,586.1	33,272.9	33,995.9	35,163.8	35,005.5
In percent of GDP	18.8	21.8	21.3	22.1	23.2	23.6	25.2	25.9
External public debt outstanding	77,758.2	92,834.8	96,433.9	100,142.1	110,679.5	116,671.9	115,056.5	121.591.3
In percent of GDP	57.3	74.3	70.9	74.9	77.1	80.9	82.4	90.1
In percent of merchandise exports	290.1	329.9	346.0	312.2	289.3	323.4	325.6	353.5
Real eff. exchange rate (1985=100)	80.2	63.6	61.0	57.7	53.6	50.6	47.7	45.4
Percentage change	-19.8	-20.7	-4.0	-5.4	-7.1	-5.6	-5.7	-4.9
Nominal eff. exch. rate (1985=100)	77.0	58.6	55.4	54.6	57.0	55.1	54.3	52.1
Percentage change	-23.0	-23.9	-5.5	-1.5	4.4	-3.4	-1.4	-4.0
Terms of trade (1985=100)	0.8	0.8	0.7	0.7	0.7	0.7	0.6	0.6
Percentage change	-17.4	-8.2	-4.3	-0.2	-1.0	-5.2	-5.6	-2.2
External assistance (ODA)	8,025.8	9,418.0	11,299.9	12,076.1	14,207.3	14,639.3	16,041.8	...
In percent of GDP	5.9	7.5	8.3	9.0	9.9	10.1	11.5	...
	(In percent of GDP)							
Fiscal indicators:								
Overall budget balance								
Including grants	-4.9	-6.6	-7.2	-5.2	-4.5	-5.0	-6.4	-4.9
Excluding grants	-6.4	-8.4	-9.2	-7.5	-6.6	-7.1	-8.7	-7.4
Primary budget balance								
Including grants	-1.1	-1.5	-1.9	0.2	1.6	1.1	-0.2	1.2
Excluding grants	-2.6	-3.3	-3.9	-2.1	-0.5	-1.1	-2.5	-1.3
Savings and investment balances:								
Total investment	17.0	18.3	18.7	17.5	18.4	19.4	18.8	18.1
Total national savings	11.8	13.4	12.9	14.3	16.1	15.5	14.1	12.9
Domestically generated savings	10.3	11.6	10.9	12.0	14.0	13.3	11.8	10.4
Grants	1.5	1.8	2.0	2.3	2.1	2.2	2.3	2.5
Government investment	8.6	9.1	8.5	7.8	7.8	8.6	8.5	7.4
Government savings								
Including grants	3.7	2.5	1.3	2.6	3.3	3.6	2.0	2.6
Excluding grants	2.2	0.7	-0.7	0.2	1.2	1.5	-0.2	0.1
Nongovernment investment	8.4	9.2	10.2	9.7	10.6	10.8	10.3	10.7
Nongovernment savings	8.1	10.9	11.6	11.8	12.8	11.8	12.1	10.3

Sources: African Economic Trends Data, August 1993; WEO, Autumn 1993, and IMF, International Financial Statistics.

1/ At average U.S. dollar exchange rates during 1989-91.
2/ Deposit rates 6-12 months; real interest rates are deflated by actual CPI inflation rate.

Table A5. CFA Franc Countries: Selected Economic and Financial Indicators, 1986-93

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
	(In millions of U.S dollars, unless otherwise indicated)							
General statistics:								
Population (in millions)	68.8	70.8	72.9	75.2	77.4	79.7	82.1	84.5
Real GDP (at 1990 prices) 1/	48,541.0	47,155.0	46,541.6	47,362.7	46,670.4	46,688.3	46,360.9	46,267.7
Real GDP growth	0.4	-2.9	-1.3	1.8	-1.5	0.0	-0.7	-0.2
Per capita nominal GDP (US-dollars)	568.0	630.4	614.7	569.9	631.7	614.3	617.0	587.2
Per capita real GDP (US-dollars)	705.8	666.0	638.2	630.0	603.2	585.8	565.0	547.6
Per capita real GDP growth	-2.5	-5.6	-4.2	-1.3	-4.3	-2.9	-3.6	-3.1
Inflation rate (CPI)	3.5	0.7	2.4	1.1	1.2	0.6	0.7	0.8
Monetary indicators:								
Money supply growth	6.5	-7.9	0.9	-1.8	2.8	5.7	-0.4	3.0
Nominal interest rate 2/	6.7	6.1	6.1	6.9	7.3	7.4	7.8	8.3
Real interest rate 2/	3.2	5.4	3.7	5.7	6.1	6.8	7.2	7.5
External sector indicators:								
Current account balance								
Including official transfers	-3,221.6	-3,352.5	-3,814.3	-2,365.1	-2,903.8	-3,107.8	-3,433.8	-3,749.6
In percent of GDP	-8.2	-7.5	-8.5	-5.5	-5.9	-6.3	-6.8	-7.6
Excluding official transfers	-3,936.8	-4,225.1	-4,712.0	-3,427.1	-3,930.7	-4,093.7	-4,409.1	-4,704.0
In percent of GDP	-10.1	-9.5	-10.5	-8.0	-8.0	-8.4	-8.7	-9.5
Merchandise exports	9,290.1	9,630.7	9,217.3	9,770.0	11,727.6	10,959.0	10,705.6	10,449.7
In percent of GDP	23.8	21.6	20.6	22.8	24.0	22.4	21.1	21.1
Merchandise imports	7,924.2	8,367.9	8,523.4	8,117.6	8,958.2	8,691.8	8,755.2	8,577.7
In percent of GDP	20.3	18.7	19.0	18.9	18.3	17.8	17.3	17.3
External public debt outstanding	21,849.6	27,881.6	28,577.6	29,874.6	34,359.2	38,236.3	39,157.2	42,579.0
In percent of GDP	55.9	62.5	63.8	69.7	70.3	78.1	77.3	85.8
In percent of merchandise exports	235.2	289.5	310.0	305.8	293.0	348.9	365.8	407.5
Real eff. exchange rate (1985=100)	108.8	112.9	109.5	103.3	104.4	100.5	99.5	96.2
Percentage change	8.8	3.7	-3.0	-5.7	1.1	-3.8	-1.0	-3.3
Nominal eff. exch. rate (1985=100)	108.1	114.2	117.7	123.8	143.2	147.7	161.1	172.2
Percentage change	8.1	5.6	3.1	5.2	15.6	3.1	9.1	6.9
Terms of trade (1985=100)	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7
Percentage change	-11.7	-11.0	-4.5	-4.9	-2.0	0.3	-4.6	-1.0
External assistance (ODA)	2,789.2	3,090.9	3,538.3	3,825.2	4,736.7	4,364.9	4,606.7	...
In percent of GDP	7.1	6.9	7.9	8.9	9.7	8.9	9.1	...
	(In percent of GDP)							
Fiscal indicators:								
Overall budget balance								
Including grants	-4.1	-8.4	-7.8	-7.3	-6.2	-5.5	-6.2	-5.3
Excluding grants	-5.9	-10.4	-9.8	-9.7	-8.3	-7.5	-8.1	-7.2
Primary budget balance								
Including grants	-0.5	-4.9	-3.4	-2.7	-1.4	-0.0	-0.6	0.7
Excluding grants	-2.4	-6.8	-5.4	-5.2	-3.5	-2.0	-2.5	-1.3
Savings and investment balances:								
Total investment	22.9	21.4	19.1	16.0	15.1	15.5	14.8	14.4
Total national savings	14.6	13.9	10.6	10.5	9.2	9.1	8.0	6.9
Domestically generated savings	12.8	11.9	8.6	8.0	7.1	7.1	6.1	5.0
Grants	1.8	2.0	2.0	2.5	2.1	2.0	1.9	1.9
Government investment	8.9	10.1	6.3	5.0	5.0	4.4	4.0	4.2
Government savings								
Including grants	4.9	1.7	-1.5	-2.3	-1.2	-1.1	-2.2	-1.1
Excluding grants	3.0	-0.3	-3.5	-4.8	-3.3	-3.1	-4.1	-3.0
Nongovernment investment	13.9	11.3	12.8	11.1	10.2	11.0	10.8	10.3
Nongovernment savings	9.7	12.2	12.1	12.8	10.4	10.2	10.2	8.0

Sources: African Economic Trends Data, August 1993; WEO, Autumn 1993, and IMF, International Financial Statistics.

1/ At average U.S. dollar exchange rates during 1989-91.
2/ Deposit rates 6-12 months; real interest rates are deflated by actual CPI inflation rate.

Table A6. Non-CFA Franc Countries (excl. Zaire): Selected Economic and Financial Indicators, 1986-93

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
	(In millions of U.S. dollars, unless otherwise indicated)							
General statistics:								
Population (in millions)	263.6	271.6	280.0	288.6	297.4	306.5	316.0	325.5
Real GDP (at 1990 prices) 1/	74,668.0	76,786.6	82,073.1	86,407.3	90,411.3	93,417.9	94,211.6	98,045.1
Real GDP growth	3.7	2.8	6.9	5.3	4.6	3.3	0.8	4.1
Per capita nominal GDP (US-dollars)	366.7	295.6	325.7	315.0	318.3	311.0	281.4	262.3
Per capita real GDP (US-dollars)	283.3	282.7	293.1	299.4	304.0	304.8	298.2	301.2
Per capita real GDP growth	0.7	-0.2	3.7	2.1	1.5	0.3	-2.2	1.0
Inflation rate (CPI)	19.0	30.1	40.6	37.2	17.2	19.9	37.1	32.3
Monetary indicators:								
Money supply growth	21.6	32.6	33.3	24.0	31.2	30.5	45.2	25.5
Nominal interest rate 2/	11.1	13.1	13.5	14.8	17.8	17.8	20.6	22.7
Real interest rate 2/	-8.0	-17.0	-27.2	-22.4	0.5	-2.1	-16.5	-9.6
External sector indicators:								
Current account balance								
Including official transfers	-3,778.3	-2,714.2	-4,108.6	-1,824.9	-430.1	-2,544.9	-3,069.9	-3,280.4
In percent of GDP	-3.9	-3.4	-4.5	-2.0	-0.5	-2.7	-3.5	-3.8
Excluding official transfers	-5,103.8	-4,105.7	-5,899.7	-3,860.3	-2,435.1	-4,693.5	-5,259.2	-5,672.9
In percent of GDP	-5.3	-5.1	-6.5	-4.2	-2.6	-4.9	-5.9	-6.6
Merchandise exports	17,511.4	18,505.5	18,657.5	22,307.0	26,526.8	25,113.2	24,628.5	23,949.0
In percent of GDP	18.1	23.1	20.5	24.5	28.0	26.3	27.7	28.1
Merchandise imports	17,653.4	18,805.4	20,393.6	21,468.5	24,314.6	25,304.1	26,408.6	26,427.8
In percent of GDP	18.3	23.4	22.4	23.6	25.7	26.5	29.7	31.0
External public debt outstanding	55,908.6	64,953.2	67,856.4	70,267.5	76,320.3	78,435.6	75,899.3	79,012.3
In percent of GDP	57.8	80.9	74.4	77.3	80.6	82.3	85.4	92.6
In percent of merchandise exports	319.3	351.0	363.7	315.0	287.7	312.3	308.2	329.9
Real eff. exchange rate (1985=100)	70.7	47.8	46.8	44.8	40.2	37.9	34.7	33.1
Percentage change	-29.3	-32.3	-2.2	-4.1	-10.4	-5.7	-8.4	-4.8
Nominal eff. exch. rate (1985=100)	66.1	40.0	36.1	34.1	33.0	30.2	26.1	21.4
Percentage change	-33.9	-39.6	-9.7	-5.6	-3.1	-8.4	-13.8	-18.0
Terms of trade (1985=100)	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6
Percentage change	-19.4	-7.1	-4.2	1.3	-0.7	-6.7	-5.8	-2.5
External assistance (ODA)	5,236.5	6,327.1	7,761.6	8,251.0	9,470.6	10,274.5	11,435.1	...
In percent of GDP	5.4	7.9	8.5	9.1	10.0	10.8	12.9	...
	(In percent of GDP)							
Fiscal indicators:								
Overall budget balance								
Including grants	-5.2	-5.6	-7.0	-4.3	-3.6	-4.7	-6.6	-4.6
Excluding grants	-6.6	-7.3	-8.9	-6.5	-5.7	-7.0	-9.0	-7.5
Primary budget balance								
Including grants	-1.3	0.4	-1.1	1.6	3.1	1.6	0.0	1.5
Excluding grants	-2.7	-1.4	-3.1	-0.7	1.0	-0.6	-2.4	-1.3
Savings and investment balances:								
Total investment	14.6	16.5	18.5	18.1	20.1	21.4	21.0	20.3
Total national savings	10.7	13.1	14.0	16.1	19.7	18.7	17.6	16.4
Domestically generated savings	9.3	11.4	12.1	13.9	17.6	16.5	15.1	13.6
Grants	1.4	1.7	2.0	2.2	2.1	2.3	2.5	2.8
Government investment	8.4	8.5	9.6	9.1	9.3	10.7	11.0	9.4
Government savings								
Including grants	3.2	2.9	2.7	4.9	5.7	6.0	4.4	4.7
Excluding grants	1.8	1.2	0.7	2.6	3.6	3.8	2.0	1.9
Nongovernment investment	6.2	8.0	8.9	9.0	10.9	10.6	10.0	10.9
Nongovernment savings	7.5	10.2	11.4	11.3	14.0	12.7	13.1	11.7

Sources: African Economic Trends Data, August 1993; WEO, Autumn 1993, and IMF, International Financial Statistics.

1/ At average U.S. dollar exchange rates during 1989-91.
2/ Deposit rates 6-12 months; real interest rates are deflated by actual CPI inflation rate.

Table A7. Positive Per Capita Growth Countries: Selected Economic and Financial Indicators, 1986-93

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
	(In millions of U.S. dollars, unless otherwise indicated)							
General statistics:								
Population (in millions)	190.1	195.6	201.6	207.7	213.9	220.4	227.1	233.9
Real GDP (at 1990 prices) 1/	62,586.6	64,445.9	69,385.1	73,408.6	77,344.3	80,496.2	82,990.2	85,800.3
Real GDP growth	4.2	3.0	7.7	5.8	5.4	4.1	3.1	3.4
Per capita nominal GDP (US-dollars)	423.7	349.4	383.1	361.4	375.3	372.4	343.6	330.6
Per capita real GDP (US-dollars)	329.3	329.4	344.2	353.4	361.6	365.2	365.4	366.8
Per capita real GDP growth	1.1	0.0	4.5	2.7	2.3	1.0	0.1	0.4
Inflation rate (CPI)	16.5	23.5	43.0	36.6	12.9	14.5	31.6	28.8
Monetary indicators:								
Money supply growth	19.9	31.1	32.5	21.9	30.1	28.3	45.3	24.1
Nominal interest rate 2/	11.0	13.2	13.4	14.8	17.9	15.9	18.2	20.1
Real interest rate 2/	-5.6	-10.3	-29.6	-21.9	5.0	1.4	-13.3	-8.6
External sector indicators:								
Current account balance								
Including official transfers	-3,258.1	-1,985.7	-3,447.2	-985.1	248.9	-1,564.3	-2,344.5	-2,750.7
In percent of GDP	-4.0	-2.9	-4.5	-1.3	0.3	-1.9	-3.0	-3.6
Excluding official transfers	-4,414.6	-3,373.7	-4,947.8	-2,654.9	-1,349.8	-3,142.2	-3,959.5	-4,486.1
In percent of GDP	-5.5	-4.9	-6.4	-3.5	-1.7	-3.8	-5.1	-5.8
Merchandise exports	15,209.8	16,143.5	16,011.2	19,281.6	23,823.6	22,472.2	22,483.2	21,785.5
In percent of GDP	18.9	23.6	20.7	25.7	29.7	27.4	28.8	28.2
Merchandise imports	15,712.9	16,589.5	18,059.5	18,652.6	21,526.4	22,327.7	23,330.3	23,409.7
In percent of GDP	19.5	24.3	23.4	24.8	26.8	27.2	29.9	30.3
External public debt outstanding	44,877.0	52,231.3	55,073.1	56,395.9	61,081.9	62,983.4	58,727.9	61,394.5
In percent of GDP	55.7	76.4	71.3	75.1	76.1	76.7	75.2	79.4
In percent of merchandise exports	295.1	323.5	344.0	292.5	256.4	280.3	261.2	281.8
Real eff. exchange rate (1985=100)	68.6	45.9	45.0	41.7	37.9	35.4	33.1	32.2
Percentage change	-31.4	-33.0	-2.0	-7.3	-9.3	-6.6	-6.5	-2.5
Nominal eff. exch. rate (1985=100)	64.7	39.4	35.3	31.9	31.2	29.3	27.1	24.4
Percentage change	-35.3	-39.1	-10.4	-9.6	-2.3	-5.9	-7.6	-9.8
Terms of trade (1985=100)	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6
Percentage change	-26.3	-2.3	-7.9	1.3	3.0	-7.8	-4.1	-3.2
External assistance (ODA)	4,100.7	4,940.2	5,723.0	6,627.4	7,328.2	7,175.6	7,322.0	...
In percent of GDP	5.1	7.2	7.4	8.8	9.1	8.7	9.4	...
	(In percent of GDP)							
Fiscal indicators:								
Overall budget balance								
Including grants	-3.8	-4.7	-6.6	-3.2	-2.1	-3.4	-5.7	-4.0
Excluding grants	-5.3	-6.8	-8.5	-5.5	-4.1	-5.3	-7.7	-6.2
Primary budget balance								
Including grants	0.0	1.3	-0.7	2.7	4.7	2.9	0.7	1.7
Excluding grants	-1.4	-0.7	-2.6	0.5	2.7	1.0	-1.4	-0.5
Savings and investment balances:								
Total investment	15.3	16.8	18.8	19.0	20.7	22.6	22.3	20.5
Total national savings	11.2	13.9	14.4	17.7	21.0	20.7	19.3	16.9
Domestically generated savings	9.8	11.9	12.4	15.5	19.0	18.8	17.2	14.7
Grants	1.4	2.0	1.9	2.2	2.0	1.9	2.1	2.2
Government investment	9.0	8.7	9.9	9.1	9.3	11.1	11.5	9.1
Government savings								
Including grants	5.1	4.0	3.3	5.9	7.2	7.7	5.8	5.1
Excluding grants	3.7	2.0	1.4	3.7	5.2	5.8	3.8	2.8
Nongovernment investment	6.3	8.1	8.9	9.9	11.4	11.5	10.8	11.4
Nongovernment savings	6.1	9.9	11.0	11.8	13.8	13.0	13.5	11.8

Sources: African Economic Trends Data, August 1993; WEO, Autumn 1993, and IMF, International Financial Statistics.

1/ At average U.S. dollar exchange rates during 1989-91.
2/ Deposit rates 6-12 months; real interest rates are deflated by actual CPI inflation rate.

Table A8. Negative Per Capita Growth Countries (excl. Zaire): Selected Economic and Financial Indicators, 1986-93

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
	(In millions of U.S. dollars, unless otherwise indicated)							
General statistics:								
Population (in millions)	142.3	146.7	151.3	156.1	160.9	165.8	170.9	176.1
Real GDP (at 1990 prices) 1/	60,622.4	59,495.6	59,229.6	60,361.5	59,737.4	59,610.0	57,582.3	58,512.5
Real GDP growth	0.6	-1.9	-0.4	1.9	-1.0	-0.2	-3.4	1.6
Per capita nominal GDP (US-dollars)	387.8	385.4	388.4	376.1	393.2	375.2	359.9	327.4
Per capita real GDP (US-dollars)	426.0	405.4	391.4	386.8	371.3	359.5	336.9	332.2
Per capita real GDP growth	-2.3	-4.8	-3.5	-1.2	-4.0	-3.2	-6.3	-1.4
Inflation rate (CPI)	12.6	21.5	11.8	15.2	15.3	18.5	25.0	19.7
Monetary indicators:								
Money supply growth	14.2	8.2	13.7	11.2	15.2	19.0	15.0	14.0
Nominal interest rate 2/	8.3	8.4	8.9	9.8	10.8	15.0	17.2	19.0
Real interest rate 2/	-4.2	-13.1	-3.0	-5.3	-4.5	-3.5	-7.8	-0.7
External sector indicators:								
Current account balance								
Including official transfers	-3,741.8	-4,081.1	-4,475.8	-3,204.9	-3,582.8	-4,088.4	-4,159.2	-4,279.4
In percent of GDP	-6.8	-7.2	-7.6	-5.5	-5.7	-6.6	-6.8	-7.4
Excluding official transfers	-4,626.0	-4,957.2	-5,663.9	-4,632.5	-5,016.0	-5,645.0	-5,708.8	-5,890.9
In percent of GDP	-8.4	-8.8	-9.6	-7.9	-7.9	-9.1	-9.3	-10.2
Merchandise exports	11,591.7	11,992.7	11,863.6	12,795.4	14,430.9	13,600.1	12,850.9	12,613.2
In percent of GDP	21.0	21.2	20.2	21.8	22.8	21.9	20.9	21.9
Merchandise imports	9,864.7	10,583.8	10,857.5	10,933.6	11,746.5	11,668.2	11,833.5	11,595.8
In percent of GDP	17.9	18.7	18.5	18.6	18.6	18.8	19.2	20.1
External public debt outstanding	32,881.2	40,603.5	41,360.8	43,746.2	49,597.6	53,688.5	56,328.6	60,196.8
In percent of GDP	59.6	71.8	70.4	74.5	78.4	86.3	91.6	104.4
In percent of merchandise exports	283.7	338.6	348.6	341.9	343.7	394.8	438.3	477.3
Real eff. exchange rate (1985=100)	99.2	92.8	89.5	87.2	84.7	82.3	80.0	75.0
Percentage change	-0.8	-6.5	-3.6	-2.6	-2.9	-2.8	-2.9	-6.3
Nominal eff. exch. rate (1985=100)	96.6	89.8	90.3	95.6	106.9	107.5	112.8	112.9
Percentage change	-3.4	-7.1	0.6	5.8	11.8	0.6	4.9	0.1
Terms of trade (1985=100)	96.7	81.9	83.3	81.6	76.3	76.2	70.4	70.3
Percentage change	-3.3	-15.3	1.7	-2.0	-6.5	-0.1	-7.7	-0.1
External assistance (ODA)	3,925.0	4,477.8	5,576.9	5,448.7	6,879.1	7,463.7	8,719.8	...
In percent of GDP	7.1	7.9	9.5	9.3	10.9	12.0	14.2	...
	(In percent of GDP)							
Fiscal indicators:								
Overall budget balance								
Including grants	-6.4	-8.9	-8.1	-7.8	-7.5	-7.1	-7.4	-6.1
Excluding grants	-8.0	-10.4	-10.1	-10.2	-9.8	-9.6	-9.9	-8.9
Primary budget balance								
Including grants	-2.7	-4.9	-3.5	-3.0	-2.4	-1.4	-1.3	0.6
Excluding grants	-4.3	-6.4	-5.5	-5.4	-4.6	-3.9	-3.9	-2.2
Savings and investment balances:								
Total investment	19.5	20.0	18.6	15.4	15.5	15.1	14.3	15.0
Total national savings	12.7	12.8	11.0	10.0	9.9	8.6	7.5	7.6
Domestically generated savings	11.1	11.2	9.0	7.5	7.6	6.1	5.0	4.8
Grants	1.6	1.5	2.0	2.4	2.3	2.5	2.5	2.8
Government investment	8.0	9.5	6.7	6.1	5.9	5.3	4.6	5.3
Government savings								
Including grants	1.6	0.6	-1.4	-1.7	-1.6	-1.8	-2.8	-0.8
Excluding grants	0.0	-0.9	-3.4	-4.1	-3.9	-4.3	-5.3	-3.6
Nongovernment investment	11.5	10.5	11.9	9.3	9.6	9.8	9.6	9.7
Nongovernment savings	11.1	12.2	12.4	11.6	11.5	10.3	10.3	8.4

Sources: African Economic Trends Data, August 1993; WEO, Autumn 1993, and IMF, International Financial Statistics.

1/ At average U.S. dollar exchange rates during 1989-91.
2/ Deposit rates 6-12 months; real interest rates are deflated by actual CPI inflation rate.

Table A9. Sustained Adjusters: Selected Economic and Financial Indicators, 1986-93

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
	(In millions of U.S. dollars, unless otherwise indicated)							
General statistics:								
Population (in millions)	127.4	130.9	134.8	138.7	142.7	146.9	151.2	155.6
Real GDP (at 1990 prices) 1/	33,267.3	34,571.7	36,344.9	37,854.9	39,114.3	40,313.7	40,579.2	41,934.7
Real GDP growth	4.6	3.9	5.1	4.2	3.3	3.1	0.7	3.3
Per capita nominal GDP (US-dollars)	304.3	283.9	291.3	273.8	283.7	278.5	275.0	247.2
Per capita real GDP (US-dollars)	261.1	264.0	269.6	272.9	274.1	274.5	268.4	269.6
Per capita real GDP growth	1.6	1.1	2.1	1.2	0.4	0.1	-2.2	0.5
Inflation rate (CPI)	27.9	46.6	33.3	22.6	20.0	17.5	19.8	18.8
Monetary indicators:								
Money supply growth	35.1	34.2	31.1	30.1	21.7	22.4	30.9	11.4
Nominal interest rate 2/	12.1	13.7	14.1	15.1	16.3	18.0	20.3	18.7
Real interest rate 2/	-15.7	-33.0	-19.2	-7.5	-3.7	0.5	0.6	-0.2
External sector indicators:								
Current account balance								
Including official transfers	-1,352.7	-1,932.0	-1,919.2	-2,137.3	-2,383.9	-2,004.0	-1,987.1	-2,069.1
In percent of GDP	-3.5	-5.2	-4.9	-5.6	-5.9	-4.9	-4.8	-5.4
Excluding official transfers	-2,216.9	-2,907.4	-3,186.3	-3,582.4	-3,906.7	-3,565.8	-3,531.3	-3,844.3
In percent of GDP	-5.7	-7.8	-8.1	-9.4	-9.7	-8.7	-8.5	-10.0
Merchandise exports	5,047.1	5,151.5	5,378.5	5,077.5	5,624.5	5,811.8	5,581.7	5,650.2
In percent of GDP	13.0	13.9	13.7	13.4	13.9	14.2	13.4	14.7
Merchandise imports	7,069.0	8,269.1	8,991.5	9,139.8	10,332.5	10,102.0	10,090.0	10,625.3
In percent of GDP	18.2	22.2	22.9	24.1	25.5	24.7	24.3	27.6
External public debt outstanding	20,954.0	26,654.3	27,444.3	27,532.5	30,799.8	32,301.4	33,421.7	35,007.1
In percent of GDP	54.1	71.7	69.9	72.5	76.1	79.0	80.4	91.0
In percent of merchandise exports	415.2	517.4	510.3	542.2	547.6	555.8	598.8	619.6
Real eff. exchange rate (1985=100)	86.6	72.3	66.9	63.4	57.7	54.8	52.3	49.4
Percentage change	-13.4	-16.6	-7.4	-5.2	-9.0	-5.1	-4.6	-5.4
Nominal eff. exch. rate (1985=100)	77.6	59.2	54.0	52.7	52.7	50.8	49.3	45.2
Percentage change	-22.4	-23.7	-8.8	-2.4	-0.1	-3.5	-3.0	-8.4
Terms of trade (1985=100)	101.4	94.8	90.6	82.7	76.9	76.8	72.9	72.7
Percentage change	1.4	-6.5	-4.4	-8.6	-7.0	-0.1	-5.2	-0.2
External assistance (ODA)	4,226.6	5,171.0	6,299.2	6,829.5	7,816.2	7,533.2	8,163.8	...
In percent of GDP	10.9	13.9	16.0	18.0	19.3	18.4	19.6	...
	(In percent of GDP)							
Fiscal indicators:								
Overall budget balance								
Including grants	-5.6	-4.8	-3.1	-3.4	-3.9	-2.8	-4.2	-3.3
Excluding grants	-7.9	-7.4	-6.4	-7.2	-7.7	-6.6	-8.0	-7.9
Primary budget balance								
Including grants	-2.9	-2.0	-0.3	-0.2	-0.9	0.2	-0.8	0.1
Excluding grants	-5.1	-4.6	-3.5	-4.0	-4.7	-3.6	-4.5	-4.5
Savings and investment balances:								
Total investment	14.3	18.0	18.8	19.7	20.7	20.2	18.3	19.3
Total national savings	10.8	12.8	13.9	14.1	14.8	15.3	13.5	13.9
Domestically generated savings	8.6	10.2	10.7	10.3	11.1	11.5	9.8	9.3
Grants	2.2	2.6	3.2	3.8	3.8	3.8	3.7	4.6
Government investment	6.6	7.4	8.0	8.8	8.4	8.2	7.3	7.6
Government savings								
Including grants	0.9	2.7	4.9	5.4	4.5	5.4	3.1	4.3
Excluding grants	-1.3	0.0	1.6	1.5	0.8	1.6	-0.6	-0.3
Nongovernment investment	7.7	10.6	10.8	10.9	12.3	12.0	11.0	11.7
Nongovernment savings	9.9	10.2	9.0	8.7	10.3	9.9	10.4	9.6

Sources: African Economic Trends Data, August 1993; WEO, Autumn 1993, and IMF, International Financial Statistics.

1/ At average U.S. dollar exchange rates during 1989-91.
2/ Deposit rates 6-12 months; real interest rates are deflated by actual CPI inflation rate.

Table A10. Low Macroeconomic Imbalances Countries: Selected Economic and Financial Indicators, 1986-93

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
	(In millions of U.S. dollars, unless otherwise indicated)							
General statistics:								
Population (in millions)	12.5	12.8	13.2	13.5	13.9	14.3	14.6	15.0
Real GDP (at 1990 prices) 1/	12,364.3	12,702.4	13,790.3	14,565.4	15,188.7	15,957.6	15,719.3	16,129.4
Real GDP growth	4.6	2.7	8.6	5.6	4.3	5.1	-1.5	2.6
Per capita nominal GDP (US-dollars)	782.6	907.7	1052.6	1063.5	1150.6	1147.9	1113.5	1096.9
Per capita real GDP (US-dollars)	991.1	991.6	1047.4	1078.1	1094.5	1119.7	1074.5	1073.6
Per capita real GDP growth	3.5	0.1	5.6	2.9	1.5	2.3	-4.0	-0.1
Inflation rate (CPI)	11.4	9.1	6.3	12.5	13.6	20.5	26.0	17.9
Monetary indicators:								
Money supply growth	7.6	33.1	24.2	24.2	12.2	22.7	20.2	17.7
Nominal interest rate 2/	9.8	9.5	10.0	9.7	11.3	21.9	22.4	21.2
Real interest rate 2/	-1.6	0.3	3.6	-2.8	-2.3	1.4	-3.6	3.3
External sector indicators:								
Current account balance								
Including official transfers	1,364.6	855.2	341.6	352.1	-273.3	-109.0	-303.0	-134.2
In percent of GDP	14.0	7.4	2.5	2.5	-1.7	-0.7	-1.9	-0.8
Excluding official transfers	1,033.1	524.9	69.3	122.3	-498.1	-281.1	-501.0	-319.3
In percent of GDP	10.6	4.5	0.5	0.9	-3.1	-1.7	-3.1	-1.9
Merchandise exports	5,147.6	5,440.8	5,673.6	6,285.9	6,298.5	6,784.3	6,326.7	6,174.9
In percent of GDP	52.7	46.8	40.9	43.7	39.4	41.5	38.8	37.5
Merchandise imports	3,354.8	4,276.1	4,997.5	5,478.1	6,358.6	6,756.1	6,806.8	6,627.3
In percent of GDP	34.4	36.8	36.1	38.1	39.8	41.3	41.8	40.2
External public debt outstanding	3,942.5	4,422.3	4,409.2	4,329.3	4,617.0	4,885.3	5,681.5	6,067.7
In percent of GDP	40.4	38.0	31.8	30.1	28.9	29.9	34.9	36.8
In percent of merchandise exports	76.6	81.3	77.7	68.9	73.3	72.0	89.8	98.3
Real eff. exchange rate (1985=100)	94.1	90.0	85.3	83.1	79.1	72.3	70.3	72.7
Percentage change	-5.9	-4.5	-5.1	-2.6	-4.8	-8.6	-2.8	3.4
Nominal eff. exch. rate (1985=100)	92.4	88.1	84.8	82.5	78.2	68.8	62.1	59.5
Percentage change	-7.6	-4.6	-3.8	-2.6	-5.3	-12.1	-9.7	-4.2
Terms of trade (1985=100)	117.1	113.6	136.1	141.0	141.3	142.6	137.2	137.4
Percentage change	17.1	-2.9	19.8	3.6	0.3	0.9	-3.8	0.2
External assistance (ODA)	459.1	597.5	561.1	592.2	792.0	858.1	1,173.8	...
In percent of GDP	4.7	5.1	4.0	4.1	5.0	5.2	7.2	...
	(In percent of GDP)							
Fiscal indicators:								
Overall budget balance								
Including grants	-1.7	-1.3	0.4	0.9	2.2	1.7	-0.6	-2.1
Excluding grants	-5.1	-4.1	-1.6	-0.7	0.8	0.6	-1.9	-3.3
Primary budget balance								
Including grants	3.1	3.6	4.9	5.3	6.3	5.3	3.1	1.2
Excluding grants	-0.2	0.8	2.9	3.7	4.9	4.3	1.8	0.1
Savings and investment balances:								
Total investment	18.8	19.4	23.9	23.1	25.1	24.8	24.5	25.2
Total national savings	32.8	26.7	26.3	25.6	23.4	24.1	22.7	24.4
Domestically generated savings	29.4	23.9	24.4	24.0	22.0	23.0	21.5	23.2
Grants	3.4	2.8	2.0	1.6	1.4	1.1	1.2	1.1
Government investment	4.3	7.6	7.7	7.3	7.7	8.3	8.8	8.0
Government savings								
Including grants	2.6	6.3	8.1	8.2	9.9	10.0	8.1	5.9
Excluding grants	-0.8	3.4	6.1	6.6	8.5	8.9	6.9	4.8
Nongovernment investment	14.5	11.8	16.1	15.8	17.4	16.5	15.7	17.2
Nongovernment savings	30.2	20.4	18.2	17.4	13.5	14.1	14.5	18.5

Sources: African Economic Trends Data, August 1993; WEO, Autumn 1993, and IMF, International Financial Statistics.

1/ At average U.S. dollar exchange rates during 1989-91.
2/ Deposit rates 6-12 months; real interest rates are deflated by actual CPI inflation rate.

Table A11. Protracted Imbalances Countries (excl. Zaire): Selected Economic and Financial Indicators, 1986-93

	1986	1987	1988	1989	1990	1991	1992	1993 Est.
	(In millions of U.S. dollars, unless otherwise indicated)							
General statistics:								
Population (in millions)	192.5	198.6	204.9	211.5	218.2	225.1	232.2	239.4
Real GDP (at 1990 prices) 1/	77,577.4	76,667.5	78,479.5	81,349.7	82,778.7	83,835.0	84,274.0	86,248.7
Real GDP growth	1.2	-1.2	2.4	3.7	1.8	1.3	0.5	2.3
Per capita nominal GDP (US-dollars)	453.0	383.2	404.4	384.9	399.1	386.6	351.9	334.4
Per capita real GDP (US-dollars)	403.0	386.0	382.9	384.6	379.3	372.4	363.0	360.2
Per capita real GDP growth	-2.0	-4.2	-0.8	0.4	-1.4	-1.8	-2.5	-0.8
Inflation rate (CPI)	8.8	11.5	33.5	34.2	10.5	14.4	35.1	30.7
Monetary indicators:								
Money supply growth	10.0	15.1	22.9	11.1	28.1	27.0	39.9	26.5
Nominal interest rate 2/	8.8	10.3	10.7	12.3	15.5	13.6	16.1	20.3
Real interest rate 2/	0.0	-1.2	-22.8	-21.9	5.1	-0.8	-19.0	-10.4
External sector indicators:								
Current account balance								
Including official transfers	-7,011.8	-4,990.0	-6,345.3	-2,404.9	-676.7	-3,539.7	-4,213.5	-4,826.8
In percent of GDP	-8.0	-6.6	-7.7	-3.0	-0.8	-4.1	-5.2	-6.0
Excluding official transfers	-7,856.9	-5,948.4	-7,494.8	-3,827.3	-1,960.9	-4,940.3	-5,635.9	-6,213.3
In percent of GDP	-9.0	-7.8	-9.0	-4.7	-2.3	-5.7	-6.9	-7.8
Merchandise exports	16,606.8	17,544.0	16,822.7	20,713.7	26,331.5	23,476.1	23,425.6	22,573.6
In percent of GDP	19.0	23.1	20.3	25.4	30.2	27.0	28.7	28.2
Merchandise imports	15,153.7	14,628.0	14,928.1	14,968.2	16,581.7	17,137.8	18,267.0	17,752.9
In percent of GDP	17.4	19.2	18.0	18.4	19.0	19.7	22.4	22.2
External public debt outstanding	52,861.6	61,758.2	64,580.4	68,280.2	75,262.7	79,485.2	75,953.3	80,516.6
In percent of GDP	60.6	81.1	77.9	83.9	86.4	91.3	93.0	100.6
In percent of merchandise exports	318.3	352.0	383.9	329.6	285.8	338.6	324.2	356.7
Real eff. exchange rate (1985=100)	75.6	56.3	55.3	51.9	48.6	45.9	42.8	40.2
Percentage change	-24.4	-25.5	-1.8	-6.2	-6.3	-5.6	-6.7	-6.1
Nominal eff. exch. rate (1985=100)	75.2	55.2	52.9	52.5	57.0	55.9	56.2	55.1
Percentage change	-24.8	-26.5	-4.2	-0.9	8.6	-2.0	0.6	-1.8
Terms of trade (1985=100)	69.6	61.9	56.0	59.2	61.1	54.6	51.5	49.1
Percentage change	-30.4	-11.1	-9.4	5.6	3.2	-10.7	-5.6	-4.7
External assistance (ODA)	3,340.1	3,649.5	4,439.6	4,654.4	5,599.1	6,247.9	6,704.2	...
In percent of GDP	3.8	4.8	5.4	5.7	6.4	7.2	8.2	...
	(In percent of GDP)							
Fiscal indicators:								
Overall budget balance								
Including grants	-4.9	-8.3	-10.5	-7.2	-6.0	-7.3	-8.7	-6.2
Excluding grants	-5.9	-9.6	-11.8	-8.9	-7.4	-8.9	-10.4	-7.9
Primary budget balance								
Including grants	-0.7	-2.0	-3.8	-0.5	1.9	0.6	-0.5	1.8
Excluding grants	-1.7	-3.3	-5.1	-2.2	0.4	-1.0	-2.3	0.0
Savings and investment balances:								
Total investment	18.0	18.2	17.8	15.4	16.2	18.0	17.8	16.1
Total national savings	10.0	11.7	10.2	12.4	15.4	13.9	12.7	10.1
Domestically generated savings	9.0	10.4	8.8	10.7	13.9	12.3	10.9	8.4
Grants	1.0	1.3	1.4	1.7	1.5	1.6	1.7	1.7
Government investment	10.0	10.1	8.9	7.4	7.6	8.8	9.0	7.2
Government savings								
Including grants	5.0	1.8	-1.6	0.3	1.6	1.6	0.3	1.1
Excluding grants	4.1	0.5	-2.9	-1.5	0.1	-0.0	-1.5	-0.7
Nongovernment investment	8.0	8.1	8.9	8.0	8.6	9.1	8.9	8.9
Nongovernment savings	4.9	9.9	11.7	12.2	13.8	12.3	12.4	9.0

Sources: African Economic Trends Data, August 1993; WEO, Autumn 1993, and IMF, International Financial Statistics.

1/ At average U.S. dollar exchange rates during 1989-91.

2/ Deposit rates 6-12 months; real interest rates are deflated by actual CPI inflation rate.

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