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**Adjustment and Growth in Sub-Saharan Africa<sup>1</sup>**

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**Abstract**

This paper analyzes the factors affecting economic growth in sub-Saharan Africa, using data for 1981–97. The results indicate that per capita real GDP growth is positively influenced by economic policies that raise the ratio of private investment to GDP, promote human capital development, lower the ratio of the budget deficit to GDP, safeguard external competitiveness, and stimulate export volume growth. The favorable evolution of these variables played an important role in the region's apparent postreform recovery of 1995–97. The paper also discusses a policy framework to promote sustainable economic growth and reduce poverty in sub-Saharan Africa.

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## I. INTRODUCTION

In many respects, sub-Saharan Africa today is quite different from what it was in the early 1980s. For the first time in a generation, there is clear evidence of economic progress in an increasing number of countries in the region. Thus, since 1994 aggregate economic performance has been improving, reflecting the implementation of appropriate policies, often in the context of comprehensive adjustment and reform programs supported by the IMF and the World Bank. Sound fiscal and monetary policies have led to a substantial reduction of domestic and external financial imbalances. At the same time, important structural reforms have contributed to alleviating distortions and improving overall economic efficiency.<sup>2</sup> More and more countries in the region are also giving increasing attention to achieving high-quality growth by placing higher priority on public spending on health care, education, and other basic social services. Moreover, the implementation of these economic policies has been accompanied by political liberalization and a movement toward participatory forms of government that foster a consensus encompassing the state and civil society.

Nevertheless, the economic and social situation is fragile and sub-Saharan Africa has a long way to go to make up for the ground lost over the past two decades, when aggregate economic performance was disappointingly weak. As noted by Ghura and Hadjimichael (1996), both domestic and external factors contributed to the region's poor overall economic performance in the 1980s. Key constraints to growth included inappropriate economic policies, as well as rapid population growth, low human capital development, and inadequate infrastructure. Also, many countries were adversely affected by political instability and ethnic conflicts. Despite the recent upturn in economic growth rates, poverty is still widespread and in many parts of the continent extremely acute. Investment remains subdued, limiting the efforts to diversify economic structures and increase growth. Furthermore, a number of countries have only recently emerged from civil wars that have severely set back their development efforts while, sadly, new conflicts have erupted in other parts of the continent. Sub-Saharan Africa therefore faces major challenges: to raise growth and reduce poverty; and to integrate itself fully into the world economy.

This paper has three objectives. First, it empirically investigates the impact of adjustment on economic growth, using an extended version of the growth model developed by Mankiw, Romer, and Weil (1992).<sup>3</sup> The approach adopted is similar to a number of recent

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<sup>2</sup>Structural reforms have included the removal of domestic price controls, the liberalization of exchange and trade systems, the restructuring or privatization of public enterprises, financial sector reforms, and reforms of investment codes and labor legislation. Many countries have also carried out major reforms of their agricultural marketing systems, allowing higher prices to be paid to farmers and thereby strengthening production incentives and raising rural incomes.

<sup>3</sup>The empirical framework used follows Knight, Loayza, and Villanueva (1993). This paper  
(continued...)

studies that have presented empirical evidence in support of the beneficial impact of a sound economic policy environment on economic growth.<sup>4</sup> Second, the paper provides a broad assessment of adjustment and economic performance in sub-Saharan Africa during the 1990s, focusing in particular on 1995–97, which appears to be a period of overall postreform recovery.<sup>5</sup> Third, based on the results of the empirical work, the paper discusses the key elements of a policy framework that could be implemented to promote sustainable economic growth and reduce poverty.

The rest of the paper is organized as follows. Section II summarizes some theoretical considerations for estimating a growth equation. Section III presents the empirical estimates of the growth equation, using the time period 1981–97 and a sample of 32 countries (which, although constrained by data availability, is broadly representative). Section IV provides an assessment of adjustment and economic performance in sub-Saharan Africa during the 1990s. The period 1990–97 is analyzed, on the basis of as extensive a coverage as possible of sub-Saharan African countries, in order to identify the key factors or variables that contributed to the long-awaited improvement in aggregate economic performance during 1995–97.<sup>6</sup> This approach also enables a check of the robustness of the empirical findings (regarding the factors and variables contributing to growth), which are based on a longer time period and a smaller number of countries, against the experience of a larger sample of countries over the shorter recent period of improved overall economic performance (1995–97). The last section contains a discussion of policy implications and some conclusions.

## II. A FRAMEWORK FOR ANALYZING GROWTH

The impact of structural adjustment on economic growth is investigated in this paper by using an extended version of the neoclassical growth model proposed by Mankiw, Romer,

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<sup>3</sup>(...continued)

extends the analysis of growth in sub-Saharan African countries conducted by Ghura and Hadjimichael (1996) by considering a longer time period, i.e., 1981 to 1997.

<sup>4</sup>See, for example, Sachs and Warner (1997) and Ghura and Hadjimichael (1996) for the case of sub-Saharan Africa.

<sup>5</sup>See also Fischer, Hernández-Catá, and Khan (1998) for an analysis of recent economic performance in Africa.

<sup>6</sup>Extending the sample period further back in time would have reduced the coverage of countries because of a lack of data. Moreover, since there is little evidence of a continent-wide episode of economic recovery in the 1980s and the first generation of structural adjustment programs was launched in the second half of the 1980s, data prior to the 1990s offer little scope for analyzing postreform growth episodes like that of the period 1995–97.

and Weil (1992) and applied by Ghura and Hadjimichael (1996) to sub-Saharan Africa. The growth equation used for the analysis takes the form:<sup>7</sup>

$$\begin{aligned}
 YGPC_{i,t} = & \\
 & \eta_0 \ln(Y0_i) + \eta_1 \ln(PG_{i,t} + g + \delta) + \eta_2 \ln(PIY_{i,t}) + \eta_3 \ln(GIY_{i,t}) + \eta_4 \ln(HK_{i,t}) \\
 & + \theta_1 SUS + \theta_2 INFL_{i,t} + \theta_3 INFSD_{i,t} + \theta_4 BDYE_{i,t} + \theta_5 RERG_{i,t} + \theta_6 XG_{i,t} \\
 & + \theta_7 TTG_{i,t} + \theta_8 FREE_{i,t} + \theta_9 WAR_{i,t} + u_i + v_t + e_{i,t},
 \end{aligned}$$

where *YGPC* is the per capita real GDP growth rate; *Y0* is a measure of initial income; *PG* is the population growth rate; *PIY* and *GIY* are the ratios of private and government investment to GDP, respectively; *HK* is an indicator of human capital development; *SUS* is a dummy variable for countries that implemented IMF-supported programs on a sustained basis; *INFL* is the rate of inflation; *INFSD* is the standard deviation of inflation; *BDYE* is the ratio of the central government budget deficit (excluding grants) to GDP; *RERG* is the percentage change in the real effective exchange rate; *XG* is the growth of export volume; *TTG* is the percentage change in the external terms of trade; *FREE* is an index of political rights and civil liberties; *WAR* is a dummy variable that indicates the existence of wars; and  $u_i$ ,  $v_t$ , and  $e_{i,t}$  are the country-specific, time-specific, and overall error terms, respectively. It should be noted that *Y0* varies only across countries. It is assumed that the sum of the rates of technological progress ( $g$ ) and depreciation ( $\delta$ ) is equal to 0.05. The Appendix gives the definitions and sources of the variables.

Three main motivations underlie the specification of the above growth equation. First, following Barro's (1990) growth model, the possibility of the differential impacts of **private and government investment** on economic growth is considered. Second, another strand of growth models stresses that **human capital accumulation**, by enhancing labor productivity, can boost growth in the steady state (Lucas, 1988; Romer, 1990; and Becker, Murphy, and Tamura, 1990). Finally, as the objective was to see how growth was influenced by the economic policy environment, a number of policy-related variables are used in the equation; the main theoretical rationales for these explanatory variables are summarized in the rest of this section.

Since **macroeconomic policies** affect growth performance through their impact on the rate of inflation, the standard deviation of inflation, the budget deficit-GDP ratio, and the percentage change in the real effective exchange rate, these variables are used in the growth equation to capture the effects of such policies. The effect of **inflation** (*INF*) on growth is widely recognized to be harmful when inflation rates are high; at low, single-digit levels, the likelihood of such a trade-off between inflation and growth is minimal. In Stockman's (1981)

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<sup>7</sup>See Knight, Loayza, and Villanueva (1993) and Ghura and Hadjimichael (1996) for the derivation of an equation of this type using the Mankiw, Romer, and Weil (1992) neoclassical growth framework.

cash-in-advance model, anticipated inflation raises the cost of acquiring capital and thus lowers capital accumulation; growth is adversely affected. Finally, as inflation variability tends to be associated with higher rates of inflation, the **standard deviation of inflation** (*INFSD*) is also included because highly variable inflation makes it difficult and costly for economic agents to extract the correct signals from relative prices and, hence, may lead to an inefficient allocation of resources (Barro, 1976 and 1980).

As growth performance is affected by the ratio of the **budget deficit (excluding grants) to GDP** (*BDYE*) and the **ratio of government investment to GDP** (*GIY*), these variables are used to capture the effects of **fiscal policy**. Other things being equal, within the constrained availability of domestic financial savings and foreign grants and loans, a larger budget deficit will mean that a lower share of the total financial resources would be available for the private sector. Moreover, if the fiscal deficit widens to an unsustainable level, private investors' perception of country risk would become increasingly negative and consequently private investment would be adversely affected. In the context of financial programs, therefore, the size of the fiscal deficit has generally been considered as a policy variable that is useful for making judgments about the sustainability of the deficit and the share of total financial resources needed to finance the activities of the private sector. As regards **government investment** (*GIY*), it has been used in empirical studies because it is viewed as a direct proxy of the government's contribution to capital accumulation, as well as an indicator of its efforts to develop basic economic and social infrastructure. Although government investment includes expenditures on education and health services that contribute to **human capital development**, the effect of the latter is also captured by using a combined index (*HK*) of life expectancy at birth and the infant mortality rate. This combined index proxies for general health conditions and, to some extent, for the quality of human capital as well.

The effect of changes in the **real exchange rate** (*REERG*) on growth is ambiguous. On the one hand, a depreciation of the real exchange rate has a positive effect on growth by increasing capacity utilization and raising the profitability of the tradable goods sector; the latter also promotes growth by stimulating private investment in tradable goods. On the other hand, a depreciation of the real exchange rate raises the cost of imported capital goods and, since a large component of investment goods is imported in developing countries, such a depreciation tends to dampen private investment, thus lowering growth. Meanwhile, the effect of **export-oriented trade policies**, notably the liberalization of the foreign trade and exchange systems, on growth is captured indirectly by **export volume growth** (*XG*). These policies are conducive to faster growth because they promote competition, encourage learning-by-doing, improve access to trade opportunities, raise the efficiency of resource allocation, and enhance positive externalities resulting from access to improved technology (Grossman and Helpman, 1991; Khan, 1987; Lucas 1988; and Romer, 1986 and 1990).<sup>8</sup>

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<sup>8</sup>See Roubini and Sala-i-Martin (1991), Romer and Rivera-Batiz (1991), and Villanueva (1993) for a discussion of the linkages between trade orientation and growth.

Another key variable is *SUS*, which is used to capture the impact of **sustained adjustment** under IMF-supported programs.<sup>9</sup> In varying degrees, countries that have implemented structural adjustment programs on a sustained basis have carried out both sound macroeconomic policies and **structural reforms**. The latter have included (a) public enterprise restructuring and privatization; (b) retail and producer price decontrol; (c) exchange and trade liberalization; (d) financial sector reform; (e) tax reform; (f) civil service reform; and (g) legal reform. Since the regression analysis controls for the effects of macroeconomic policies, *SUS* is most likely capturing the effect of structural policies aimed at improving the efficiency of economic resources, including measures to reduce the wedges between prices and marginal costs that typically arise from price controls, imperfect competition, subsidies and tax exemptions, distortive taxes, and exchange and trade restrictions (Khan, 1987).

Finally, two variables relating to the institutional and political environment are included in the growth equation to capture the impact of **political rights and civil liberties** (*FREE*) and **wars** (*WAR*). It is hypothesized that the absence of political rights and civil liberties lowers the security of life and property and, as a consequence, reduces the rate of accumulation and the efficiency of factors of production. For example, a number of countries in the sample (including Burundi, Mozambique, and Rwanda) have been afflicted by wars and conflicts, with adverse consequences for growth.

### III. EMPIRICAL RESULTS

The growth equation was estimated with panel data for a sample of 32 countries in sub-Saharan Africa. The choice of countries depended on the availability of data for the complete set of variables for each country for most of the period 1981–97; the sample chosen is also broadly representative of the varied experiences of African countries with regard to growth and implementation of reforms (see Table 1 for a list of the countries included). Using annual data for the period 1981–97, four observations were constructed for each country by taking four-year nonoverlapping averages of the variables during three subperiods—1981–84, 1985–88, and 1989–92—and one five-year average for the fourth subperiod, 1993–97. The period 1981–97 was chosen because data for several explanatory variables, such as private and government investment and comparable indicators of macroeconomic policies, are available only since 1981 for the group of countries considered.<sup>10</sup>

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<sup>9</sup>See the Appendix for a discussion of the measurement of this variable and the criteria used for the selection of countries. One limitation of this variable is that, since the sustained adjusters (18 countries) are selected from the program countries in the sample, *SUS* does not capture the effects of the strong structural reforms implemented by nonprogram countries (such as Botswana and Mauritius).

<sup>10</sup>For the variables that are defined as growth rates or percentage changes, the underlying data on their levels are available only from 1980 onward. In addition, data are not available for certain variables for five of the countries (Comoros, Ethiopia, Guinea, Mali, and Uganda) during 1981–84.

Table 2 gives the averages of the variables for each country during 1981–97. For convenience, the sample of countries is classified into three subgroups: high- and medium-growth countries, with per capita growth greater than or equal to 0 percent; weak-growth countries, with per capita growth less than 0 percent but greater than or equal to -1 percent; and very-weak-growth countries, with per capita growth less than -1 percent.<sup>11</sup> The data indicate that, on average, countries with higher growth rates had higher investment ratios, lower population growth rates, higher levels of human capital development, lower budget deficit ratios, higher export volume growth, more favorable terms of trade, lower standard deviations of inflation, and more political rights and civil liberties. However, on average, the countries with faster growth rates did not experience lower rates of inflation or significantly more depreciated real effective exchange rates.

Table 3 gives the matrix of correlation coefficients between pairs of variables. A number of the conventional and policy-related variables are significantly correlated with per capita growth. There are significant positive correlations between per capita growth, on the one hand, and the indicator of human capital development, the indicator of sustained adjustment, and export volume growth, on the other. The budget deficit-GDP ratio and per capita growth are negatively correlated. In addition, the empirical linkage between private investment and growth is stronger than that for government investment. The correlations between growth, on the one hand, and inflation and the change in the terms of trade, on the other, are not significant. Finally, the pairwise correlations between the explanatory variables indicate that the potential for multicollinearity is low; the main exception is the correlation between inflation and the standard deviation of inflation.

Because panel data were used, the error term for the growth equation has three components:  $u_i$  and  $v_t$ , which capture country- and time-specific effects, respectively, and  $e_{it}$ , which is an error term common to all countries. In order to deal with time effects, the data were processed to remove the time means from the series, and the resulting model was estimated without time dummies. The country-specific effects were captured by the inclusion of country-specific dummy variables; hence, the variable  $Y_0$  was excluded from the estimation because it is time invariant. The regressions were corrected for heteroscedasticity by a feasible generalized least squares (GLS) procedure.<sup>12</sup> The regression estimates of four different

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<sup>11</sup>Throughout the paper, all references to economic growth should be interpreted to mean per capita real GDP growth.

<sup>12</sup>This procedure was implemented in two steps. First, an ordinary least squares (OLS) procedure was used to estimate each regression equation with pooled data; the residuals from this step were used to calculate the standard deviation for each country. Second, the country-specific standard deviations were used to scale all the included variables, and an OLS procedure was applied again to the pooled transformed data to obtain the feasible GLS estimators.

specifications of the equation are summarized in Table 4. The main results of the regressions are as follows:<sup>13</sup>

- The effect of an increase in the private investment-GDP ratio on economic growth is large and statistically significant; this effect is greater than that of an increase in the government investment-GDP ratio, confirming the findings by Khan and Reinhart (1990), Khan and Kumar (1993), and Ghura and Hadjimichael (1996). This result underscores the crucial role played by private investment in boosting growth. Although the magnitude of the impact of private investment declines once account is taken of the other factors influencing growth (regression (3)), the coefficient remains statistically significant. The effect of government investment, however, is not robust.<sup>14</sup>
- The effect of an increase in human capital (proxied by the sum of the indices of life expectancy at birth and the infant survival rate) is positive, but not robust. Population growth, however, lowers per capita growth with an elasticity that is much higher than that reported by Mankiw, Romer, and Weil (1992), or by Knight, Loayza, and Villanueva (1993). Thus, it appears that increases in population have a much larger adverse impact on per capita growth in sub-Saharan African countries than in other regions. One way to attenuate this adverse effect would be to raise factor productivity through increased investment in human capital, as implied by the significant negative correlation between human capital development and population growth (Table 2).
- The policy environment matters for growth. The estimated coefficients on the budget deficit ratio and the changes in the real effective exchange rate are negative, the coefficient on export volume growth is positive, and they are all highly significant.

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<sup>13</sup>The results presented in regressions (1)–(4) in Table 4 might be subject to simultaneity bias, owing to the endogeneity of certain explanatory variables, namely, private investment as a ratio to GDP (*PIY*), the rate of inflation (*INFL*), and the percentage change in the real effective exchange rate (*RERG*). One way to correct for this problem would be to use the lagged values of the endogenous explanatory variables in the regressions. However, given that this study uses period average data, this methodology would entail a large loss in degrees of freedom. In view of this concern, an instrumental variables estimation method was used, even though, as noted by Fischer (1991), good instruments are in practice difficult to find in this type of analysis. Following this approach, the complete growth equation was reestimated using a generalized instrumental variables estimation (G2SLS) method to correct for simultaneity bias, as well as for heteroscedasticity. The following instruments were used in the G2SLS estimation procedure:  $\ln(PG+.05)$ ,  $\ln(GIY)$ ,  $\ln(HK)$ , *SUS*, *BDYE*, *XG*, *TTG*, *FREE*, *WAR*, life expectancy at birth, infant mortality rate, population level, population level squared, and the country-specific dummy variables. The results, which are not presented here, show that, although the signs and magnitudes of the estimated coefficients were generally maintained, the statistical significance of the effects was considerably weaker.

<sup>14</sup>The results obtained do not rule out the possibility that complementarities exist between government and private investment.

Thus, countries experienced faster growth rates if they had lower budget deficit ratios, higher export volume growth rates, and larger depreciations of their real effective exchange rates (relative to other countries in the sample). The effects of the rate of inflation and the standard deviation of inflation on growth were not significant.

- The estimated coefficient on *SUS* is positive and significant, supporting the view that countries that implemented IMF-supported programs on a sustained basis were able to achieve faster rates of growth than others. This effect is robust to the addition of other policy-related variables in the regression, although the magnitude of its effect declines. The fact that *SUS* is significant after controlling for the effects of the macroeconomic policy-related variables (regression (3)) suggests that it is most likely capturing the independent effects of structural reforms. Although countries that were able to sustain these reform efforts might have a proclivity for implementing structural reforms and strengthening macroeconomic policies, the continuing significance of *SUS* after the inclusion of the variables measuring the institutional/political environment, namely, *FREE* and *WAR*, suggests that the effect is robust.
- During the period under investigation, most sub-Saharan African countries experienced large deteriorations in their terms of trade, and the estimated coefficient of this variable suggests that this deterioration had a significant negative impact on growth. The results also confirm that growth is adversely affected by wars and by low levels of political rights and civil liberties.
- Finally, a comparison of the overall growth performance of sub-Saharan Africa during 1993–97 with that of 1981–84 suggests three interesting conclusions (Table 5).<sup>15</sup> First, the average annual growth rate of per capita real GDP rose by about 1¾ percentage points. Second, this improvement in growth performance reflected the combined positive impact of the policy-related variables (*SUS*, *INFL*, *INFSD*, *BDYE*, *RERG*, and *XG*), and also a smaller positive contribution from the conventional variables (*PIY*, *GIY*, *HK*, and *PG*). Third, the other explanatory variables (*TTG*, *FREE*, and *WAR*) had an aggregate negative effect on growth. These three results were also characteristic of the average growth performance of the subgroups of countries that succeeded in raising their growth rates, achieving positive growth rates in 1993-97, and sustaining their adjustment efforts.

#### IV. AN OVERVIEW OF ADJUSTMENT AND ECONOMIC RECOVERY IN THE 1990S

The objective of this section is to ascertain the extent to which the variables that were highlighted above as significantly influencing sub-Saharan Africa's growth performance in

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<sup>15</sup>In Table 5, the share of the change in growth explained by all explanatory variables is relatively small mainly because it indicates *changes* in average growth rates over the first and last subperiods. The growth equation, however, is estimated in terms of average growth rates over four subperiods; and the percentage of variation in average growth rates explained by the regression estimate 3 is about 77 percent.

1981-97 have played an important role in the recent economic recovery. This can be done by looking at those countries where a better growth performance during 1995-97 was associated with a favorable evolution of the key policy-related variables, as suggested by the aggregate longer term analysis. Notwithstanding the concurrent improvement in external factors, such a correlation would provide an indication of the pervasiveness of positive changes in policy-related variables and be suggestive of their impact on economic growth across African countries. As the evolution of the policy-related variables has, in turn, been influenced by the macroeconomic policies and structural reforms implemented by African countries, the analysis provides (albeit indirectly) some useful insights about the kinds of policies that are conducive to better growth performance.

Sub-Saharan Africa grew significantly during 1995-97. The average annual growth rate of per capita real GDP, which was negative through most of the 1980s and -2.2 percent during the five-year period 1990-94, rose to 1.2 percent during 1995-97. In the latter period, growth performance improved in 37 of the sample of 46 countries.<sup>16</sup> Moreover, whereas per capita real GDP increased in 16 countries in 1990-94, twice as many countries experienced positive growth rates during 1995-97 (Table 6). A combination of long-standing, deep-rooted economic problems and the debilitating effects of past or continuing political turmoil contributed importantly to negative or declining growth rates in most other countries, particularly Burundi, Comoros, the Democratic Republic of the Congo, Djibouti, The Gambia, Rwanda, Sierra Leone, Swaziland, and Zambia.

A frequency distribution of countries, charted over five different intervals of growth rates of per capita real GDP, shows that the percentage of countries in the lowest range of growth rates (zero or negative rates) declined from nearly 70 percent in 1981-84 to less than 24 percent in 1995-97, and that the percentage of countries with growth rates higher than 2 percent increased from about 11 percent in 1981-84 to nearly 46 percent in 1995-97. In the two intervening periods (1985-89 and 1990-94), the percentage of countries experiencing zero or negative growth rates (48 percent and 65 percent, respectively) was two-three times the percentage for 1995-97 (see Figure 1 and Table 7). The period 1995-97, therefore, witnessed a striking turnaround, as the prolonged and pervasive record of virtually no growth across sub-Saharan Africa during 1981-94 was replaced by a record of positive growth rates in the majority of countries in the region.

The widespread recovery in growth rates during 1995-97 was accompanied by progress in reducing and containing inflationary pressures. Among the 36 countries where the average inflation rate declined or was maintained at single-digit levels in 1995-97, 30 countries succeeded in improving their growth performance (Table 6). Between the two periods 1990-94 and 1995-97, the average annual inflation rate fell from 31 percent to 27 percent. The number of countries with double-digit or higher inflation rates dropped from 25 to 17.

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<sup>16</sup>The sample of sub-Saharan African countries excludes for geographical reasons Algeria, Egypt, Libya, Morocco, and Tunisia; it also excludes Eritrea and Liberia owing to lack of data.

A frequency distribution of inflation rates shows that the percentage of countries with inflation rates of 10 percent or less rose to about 61 percent in 1995–97 from 46 percent in 1990–94, 54 percent in 1985–89, and 28 percent in 1981–84 (Figure 1 and Table 7). The progress in reducing inflation during 1995–97 was most notable among the countries that had inflation rates in the range of 10–15 percent during the preceding three sample periods. However, the percentage of countries with average inflation rates of 15 percent or higher remained broadly unchanged at about 35–40 percent over the four sample periods (Figure 1).

A large proportion of the countries that achieved higher growth rates during 1995–97 also increased modestly their ratio of domestic savings to GDP (Table 6). Among the 37 countries that improved their growth performance, 28 countries increased their domestic savings ratios. Compared with the three preceding sample periods, the percentage of countries that had savings ratios of 10 percent or less during 1995–97 decreased, while the percentage of countries with ratios above 20 percent increased. The percentage of countries that had ratios of savings to GDP above 20 percent rose to about 25 percent during 1995–97 from the 16–21 percent range prevailing during the three earlier sample periods (Figure 2 and Table 7). For sub-Saharan Africa as a whole, the annual average ratio of domestic savings to GDP rose from 16 percent in 1990–94 to 16.6 percent in 1995–97.

Better savings performance was in many cases supported by reduced or low inflation rates and stronger fiscal performance. Of the group of 31 countries that succeeded in raising their domestic savings ratios during 1995–97, 17 countries reduced their inflation rates and 19 had single-digit inflation rates. In this same group, 24 countries improved their overall fiscal balance (excluding grants) (Table 6).

More and more countries have been successful in reducing their fiscal imbalances. The frequency distribution of ratios of fiscal deficits to GDP shows that during 1995–97 about 27 percent of the countries had deficits that were 10 percent of GDP or larger, whereas during the three earlier sample periods 36–41 percent of the countries had deficits in the same range (Figure 2 and Table 8). The percentage of countries with deficits smaller than 5 percent of GDP increased from about 16 percent during 1981–84 and 1985–89 to 25–27 percent during the 1990s. The percentage of countries with deficits of 5–10 percent of GDP did not change appreciably between 1981–84 and 1995–97, rising from 43 percent to 47 percent.

The frequency distribution of the ratios of total gross fixed capital formation (GFCF) to GDP shows that after declining in the 1980s, the proportion of countries with ratios in the ranges of 25–30 percent and of 30 percent or more increased between 1990–94 and 1995–97 (Figure 3 and Table 8). The percentage of countries with ratios below 20 percent increased between 1981–84 and 1985–89, before declining in the 1990s.

The private sector has contributed more than the government to the recent increases in gross capital formation. For sub-Saharan Africa as a whole, although the average annual ratio of total GFCF to GDP recorded a small increase from 1990–94 to 1995–97 (from 16.8 percent to 17 percent), the ratio of private sector GFCF to GDP recorded over the same period a somewhat larger increase (from 12 percent to 12.7 percent). Between 1990–94 and 1995–97, the average annual ratio of total GFCF to GDP increased in 27 countries; the ratio of the

private sector's GFCF relative to GDP rose in 22 of these countries, as well as in 4 other countries (where the overall ratio of GFCF to GDP did not increase) (Table 6).

In recent years, the governments of most sub-Saharan African countries have endeavored to restructure their public expenditures, with a view to devoting more funds to human resource development and to laying the foundations for higher growth rates over the long term (Table 9). The available data on health and education expenditures for 32 countries show that during 1995–97 the share of total expenditures devoted to health and education increased in about half the countries. Meanwhile, the share of defense outlays in total expenditure declined in 19 countries.

An increasing number of sub-Saharan African countries have succeeded in improving their export performance (Figure 3 and Table 8). The frequency distribution of average export volume growth rates indicates that, during the three periods 1981–84, 1985–89, and 1990–94, roughly 60 percent of the countries had growth rates of 5 percent or less; by comparison, in 1995–97, only 30 percent of the countries recorded export growth rates of 5 percent or less. The percentage of countries recording export volume growth rates of more than 10 percent rose to 33 percent during 1995–97 from 22–28 percent during the three preceding sample periods.

Between the two periods 1990–94 and 1995–97, the average annual growth rate of real exports accelerated in many countries. Among the 46 countries for which data are available, the growth rate of real exports picked up during 1995–97 in 29 countries and in most cases was accompanied by real exchange rate depreciation; 20 of these countries also recorded a recovery in growth rates of per capita real GDP (Table 10). Altogether, 32 countries increased the average annual share of exports to GDP between the two periods under consideration, and the ratio of the external current account balance to GDP also improved in 32 countries. For sub-Saharan Africa as a whole, over the two periods under consideration, the ratio of exports of goods and services to GDP rose from 27.5 percent to 31.1 percent, thereby contributing both to an increase in imports of goods and services from 28.5 percent of GDP to 32.2 percent, and to a narrowing of the external current account deficit (excluding grants) from 5.2 percent of GDP to 4.1 percent.

This review suggests that the recent economic recovery in sub-Saharan Africa has been underpinned by a number of positive macroeconomic developments that have been influenced—either directly or indirectly—by improvements in macroeconomic policies and structural reforms, including those typically undertaken in the context of structural adjustment programs. In this regard, the following points should be noted:

- First, the recent upturn in growth rates has benefited from progress made in reducing inflation rates and fiscal imbalances, which, in turn, has helped to improve savings performance and investment rates, especially in the private sector. These results suggest that macroeconomic stability and private investment are necessary conditions for growth. This hypothesis is consistent with one of the results of the empirical work reported above for the full 1981–97 period: variables representing fiscal performance (*BDYE*) and the ratio of private investment to GDP (*PIY*), as well as the proxy for

structural reform (*SUS*), have a significant influence on growth performance. It is, therefore, important to bring about growth-conducive changes in the policy-related variables identified in the above analysis; for this purpose, African countries will need to pursue sound macroeconomic policies and structural reforms.

- Second, a stronger export performance has been an important contributing factor to the improvement in growth performance during 1995–97. This observation is also broadly in line with the empirical finding for the full 1981–97 period: export volume growth and a key variable affecting it—changes in the real effective exchange rate—were statistically significant explanatory variables in the growth equation. This finding suggests that export growth should be promoted through a broad range of export-oriented policies, including the liberalization of the foreign trade and exchange regimes.
- Third, the restructuring of public expenditure to devote more resources to human capital formation has been an integral part of the development strategy of many countries. The data for 1990–97 show progress in this area by an increasing number of countries. Over the long term, one would expect the expenditure-restructuring efforts to have a beneficial effect on growth. Such an expectation is consistent with the empirical estimates of the growth equation, in which the estimated coefficient of population growth was significant and the indicator of human capital development (*HK*) had a significant, although nonrobust, impact on growth. These results and the experience of other developing countries, together with the pressing need to reduce poverty, suggest that public expenditure policies and human resource development should remain central to the effort to promote growth.
- Fourth, in the 1990s, while many countries implemented structural adjustment programs, several other countries experienced economic disruptions owing to conflict situations. The data for 1995–97 show that the measured improvement in economic performance in sub-Saharan Africa is much stronger when countries that experienced either unsettled political (or conflict) situations or a stop-go pattern of program implementation are excluded from the sample data. This finding also provides confirmation of an earlier result: the coefficients of the dummy variables used in the growth equation—to account for the differences in growth performance between countries that sustained their adjustment efforts and those that did not, and between countries that experienced conflict situations and those that did not—were found to be statistically significant.

## V. POLICY IMPLICATIONS AND CONCLUSIONS

The empirical work presented in this paper has highlighted a number of key policy-related and conventional variables that have significantly affected the growth performance of sub-Saharan Africa during 1981–97. To a large extent, it has also shown that the positive evolution of these variables has played an important role in the economic recovery of the region during 1995–97. Although the recent recovery has been encouraging, the region has a long way to go to make up for the ground lost over the past two decades and to integrate

itself fully into the world economy. In particular, economic growth rates are still not high enough to enable sub-Saharan African countries to catch up with other developing countries, and to make a real dent in the pervasive poverty. There is thus a need to raise substantially per capita real GDP growth rates on a sustained basis. In this respect, the results of the empirical work point to the following elements of a policy framework that could be implemented to promote sustainable economic growth and reduce poverty in sub-Saharan Africa.

To enhance the region's growth performance, it will be essential to boost the ratio of private investment to GDP (*PIY*) in the period ahead. Although private investment has increased in many sub-Saharan African countries in recent years, it needs to rise much further to help achieve more dynamic and sustainable growth. Accordingly, intensified efforts will be required to promote an enabling environment for private investment—an environment that engenders confidence in the sustainability of appropriate macroeconomic policies; ensures that the necessary infrastructure and qualified labor are available; and creates and maintains a transparent, evenhanded, and efficient regulatory framework and justice system that safeguard property rights, adequately enforce contracts, and foster healthy competition.

In support of these efforts, the role of government will need to be focused on the effective delivery of essential public services and basic infrastructure, as well as the promotion of human resource and social development. It may be recalled in this connection that the estimates of the growth equation suggest that the effects of increases in the ratio of government investment to GDP (*GIY*) and in the human capital indicator (*HK*) are positive (although not statistically significant). Consistent with these findings, it will be important to increase the quantity and quality of basic health care, education, and other high-priority services, with a view to improving social indicators appreciably over the longer term. Concurrently, well-targeted social safety nets should be established or reinforced to mitigate the possible adverse effects of some adjustment measures on the poorest and most vulnerable groups.

It will also be essential to fully restore and consolidate macroeconomic stability by continuing to implement sound fiscal and monetary policies. The empirical work has shown that the macroeconomic environment matters greatly for growth. Specifically, a reduction in the ratio of the overall fiscal deficit (excluding grants) to GDP (*BDYE*) can help to increase growth appreciably. This reduction could be achieved through a combination of policies and measures, including implementing tax reform, strengthening the tax and customs administrations, and curbing unproductive outlays. With a cutback of the overall fiscal deficit, government bank borrowing from the banking system would be limited or eliminated, thereby providing greater scope for bank financing of the private sector, monetary management, and inflation reduction. Moreover, it will be critically important to pursue realistic exchange rate policies that align the real exchange rate (*REG*) with its equilibrium level, with a consequent positive impact on the growth of exports (*XG*) and on overall growth performance.

At the same time, most sub-Saharan African countries will have to move forward more decisively and on a more sustained basis with the implementation of growth-conducive structural reforms (represented by *SUS*), including privatization, financial sector reform, and trade liberalization. While some progress has been made in recent years, there is a need to

accelerate the restructuring and privatization of public enterprises, in order to reduce reliance on budgetary subsidies and transfers, expand the scope for private sector activity, and promote overall economic efficiency and growth. Enterprises remaining in the public domain, however temporarily, should be operated on a fully commercial basis, with independent managers making market-oriented pricing and employment decisions.

Financial sector reform can help to enhance growth by increasing savings mobilization, financing productive investments, and containing inflation. In most sub-Saharan African countries, central banks still lack the necessary autonomy; financial sectors are thin and have difficulty in mobilizing domestic savings and attracting foreign private capital; banking institutions are fragile; and intermediation is inadequate. Therefore, steps should be taken to ensure the independence and full accountability of central banks; deepen and broaden financial markets; establish or strengthen the institutions responsible for the prudential regulation and supervision of banks; complete the rehabilitation of weak commercial banks and improve loan recovery; open the banking sectors to healthy competition and international best practices in bank management, particularly through privatization; and strengthen the legal framework for banking activities.

Trade liberalization can also contribute to the acceleration of growth by promoting the competitiveness of domestic producers and speeding up sub-Saharan Africa's integration into the global economy. Although the process of trade liberalization has advanced throughout the region, trade regimes are still significantly more complex and restrictive than elsewhere. Import tariff rates remain too high and too dispersed, in part because governments are very dependent on this source of budgetary revenue but also because of the prevalence of statutory and ad hoc exemptions. Eliminating these exemptions, preferably in the context of medium-term tax reform programs, would allow tariffs to be reduced more rapidly; they would also allow a substantial reduction, if not an elimination, of export taxes. The positive impact of trade liberalization on growth could be enhanced by efficient regional integration, which would allow many countries to surmount the obstacles posed by their relatively small sizes, permit them to realize greater economies of scale, and increase their ability to trade on a global basis. It should be noted that, in addition to engendering efficiency gains, trade liberalization also helps improve the quality of governance because complex and discretionary tax regimes are prone to abuse and create opportunities for corruption.<sup>17</sup>

The successful formulation and implementation of sound economic policies in sub-Saharan Africa is often hindered by poor management capacity, as well as by weak institutional and administrative structures.<sup>18</sup> In particular, in most countries, the civil service is too large and too underpaid to be efficient and to respond promptly to changing circumstances; it is also often prone to corruption. A key element of structural reform should therefore be the development of a leaner, better-trained, and more motivated civil service, which, in turn, will require the establishment of a performance-based remuneration system. A strengthened civil

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<sup>17</sup>See Krueger (1974).

<sup>18</sup>See Lienert and Modi (1997).

service would help governments to improve their administrative and managerial functions, provide essential services efficiently and cost effectively, and, more generally, carry out their structural adjustment programs successfully.

Finally, sub-Saharan African countries will need to guard against the risk of weakening their adjustment and reform efforts in the face of opposition from vested interest groups, and of unforeseen adverse shocks, such as declines in the external terms of trade and periodic droughts. To the maximum extent possible, they will need to sustain their efforts, adapting them as necessary to changes in the domestic and external environment. For example, they will have to adapt their policy stances to take account of the recent slowdown in world growth and exports associated mainly with the Asian financial crisis. Meanwhile, there will be a continuing need for governments to explain to the public the trade-offs between the short-term costs and the long-term gains of structural adjustment programs, in order to build consensus behind the reform process and benefit from a greater participation in the formulation and implementation of policies. Most important, all such efforts to sustain sound macroeconomic policies and structural reforms will be more fruitful and the gains more widely shared across Africa if regional, as well as international, initiatives are taken to prevent and resolve the conflict situations that continue to afflict the continent.

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**Definitions and Sources of Variables**<sup>19</sup>

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Variable	Definition
<i>YGPC</i>	Growth in per capita real GDP.
<i>TIY</i>	Total investment as a ratio to GDP.
<i>GIY</i>	Government investment as a ratio to GDP.
<i>PIY</i>	Private investment as a ratio to GDP, measured as <i>TIY-GIY</i> .
<i>PG</i>	Population growth.
<i>Y0</i>	Initial income, measured by per capita GDP in 1980 (expressed in U.S. dollars).
<i>HK</i>	Indicator of human capital development. It is the sum of the index of the life expectancy at birth and 1,000 minus the infant mortality rate (infant survival rate). Source: World Bank, World Development Indicators database.
<i>INFL</i>	Annual rate of consumer price inflation.
<i>INFSD</i>	Standard deviation of inflation.
<i>BDYE</i>	Government budget deficit (excluding grants) as a ratio to GDP.
<i>RERG</i>	Percentage change in the real effective exchange rate (REER). A positive value for <i>RERG</i> denotes an appreciation of the REER. Source: IMF, Information Notification System database.
<i>XG</i>	Export volume growth.
<i>TTG</i>	Percentage change in the terms of trade.
<i>FREE</i>	Sum of indices of political rights ( <i>PR</i> ) and civil liberties ( <i>CL</i> ) obtained from Freedom House (New York). The methodology used by the compilers for the

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<sup>19</sup>See Table 1.

### Definitions and Sources of Variables (concluded)

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Variable	Definition
	<p>calculation of <i>PR</i> and <i>CL</i> entails the rating of countries on a seven-point (1–7) scale for levels of political rights and civil liberties, with a rating of 1 denoting full <i>PR</i> and <i>CL</i>. Political rights are defined as 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, and to a degree of autonomy such as is provided by the freedom of religion, education, travel, and other personal rights.</p>
<i>SUS</i>	<p>Dummy variable for countries adjudged as sustained adjusters during 1981–97 under Structural Adjustment Facility (SAF)/Enhanced Structural Adjustment Facility (ESAF)-supported programs. In this sample, 17 countries successfully implemented SAF/ESAF-supported programs on a sustained basis. This country group includes countries that have completed three years of SAF/ESAF-supported programs and excludes countries with large undrawn balances at the expiration or cancellation of the programs. The dummy variable takes a value of 1 from the first year of the IMF-supported program to the end of the period. The sustained adjusters and their first program years are as follows: Benin (1989), Burkina Faso (1993), Burundi (1987), Côte d'Ivoire (1994), Ethiopia (1993), The Gambia (1987), Ghana (1988), Guinea (1992), Kenya (1988), Lesotho (1988), Malawi (1988), Mali (1989), Niger (1987), Senegal (1987), Tanzania (1988), Togo (1987), Uganda (1987), and Zimbabwe (1993). Burundi and The Gambia, however, are taken to be sustained adjusters only through 1993, as they experienced political difficulties during 1994–97. Four other countries included in this study had SAF/ESAF-supported programs during the period 1981–97 but are not classified as sustained adjusters: Cameroon (1997), Central African Republic (1994), Comoros (1991), and Madagascar (1988).</p>
<i>WAR</i>	<p>A dummy variable that takes a value of 1 (and 0 otherwise) during years with wars.</p>

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Table 1. Sample of Sub-Saharan African Countries Used for the 1981-97 Growth Equation

Sustained Adjusters with IMF-Supported Programs 1/	Beginning Year	Other Countries
1. Benin 2/	1989	1. Botswana
2. Burkina Faso 2/	1993	2. Cameroon 2/
3. Burundi	1987	3. Central African Republic 2/
4. Côte d'Ivoire 2/	1987	4. Comoros 2/
5. Ethiopia	1993	5. Congo, Republic of 2/
6. Gambia, The	1987	6. Gabon 2/
7. Ghana	1988	7. Madagascar
8. Guinea	1992	8. Mauritius
9. Kenya	1988	9. Mozambique
10. Lesotho	1988	10. Namibia
11. Malawi	1988	11. Nigeria
12. Mali 2/	1988	12. Rwanda
13. Niger 2/	1987	13. Swaziland
14. Senegal 2/	1987	14. Zambia
15. Tanzania	1988	
16. Togo 2/	1987	
17. Uganda	1987	
18. Zimbabwe	1993	

1/ This group of countries successfully implemented IMF-supported programs on a sustained basis, with a record of completing at least three years of such programs. This group excludes countries with large undrawn balances at the expiration or cancellation of the programs. The years shown are the starting years of the sustained adjustment periods for these countries.

2/ CFA franc zone countries.

Table 2. Period Averages of Variables by Country, 1981-97 1/

Country 2/	YGPC	TIY	PIY	GIY	HK	PG	INFL	INFSD	BDYE	RERG	XG	TTG	FREE 3/	WAR 4/	SUS 5/
<b>High- and medium-growth countries 6/</b>															
Botswana	4.94	27.1	18.1	9.1	1003	3.1	11.1	3.3	-6.1	-0.5	7.2	6.6	4.4	0.00	0.00
Mauritius	3.83	24.2	16.1	8.1	1047	1.0	8.3	4.6	5.4	-1.0	4.8	3.0	3.8	0.00	0.00
Lesotho	2.46	60.7	28.0	32.7	971	2.7	12.3	3.3	15.1	-0.5	4.4	0.0	9.7	0.00	0.59
Uganda	1.98	13.4	8.3	5.1	940	2.7	47.9	36.0	12.5	-13.4	12.8	-5.3	9.6	0.42	0.65
Guinea	1.81	14.9	8.3	6.6	902	2.6	14.2	7.3	7.8	-0.3	3.5	1.6	12.0	0.00	0.35
Swaziland	1.51	22.6	12.7	10.0	971	3.3	11.2	3.1	2.6	0.1	-3.2	1.2	10.8	0.00	0.00
Republic of Congo 7/	0.65	32.4	21.6	10.7	963	2.7	7.1	7.9	9.2	0.2	6.2	-1.8	11.2	0.12	0.00
Burkina Faso 7/	0.60	20.3	12.0	8.3	939	2.6	4.4	5.2	8.0	-4.5	-0.3	2.3	10.7	0.00	0.29
<b>Weak-growth countries 8/</b>															
Senegal 7/	-0.02	13.9	9.6	4.4	975	2.9	5.6	7.2	4.1	-3.0	3.9	0.4	7.7	0.00	0.65
Tanzania	-0.07	20.6	16.7	3.9	961	3.0	25.4	3.8	7.2	-3.3	4.3	-3.0	11.4	0.00	0.59
Mozambique	-0.11	37.2	19.5	17.7	922	2.6	34.4	25.6	22.8	-3.2	-2.1	1.9	11.2	0.82	0.65
Nigeria	-0.12	19.7	7.7	11.9	963	2.9	24.2	18.4	4.9	-4.2	8.5	-3.4	10.2	0.24	0.00
Malawi	-0.23	14.2	5.3	8.8	902	3.2	19.1	14.2	11.1	-1.0	-4.0	-3.9	11.0	0.00	0.58
Ghana	-0.23	12.3	4.9	7.4	972	3.2	31.6	20.7	7.7	-10.2	6.1	-2.5	9.8	0.06	0.58
Zimbabwe	-0.26	19.7	15.3	4.4	995	3.1	17.0	6.1	9.8	-3.3	-3.1	1.5	9.7	0.12	0.29
Burundi	-0.40	13.9	2.3	11.6	940	2.5	10.2	4.3	10.6	-0.5	1.0	-0.6	12.9	0.59	0.41
Mali 7/	-0.43	22.7	11.8	10.9	905	3.0	3.2	7.3	10.3	-4.5	11.6	-2.1	9.8	0.00	0.59
Kenya	-0.60	19.5	12.6	7.0	995	4.0	13.7	9.7	6.0	-0.8	4.2	1.4	11.2	0.29	0.59
Ethiopia	-0.67	14.5	8.3	6.2	917	3.2	6.4	8.5	8.9	-4.7	1.2	-2.0	12.3	0.18	0.29
Benin 7/	-0.73	16.5	5.3	11.2	945	3.0	3.8	7.4	8.6	-3.8	3.5	2.3	9.7	0.00	0.53
Cameroon 7/	-0.89	19.9	15.0	4.9	985	2.8	6.7	5.7	4.3	-1.7	-1.7	-2.6	11.9	0.00	0.00
Gabon 7/	-0.91	30.8	22.9	7.9	953	2.6	5.5	9.5	2.6	-3.5	4.0	-0.4	10.2	0.00	0.00
<b>Very-weak-growth countries 9/</b>															
Central African Republic 7/	-1.22	10.7	5.1	5.6	944	2.6	5.2	6.9	9.6	-2.9	2.2	-1.5	10.7	0.12	0.00
Comoros 7/	-1.29	21.1	13.3	7.8	951	2.8	3.2	7.3	20.5	-1.2	1.0	-0.5	9.4	0.00	0.00
Gambia	-1.44	20.5	12.1	8.4	905	4.0	11.7	5.1	9.9	-1.8	2.8	1.4	7.2	0.00	0.42
Namibia	-1.55	17.8	9.2	8.6	987	3.0	11.4	1.8	7.4	-1.3	0.6	-2.8	5.3	0.00	0.00
Togo 7/	-1.75	17.9	9.2	8.7	958	3.1	5.5	8.3	7.7	-3.0	0.8	1.9	11.8	0.00	0.65
Côte d'Ivoire 7/	-1.78	12.2	6.9	5.3	961	3.6	5.7	4.8	8.5	-2.5	-2.5	0.1	10.8	0.00	0.65
Madagascar	-2.13	10.9	4.2	6.6	947	2.7	17.1	10.2	7.2	-4.4	-4.8	-0.5	8.9	0.00	0.00
Rwanda	-2.43	13.6	6.3	7.3	911	4.0	10.0	10.4	9.4	0.8	-0.4	-4.3	12.2	0.24	0.00
Niger 7/	-2.55	10.9	3.0	8.0	914	3.1	4.3	7.2	8.6	-5.7	-1.9	-4.1	11.5	0.00	0.65
Zambia	-2.78	15.4	8.7	6.7	944	3.4	45.6	30.7	12.5	-0.7	0.7	-1.7	9.3	0.00	0.00
<b>Unweighted group averages</b>															
High- and medium-growth countries	2.22	27.0	15.6	11.3	967	2.6	14.6	8.8	6.8	-2.5	4.4	0.9	9.0	0.07	
Weak-growth countries	-0.41	19.7	11.2	8.4	952	3.0	14.8	10.6	8.5	-3.4	2.7	-0.9	10.6	0.16	
Very-weak-growth countries	-1.89	15.1	7.8	7.3	942	3.2	12.0	9.3	10.1	-2.3	-0.2	-1.2	9.7	0.04	
CFA franc countries	-0.86	19.1	11.3	7.8	949	2.9	5.0	7.1	8.5	-3.0	2.2	-0.5	10.4	0.02	
Non-CFA franc countries	0.16	20.6	11.2	9.4	955	3.0	18.9	11.3	8.6	-2.7	2.2	-0.6	9.7	0.15	
All countries	-0.21	20.1	11.3	8.8	953	3.0	13.8	9.7	8.6	-2.8	2.2	-0.5	9.9	0.10	

1/ See Appendix for definitions and sources of variables.

2/ Only sub-Saharan African countries with complete data series during most of 1981-97 for all the variables used in the regressions are included.

3/ A higher value of this indicator denotes a lesser degree of political rights and civil liberties.

4/ Proportion of years during the 17-year sample period characterized by wars.

5/ Proportion of years during the 17-year sample period characterized by sustained adjustment.

6/ Countries with average per capita growth rates greater than or equal to 0 percent during 1981-97.

7/ CFA franc country.

8/ Countries with average per capita growth rates less than 0 percent but greater than or equal to -1 percent during 1981-97.

9/ Countries with average per capita growth rates less than -1 percent during 1981-97.

Table 3. Matrix of Correlation Coefficients for Pairs of Variables 1/

	<i>YGPC</i>	$\ln(\text{PIY})$	$\ln(\text{GIY})$	$\ln(\text{PG}+.05)$	$\ln(\text{HK})$	<i>INFL</i>	<i>INFSD</i>	<i>BDYE</i>	<i>RERG</i>	<i>XG</i>	<i>TTG</i>	<i>FREE</i>	<i>WAR</i>
$\ln(\text{PIY})$	0.35 ***	1.00											
$\ln(\text{GIY})$	0.17 *	0.04	1.00										
$\ln(\text{PG}+.05)$	-0.26 ***	-0.10	-0.03	1.00									
$\ln(\text{HK})$	0.29 ***	0.40 ***	-0.10	-0.26 ***	1.00								
<i>INFL</i>	0.01	-0.11	-0.17 *	-0.02	-0.07	1.00							
<i>INFSD</i>	-0.02	-0.16 *	-0.26 ***	-0.04	-0.13	0.77 ***	1.00						
<i>BDYE</i>	-0.29 ***	-0.09	0.16 *	0.00	-0.37 ***	0.25 ***	0.20 **	1.00					
<i>RERG</i>	-0.19 **	0.05	0.10 **	0.01	0.01	-0.14	-0.25 ***	0.05	1.00				
<i>XG</i>	0.42 ***	0.23 ***	0.00	0.01	0.14	-0.03	0.02	-0.09	-0.10	1.00			
<i>TTG</i>	0.11	0.06	0.06	-0.10	0.07	-0.05	-0.06	-0.07	0.30 ***	-0.19 **	1.00		
<i>FREE</i>	-0.22 ***	-0.30 ***	0.02	0.12	-0.48 ***	-0.07	-0.04	0.20 **	-0.01	-0.13	-0.14	1.00	
<i>WAR</i>	-0.12	-0.22 **	0.03	-0.17 *	-0.15 *	0.37 ***	0.37 ***	0.30 ***	-0.06	-0.16 *	0.06	0.17 *	1.00
<i>SUS</i>	0.18 **	0.06	0.05	0.10	0.00	0.02	0.04	0.07	-0.08	0.26 ***	-0.16 *	-0.06	0.08

1/ See Appendix for definitions and sources of variables. Panel data are used to calculate these correlation coefficients. Three asterisks, two asterisks, and one asterisk beside the estimated coefficients denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Table 4. Estimates of the Growth Equation 1/

Explanatory Variables		(1)	(2)	(3)	(4)
Conventional variables					
ln( <i>PIY</i> )	Private investment/GDP ratio	0.029 *** (5.82)	0.025 *** (5.82)	0.013 *** (3.64)	
ln( <i>GIY</i> )	Government investment/GDP ratio	0.011 *** (2.69)	0.010 *** (2.56)	0.002 (0.74)	0.001 (0.25)
ln( <i>HIK</i> )	Human capital indicator (sum of the indices of life expectancy at birth and infant survival rate)	0.364 * (1.88)	0.410 ** (2.05)	0.011 (0.06)	0.026 (0.12)
ln( <i>PG</i> +0.05)	Population growth, adjusted for technical progress and capital depreciation	-0.069 ** (2.30)	-0.070 ** (2.23)	-0.060 *** (2.93)	-0.105 *** (3.43)
Policy-related variables					
<i>SUS</i>	Dummy variable for sustained adjustors		0.011 *** (2.76)	0.008 ** (2.27)	0.011 *** (2.83)
<i>INFL</i>	Inflation			0.023 (1.14)	0.022 (0.95)
<i>INFSD</i>	Standard deviation of inflation			-0.013 (0.66)	-0.020 (0.81)
<i>BDYE</i>	Budget deficit (excluding grants)/GDP ratio (increase in ratio implies growing deficit)			-0.161 *** (3.77)	-0.160 *** (3.81)
<i>REERG</i>	Change in real effective exchange rate (+ = appreciation)			-0.082 *** (5.90)	-0.087 *** (5.77)
<i>XG</i>	Export volume growth			0.093 *** (6.09)	0.105 *** (6.56)
Other explanatory variables					
<i>TTG</i>	Terms of trade growth			0.090 *** (4.44)	0.030 *** (4.16)
<i>FREE</i>	Sum of indices of political rights ( <i>PR</i> ) and civil liberties ( <i>CL</i> ) (increase in index implies declining <i>PR</i> and <i>CL</i> )			-0.002 *** (2.70)	-0.003 *** (3.19)
<i>WAR</i>	Dummy variable for wars			-0.024 * (1.94)	-0.031 *** (2.77)
<i>ADJ-RSQ</i> 2/		0.528	0.558	0.766	0.706
<i>F1</i> 3/		4.91	5.29	9.96	7.70
<i>N</i> 4/		126	126	123	123

1/ The numbers in parentheses below the estimated coefficients are the absolute values of the *t*-ratios. Three asterisks, two asterisks, and one asterisk beside the estimated coefficients denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

2/ *ADJ-RSQ* is an adjusted goodness of fit.

3/ *F1* is the statistic for the test of the null hypothesis that the joint effect of all the variables included on the right-hand side of the estimated equation is zero.

4/ Using annual data during 1981-97, for each country, four observations are constructed by taking four-year nonoverlapping averages of the variables during the three subperiods 1981-84, 1985-88, and 1989-92, and one five-year average during 1993-97.

Table 5. Relative Impact of Policy Variables on Growth  
(Period-to-period changes from 1981-84 to 1993-97 in percentage points) 1/

	Period-to-period changes in average annual growth rate of per capita real GDP	Period-to-period changes in average annual (combined) impact of:			
		All explanatory variables	Conventional variables	Policy-related variables	Other variables
Unweighted group averages					
Sub-Saharan Africa	1.705	0.435	0.005	0.492	-0.062
Sustained Adjusters 2/	3.902	0.402	0.005	0.629	-0.233
Countries with:					
rising growth rates 3/	4.332	0.694	0.005	0.812	-0.122
falling growth rates	-5.009	-0.229	0.004	-0.325	0.091
positive growth rates in 1993-97 4/	4.367	0.549	0.005	0.707	-0.163
negative growth rates in 1993-97	-2.731	0.244	0.004	0.134	0.106
CFA franc countries	0.255	0.126	0.002	0.517	-0.393
Non-CFA franc countries	2.575	0.620	0.006	0.477	0.137

Sources: World Economic Outlook (WEO) and Economic Trends in Africa (WETA) databases.

1/ Based on equation 3 of Table 4. On account of missing data for the period 1981-84 for Benin, Comoros, Ethiopia, Mali, and Uganda, the period-to-period changes in all the variables for these countries are deviations from their respective sample means (averaged over the three periods 1985-88, 1989-92, and 1993-97).

2/ Burundi and The Gambia are excluded from the group of sustained adjusters that were listed in Appendix Table 1, owing to the unsettled political conditions prevailing in these two countries during 1993-97.

3/ The countries with rising growth rates are Benin, Burkina Faso, Cote d'Ivoire, Ethiopia, Gabon, Ghana, Guinea, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritius, Mozambique, Namibia, Niger, Nigeria, Senegal, Tanzania, Togo, Uganda, Zambia, and Zimbabwe. The remaining countries had falling growth rates.

4/ The countries that experienced positive growth rates in 1993-97 are Benin, Botswana, Burkina Faso, Cote d'Ivoire, Ethiopia, Gabon, Ghana, Guinea, Lesotho, Malawi, Mali, Mauritius, Mozambique, Namibia, Niger, Nigeria, Senegal, Togo, Uganda, and Zimbabwe. The remaining countries had negative growth rates for the same period.

Table 6. Evolution of Per Capita Real GDP Growth Rates, Inflation Rates, Savings Ratios, Fiscal Performance, and Capital Formation Between 1990-94 and 1995-97

Countries	Countries That Recorded Positive Growth Rates of Per Capita Real GDP 1995-97	Growth Rates of Per Capita Real GDP <sup>1/</sup>		Countries with Single-Digit Inflation Rates 1995-97	Inflation Rates <sup>2/</sup>		Savings Ratios <sup>3/</sup>		Overall Fiscal Balance (Excluding grants) <sup>4/</sup>		Ratio of Total Gross Fixed Capital Formation to GDP <sup>5/</sup>	
		1990-94	1995-97		1990-94	1995-97	1990-94	1995-97	1990-94	1995-97	1990-94	1995-97
Angola		-8.0	[7.1]		542.8	2309.9	19.9	[20.9]	-22.0	[-18.9]	15.2	[24.0]
Benin		0.6	[2.6]		9.6	[7.8]	6.1	[9.6]	-7.4	[-6.1]	14.1	[17.0]
Botswana		2.0	[2.8]		12.8	[10.0]	32.2	[33.2]	7.0	4.6	27.9	26.0
Burkina Faso		-0.5	[2.4]		5.1	5.4	6.4	[7.3]	-9.2	-9.5	20.4	[25.8]
Burundi		-1.5	-4.3		9.0	23.9	-5.2	[-1.7]	-10.0	[-6.0]	13.7	7.1
Cameroon		-6.6	[1.6]		2.3	13.8	19.5	[19.8]	-8.3	[-2.0]	15.8	15.3
Cape Verde		-3.6	[2.1]		7.2	7.7	-4.2	-6.4	-23.7	-29.6	33.2	[34.6]
Central African Republic		-3.5	[0.6]		3.6	8.1	4.3	[4.8]	-13.7	[-7.5]	11.4	8.5
Chad		1.5	1.2		7.0	8.8	-6.1	[-3.0]	-13.9	[-10.9]	10.8	[11.9]
Comoros		-0.4	-4.0		4.0	[3.2]	-1.2	-4.7	-17.5	[-15.5]	17.5	[19.4]
Congo		-2.5	[-0.2]		9.0	9.0	23.4	[30.9]	-12.3	[-6.5]	27.9	[39.6]
Congo, Dem. Rep. of		-11.2	[-4.2]		6403.7	[452.4]	6.8	[12.3]	-17.8	[-13.3]	7.1	[7.7]
Côte d'Ivoire		-3.8	[2.8]		6.6	7.5	12.5	[21.9]	-11.4	[-3.3]	8.9	[14.2]
Djibouti		-5.6	[-4.2]		5.8	[3.9]		-7.6	-8.4	[-5.5]		[9.1]
Equatorial Guinea		3.4	[47.4]		8.6	[6.8]	-0.3	[46.4]	-27.7	[-1.2]	37.5	[89.9]
Ethiopia		0.3	[5.7]		12.1	[2.6]	4.7	[6.9]	-10.4	[-6.9]	12.1	[18.2]
Gabon		0.0	[2.3]		7.0	[5.7]	38.8	[46.4]	-4.0	[4.0]	22.7	[24.1]
Gambia, The		0.1	-2.1		8.2	[3.6]	7.5	4.1	-4.3	-9.7	19.9	19.5
Ghana		1.2	0.8		23.0	44.3	3.6	[8.6]	-9.4	-11.3	14.9	[17.9]
Guinea		0.7	[1.5]		13.4	[3.5]	13.5	[15.2]	-7.7	[-6.3]	16.5	[18.6]
Guinea-Bissau		1.1	[2.6]		44.7	48.4	4.0	1.1	-29.2	[-21.8]	31.6	21.8
Kenya		-1.2	[0.7]		26.6	[7.3]	20.2	14.9	-7.2	[-1.7]	18.5	[19.7]
Lesotho		-0.4	[5.6]		13.5	[9.1]	-56.8	[-28.4]	-4.7	[-4.1]	59.1	[63.8]
Madagascar		-3.1	[-0.9]		16.8	24.4	3.3	[4.5]	-9.0	[-8.6]	11.8	11.4
Malawi		-2.0	[6.5]		20.2	43.3	6.5	4.7	-13.4	[-10.7]	18.3	11.5
Mali		-1.4	[2.6]		4.3	6.3	6.1	[11.8]	-11.0	[-9.1]	23.0	[26.3]
Mauritania		-0.4	[1.4]		7.1	[4.2]	11.2	[22.6]	-3.9	[3.0]	13.5	9.0
Mauritius		4.2	3.4		8.9	[6.6]	24.7	23.1	-2.3	-6.0	28.5	26.5
Mozambique		-0.7	[4.1]		45.5	[35.1]	-7.9	[11.2]	-20.5	[-14.3]	25.9	[31.9]
Namibia		0.3	[0.5]		12.2	[8.6]	12.7	[12.8]	-3.6	-5.8	19.8	[21.0]
Niger		-2.8	[0.2]		5.9	6.4	2.1	[3.7]	-10.3	[-7.2]	8.0	[9.8]
Nigeria		0.6	[1.3]		35.8	36.9	25.8	24.5	-1.8	[1.9]	21.6	14.7
Rwanda		-12.1	[16.4]		22.0	[14.3]	-9.9	-10.3	-12.5	[-12.1]	11.7	9.4
Sao Tome & Principe		-1.8	[-0.5]		39.8	47.9	-24.9	[-19.2]	-53.9	-57.0	36.6	[52.6]
Senegal		-1.5	[2.2]		6.0	[4.4]	6.4	[11.3]	-3.2	[-2.1]	13.4	[16.2]
Seychelles		3.1	1.1		2.5	[-0.2]	20.8	18.3	-7.2	-12.3	23.1	[23.4]
Sierra Leone		-4.8			63.0		5.9	0.0	-8.3	0.0	8.2	
Somalia		-3.9	[2.9]		62.8	[16.3]	-10.8	[-9.1]	-3.6	-5.1	13.8	11.9
South Africa		-2.5	[0.3]		12.4	[8.2]	19.9	18.3	-5.8	[-5.4]	17.1	[17.2]
Sudan		1.0	[6.0]		104.6	[82.6]		0.0	-10.8	[-2.3]		
Swaziland		1.9	-0.5		11.6	[9.4]	12.2	11.1	-1.0	-2.2	21.1	19.9
Tanzania		0.0	[0.6]		28.2	[25.6]	4.1	[6.2]	-5.8	[-4.0]	23.8	19.7
Togo		-3.9	[3.6]		7.6	9.5	8.3	[11.9]	-9.8	[-5.8]	16.5	14.3
Uganda		3.4	[5.2]		29.0	[7.1]	3.8	[4.2]	-8.9	[-6.3]	16.7	[17.7]
Zambia		-4.3	[-1.8]		122.2	[34.1]	8.6	[8.9]	-14.1	[-8.4]	13.4	[14.3]
Zimbabwe		-0.9	[0.4]		26.5	[21.0]	17.5	[21.8]	-7.8	-9.4	21.3	[23.6]

Sources: World Economic Outlook (WEO) and Economic Trends in Africa (WETA) databases.

1/ Countries that improved their average growth rates of per capita real GDP from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.

2/ Countries that lowered their average inflation rates from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.

3/ Countries that improved their average domestic savings ratios from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.

4/ Countries that improved their average overall fiscal balances (excluding grants) from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.

5/ Countries that improved their average ratios of gross fixed capital formation to GDP from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.

Table 7. Frequency Distribution of Per Capita Real GDP Growth Rates, Inflation Rates, and Ratios of Savings to GDP <sup>1/</sup>

Per Capita Real GDP Growth Rates ( In Percent)												
	Less than or equal to zero percent		Between 0 and 1 percent		Between 1 and 2 percent		Between 2 and 3 percent		Above 3 percent			
	Frequency	Cumulative percentage	Frequency	Cumulative percentage	Frequency	Cumulative percentage	Frequency	Cumulative percentage	Frequency	Cumulative percentage		
1981-84	32	69.57	7	84.78	2	89.13	1	91.30	4	100.00		
1985-89	22	47.83	5	58.70	6	71.74	5	82.61	8	100.00		
1990-94	30	65.22	6	78.26	6	91.30	1	93.48	3	100.00		
1995-97	11	23.91	8	41.30	6	54.35	10	76.09	11	100.00		

Inflation Rates (In Percent)												
	Less than or equal to 5 percent		Between 5 and 10 percent		Between 10 and 15 percent		Between 15 and 20 percent		Above 20 percent			
	Frequency	Cumulative percentage	Frequency	Cumulative percentage	Frequency	Cumulative percentage	Frequency	Cumulative percentage	Frequency	Cumulative percentage		
1981-84	6	13.04	7	28.26	17	65.22	3	71.74	13	100.00		
1985-89	16	34.78	9	54.35	3	60.87	4	69.57	14	100.00		
1990-94	5	10.87	16	45.65	7	60.87	1	63.04	17	100.00		
1995-97	8	17.39	20	60.87	2	65.22	2	69.57	14	100.00		

Ratios of Savings to GDP (In Percent)												
	Less than or equal to 5 percent		Between 5 and 10 percent		Between 10 and 15 percent		Between 15 and 20 percent		Above 20 percent			
	Frequency	Cumulative percentage	Frequency	Cumulative percentage	Frequency	Cumulative percentage	Frequency	Cumulative percentage	Frequency	Cumulative percentage		
1981-84	21	47.73	5	59.09	6	72.73	5	84.09	7	100.00		
1985-89	14	31.82	10	54.55	7	70.45	4	79.55	9	100.00		
1990-94	19	42.22	10	64.44	5	75.56	4	84.44	7	100.00		
1995-97	17	37.78	6	51.11	7	66.67	4	75.56	11	100.00		

Sources: World Economic Outlook (WEO) and Economic Trends in Africa (WETA) databases.

<sup>1/</sup> Sample of 46 countries. For each sample period, the frequency distribution shows the number (or frequency) and proportion (or cumulative percentage) of countries that fall within specified ranges of values for a selected economic indicator.

Table 8. Frequency Distribution of Ratios of Fiscal Balance to GDP, Ratios of Total Gross Fixed Capital Formation to GDP, and Export Volume Growth Rates <sup>1/</sup>

Ratios of Fiscal Balance (Excluding Grants) to GDP										
	Less than or equal to -20 percent		Between -20 and -15 percent		Between -15 and -10 percent		Between -10 and -5 percent		Above -5 percent	
	Cumulative		Cumulative		Cumulative		Cumulative		Cumulative	
	Frequency	percentage	Frequency	percentage	Frequency	percentage	Frequency	percentage	Frequency	percentage
1981-84	5	11.36	3	18.18	10	40.91	19	84.09	7	100.00
1985-89	6	13.64	3	20.45	7	36.36	21	84.09	7	100.00
1990-94	6	13.33	2	17.78	10	40.00	16	75.56	11	100.00
1995-97	3	6.67	2	11.11	7	26.67	21	73.33	12	100.00

Ratios of Total Gross Fixed Capital Formation to GDP										
	Less than or equal to 15 percent		Between 15 and 20 percent		Between 20 and 25 percent		Between 25 and 30 percent		Above 30 percent	
	Cumulative		Cumulative		Cumulative		Cumulative		Cumulative	
	Frequency	percentage	Frequency	percentage	Frequency	percentage	Frequency	percentage	Frequency	percentage
1981-84	14	31.82	11	56.82	6	70.45	6	84.09	7	100.00
1985-89	16	36.36	13	65.91	9	86.36	2	90.91	4	100.00
1990-94	16	35.56	12	62.22	8	80.00	4	88.89	5	100.00
1995-97	16	35.56	12	62.22	6	75.56	4	84.44	7	100.00

Export Volume Growth Rates (In Percent)										
	Less than or equal to zero percent		Between 0 and 5 percent		Between 5 and 10 percent		Between 10 and 15 percent		Above 15 percent	
	Cumulative		Cumulative		Cumulative		Cumulative		Cumulative	
	Frequency	percentage	Frequency	percentage	Frequency	percentage	Frequency	percentage	Frequency	percentage
1981-84	20	43.48	7	58.70	6	71.74	4	80.43	9	100.00
1985-89	14	30.43	14	60.87	8	78.26	2	82.61	8	100.00
1990-94	11	23.91	17	60.87	6	73.91	7	89.13	5	100.00
1995-97	5	10.87	9	30.43	17	67.39	7	82.61	8	100.00

Sources: World Economic Outlook (WEO) and Economic Trends in Africa (WETA) databases.

<sup>1/</sup> Sample of 46 countries. For each sample period, the frequency distribution shows the number (or frequency) and proportion (or cumulative percentage) of countries that fall within specified ranges of values for a selected economic indicator.

Table 9. Evolution of Selected Categories of Public Expenditure Between 1990-94 and 1995-97

Countries	Countries That Recorded Positive Growth Rates of Per Capita Real GDP 1995-97	Growth Rates of Per Capita Real GDP <sup>1/</sup>		Countries with Single-Digit Inflation Rates	Inflation Rates <sup>2/</sup>		Share of Health in Public Expenditure <sup>3/</sup>		Share of Education in Public Expenditure <sup>4/</sup>		Share of Defense in Public Expenditure Performance <sup>5/</sup>	
		1990-94	1995-97		1990-94	1995-97	1990-94	1995-97	1990-94	1995-97	1990-94	1995-97
Angola		-8.0	[7.1]		542.8	2309.9	4.0	3.8	6.5	3.2	34.9	46.0
Benin		0.6	[2.6]		9.6	[7.8]	3.1	[4.5]	14.2	13.1	11.6	[10.9]
Botswana		2.0	[2.8]		12.8	[10.0]						
Burkina Faso		-0.5	[2.4]		5.1	5.4	4.7	[5.2]			10.0	
Burundi		-1.5	-4.3		9.0	23.9	3.4	[3.9]	16.4	[18.4]	13.5	21.3
Cameroon		-6.6	[1.6]		2.3	13.8	1.0	[3.4]	3.0	[12.1]	1.5	7.9
Cape Verde		-3.6	[2.1]		7.2	7.7						
Central African Republic		-3.5	[0.6]		3.6	8.1		6.3		15.4		8.0
Chad		1.5	1.2		7.0	8.8		6.2		14.8	12.6	[8.5]
Comoros		-0.4	-4.0		4.0	[3.2]		3.4		14.0		5.7
Congo		-2.5	[-0.2]		9.0	9.0			16.2			
Congo, Dem. Rep. of		-11.2	[-4.2]		6403.7	[452.4]					10.2	[7.1]
Côte d'Ivoire		-3.8	[2.8]		6.6	7.5	4.9	4.7	21.5	18.7	6.5	7.1
Djibouti		-5.6	[-4.2]		5.8	[3.9]						
Equatorial Guinea		3.4	[47.4]		8.6	[6.8]	11.2	1.2	12.6	1.7	1.4	8.5
Ethiopia		0.3	[5.7]		12.1	[2.6]	4.2	[5.1]	12.0	[13.7]	21.2	[7.8]
Gabon		0.0	[2.3]		7.0	[5.7]					12.7	
Gambia, The		0.1	-2.1		8.2	[3.6]	5.6	[5.7]	10.0	[11.9]		3.0
Ghana		1.2	0.8		23.0	44.3	5.9	3.4	17.0	13.1	3.0	[2.2]
Guinea		0.7	[1.5]		13.4	[3.5]	2.5	0.9	9.0	3.3	5.8	
Guinea-Bissau		1.1	[2.6]		44.7	48.4	5.6	[7.1]	8.2	[8.4]	2.2	[1.5]
Kenya		-1.2	[0.7]		26.6	[7.3]	5.7		20.0		6.5	
Lesotho		-0.4	[5.6]		13.5	[9.1]	8.9	[9.0]	21.3	[23.7]	11.1	[10.4]
Madagascar		-3.1	[-0.9]		16.8	24.4	5.4		12.9			
Malawi		-2.0	[6.5]		20.2	43.3	5.1		8.6		4.2	
Mali		-1.4	[2.6]		4.3	6.3	5.7	[8.9]	12.2	[12.9]	8.3	[7.7]
Mauritania		-0.4	[1.4]		7.1	[4.2]						
Mauritius		4.2	3.4		8.9	[6.6]	8.5	7.9	13.9	[15.9]	1.4	[1.3]
Mozambique		-0.7	[4.1]		45.5	[35.1]	3.6	[4.2]	7.4	[8.6]	18.5	[9.9]
Namibia		0.3	[0.5]		12.2	[8.6]		9.9		22.7		5.5
Niger		-2.8	[0.2]		5.9	6.4	8.4	[9.4]	18.5	18.2	3.7	3.8
Nigeria		0.6	[1.3]		35.8	36.9	1.6	[1.7]	4.0	[4.7]	7.6	7.6
Rwanda		-12.1	[16.4]		22.0	[14.3]	3.8	1.6	16.5	8.9	22.1	[21.8]
Sao Tome & Principe		-1.8	[-0.5]		39.8	47.9	2.6	[11.1]	4.9	[9.3]	2.4	[1.7]
Senegal		-1.5	[2.2]		6.0	[4.4]	3.3		19.0		9.5	
Seychelles		3.1	1.1		2.5	[-0.2]	7.2	6.6	11.7	10.0	7.0	[4.5]
Sierra Leone		-4.8			63.0		3.5		10.1		13.5	
Somalia		-3.9	[2.9]		62.8	[16.3]						
South Africa		-2.5	[0.3]		12.4	[8.2]	11.3	10.9	22.2	[22.5]	10.7	[6.9]
Sudan		1.0	[6.0]		104.6	[82.6]						
Swaziland		1.9	-0.5		11.6	[9.4]	11.3	5.7	24.0	20.7	11.3	[5.7]
Tanzania		0.0	[0.6]		28.2	[25.6]	7.4	[8.3]	12.3	[14.5]	9.0	[8.8]
Togo		-3.9	[3.6]		7.6	9.5	4.0	[5.1]	16.9	[19.9]	12.4	[10.5]
Uganda		3.4	[5.2]		29.0	[7.1]	2.2	[3.7]	6.4	[10.7]		8.3
Zambia		-4.3	[-1.8]		122.2	[34.1]	5.6	1.9	7.0	5.3	7.8	[4.4]
Zimbabwe		-0.9	[0.4]		26.5	[21.0]	5.6	[6.0]	16.6	[19.8]	9.8	[9.1]

Sources: World Economic Outlook (WEO) and Economic Trends in Africa (WETA) databases.

1/ Countries that improved their average growth rates of per capita real GDP from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.

2/ Countries that lowered their average inflation rates from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.

3/ Countries that improved their average shares of health expenditure from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.

4/ Countries that improved their average shares of education expenditure from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.

5/ Countries that reduced their average shares of defense expenditure from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.

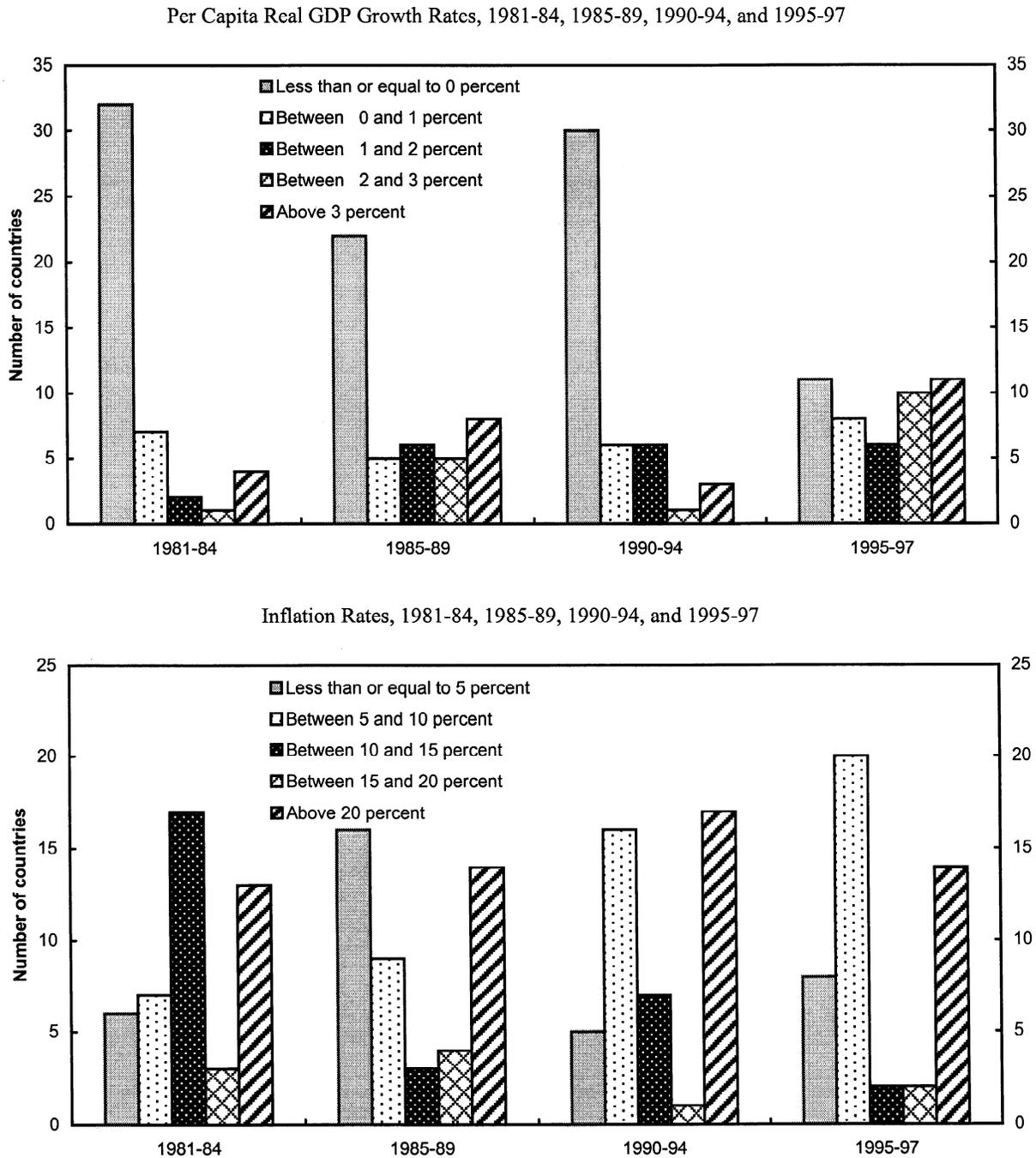
Table 10. Evolution of Export Growth Rates, Export-GDP Ratios, and Real Effective Exchange Rates Between 1990-94 and 1995-97

Countries	Countries That Recorded Positive Growth Rates of Per Capita Real GDP 1995-97	Growth Rates of Per Capita Real GDP <sup>1/</sup>		Countries with Single-Digit Inflation Rates 1995-97	Inflation Rates <sup>2/</sup>		Export Growth <sup>3/</sup>		Export Share of GDP <sup>4/</sup>		Real Effective Exchange Rate <sup>5/</sup>	
		1990-94	1995-97		1990-94	1995-97	1990-94	1995-97	1990-94	1995-97	1990-94	1995-97
Angola		-8.0	[7.1]		542.8	2309.9	16.4	5.9	50.1	[75.0]	197.1	[134.6]
Benin		0.6	[2.6]		9.6	[7.8]	11.0	2.0	24.1	[25.7]	93.1	[78.2]
Botswana		2.0	[2.8]		12.8	[10.0]	-2.1	[7.6]	49.1	[53.7]	110.1	[105.7]
Burkina Faso		-0.5	[2.4]		5.1	5.4	4.2	[6.2]	11.9	[12.6]	89.1	[62.7]
Burundi		-1.5	-4.3		9.0	23.9	3.9	[11.7]	8.9	7.7	93.8	106.0
Cameroon		-6.6	[1.6]		2.3	13.8	-5.6	[7.3]	20.2	[25.6]	87.8	[66.0]
Cape Verde		-3.6	[2.1]		7.2	7.7	27.3	18.0	16.4	[25.0]	102.9	[101.8]
Central African Republic		-3.5	[0.6]		3.6	8.1	2.1	[5.7]	15.7	[19.8]	87.0	[64.3]
Chad		1.5	1.2		7.0	8.8	-4.0	[11.6]	14.1	[19.3]	89.7	[67.0]
Comoros		-0.4	-4.0		4.0	[3.2]	10.8	5.0	18.5	[18.9]		
Congo		-2.5	[-0.2]		9.0	9.0	0.7	[9.2]	49.8	[67.8]	98.8	100.9
Congo, Dem. Rep. of		-11.2	[-4.2]		6403.7	[452.4]	-13.5	[6.1]	21.9	[24.5]	101.5	[89.3]
Côte d'Ivoire		-3.8	[2.8]		6.6	7.5	0.7	[9.1]	34.7	[46.5]	91.4	[70.0]
Djibouti		-5.6	[-4.2]		5.8	[3.9]	-6.6	[-6.0]	51.7	40.6		
Equatorial Guinea		3.4	[47.4]		8.6	[6.8]	17.5	[78.9]	39.0	[67.6]	88.8	[79.0]
Ethiopia		0.3	[5.7]		12.1	[2.6]	3.8	[15.4]	7.2	[14.2]	92.2	[50.1]
Gabon		0.0	[2.3]		7.0	[5.7]	25.0	10.5	50.0	[60.6]	76.9	[54.2]
Gambia, The		0.1	-2.1		8.2	[3.6]	5.9	-8.6	60.2	45.5	99.3	[95.6]
Ghana		1.2	0.8		23.0	44.3	10.5	-1.6	19.0	[26.0]	86.9	[78.9]
Guinea		0.7	[1.5]		13.4	[3.5]	1.0	[4.5]	24.4	20.5	98.9	[92.3]
Guinea-Bissau		1.1	[2.6]		44.7	48.4	37.8	21.4	9.9	[14.4]	83.6	[71.4]
Kenya		-1.2	[0.7]		26.6	[7.3]	11.3	-0.8	31.1	[31.5]	100.4	[114.9]
Lesotho		-0.4	[5.6]		13.5	[9.1]	9.6	[17.2]	22.6	[28.7]	109.2	[103.7]
Madagascar		-3.1	[-0.9]		16.8	24.4	4.2	[11.0]	17.7	[22.1]	93.6	[91.4]
Malawi		-2.0	[6.5]		20.2	43.3	6.7	6.7	23.8	[25.8]	92.9	[77.9]
Mali		-1.4	[2.6]		4.3	6.3	5.6	[15.5]	17.7	[21.8]	86.2	[62.1]
Mauritania		-0.4	[1.4]		7.1	[4.2]			0.0		92.6	[73.1]
Mauritius		4.2	3.4		8.9	[6.6]	2.2	[2.5]	61.1	60.3	98.2	[96.5]
Mozambique		-0.7	[4.1]		45.5	[35.1]	12.2	8.5	16.7	[20.0]	75.0	[66.5]
Namibia		0.3	[0.5]		12.2	[8.6]	4.5	[4.8]	52.7	51.9	102.0	103.0
Niger		-2.8	[0.2]		5.9	6.4	-3.2	[3.7]	14.6	[15.9]	81.9	[62.1]
Nigeria		0.6	[1.3]		35.8	36.9	3.7	[9.3]	43.7	[44.4]	95.0	147.0
Rwanda		-12.1	[16.4]		22.0	[14.3]	-9.1	[21.7]	6.0	5.8	78.8	86.7
Sao Tome & Principe		-1.8	[-0.5]		39.8	47.9	5.2	[8.8]	20.3	[24.2]		
Senegal		-1.5	[2.2]		6.0	[4.4]	1.3	[5.2]	25.7	[31.1]	87.3	[63.1]
Seychelles		3.1	1.1		2.5	[-0.2]	2.1	[6.3]	62.3	50.8	100.8	[99.3]
Sierra Leone		-4.8			63.0		-3.0		24.7	0.0	102.5	111.4
Somalia		-3.9	[2.9]		62.8	[16.3]	3.3	[3.6]	9.5	8.2		
South Africa		-2.5	[0.3]		12.4	[8.2]	2.2	[8.9]	24.1	[26.9]	103.6	[94.9]
Sudan		1.0	[6.0]		104.6	[82.6]			0.0			
Swaziland		1.9	-0.5		11.6	[9.4]	13.0	6.6	83.6	[102.8]	96.4	99.6
Tanzania		0.0	[0.6]		28.2	[25.6]	11.3	-12.1	22.9	20.6	94.6	117.5
Togo		-3.9	[3.6]		7.6	9.5	-8.2	[12.4]	29.8	[32.9]	89.3	[73.7]
Uganda		3.4	[5.2]		29.0	[7.1]	7.0	[26.5]	6.8	[12.0]	80.9	90.0
Zambia		-4.3	[-1.8]		122.2	[34.1]	-1.1	[3.3]	35.2	34.9	96.3	102.7
Zimbabwe		-0.9	[0.4]		26.5	[21.0]	3.6	[5.5]	27.6	[35.7]	82.8	83.1

Sources: World Economic Outlook (WEO) and Economic Trends in Africa (WETA) databases.

<sup>1/</sup> Countries that improved their average growth rates of per capita real GDP from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.<sup>2/</sup> Countries that lowered their average inflation rates from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.<sup>3/</sup> Countries that improved their average export growth from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.<sup>4/</sup> Countries that improved their average export shares of GDP from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets.<sup>5/</sup> Countries whose real effective exchange rates depreciated from 1990-94 to 1995-97 are highlighted in bold and enclosed in brackets. A decline in the real effective exchange rate denotes depreciation.

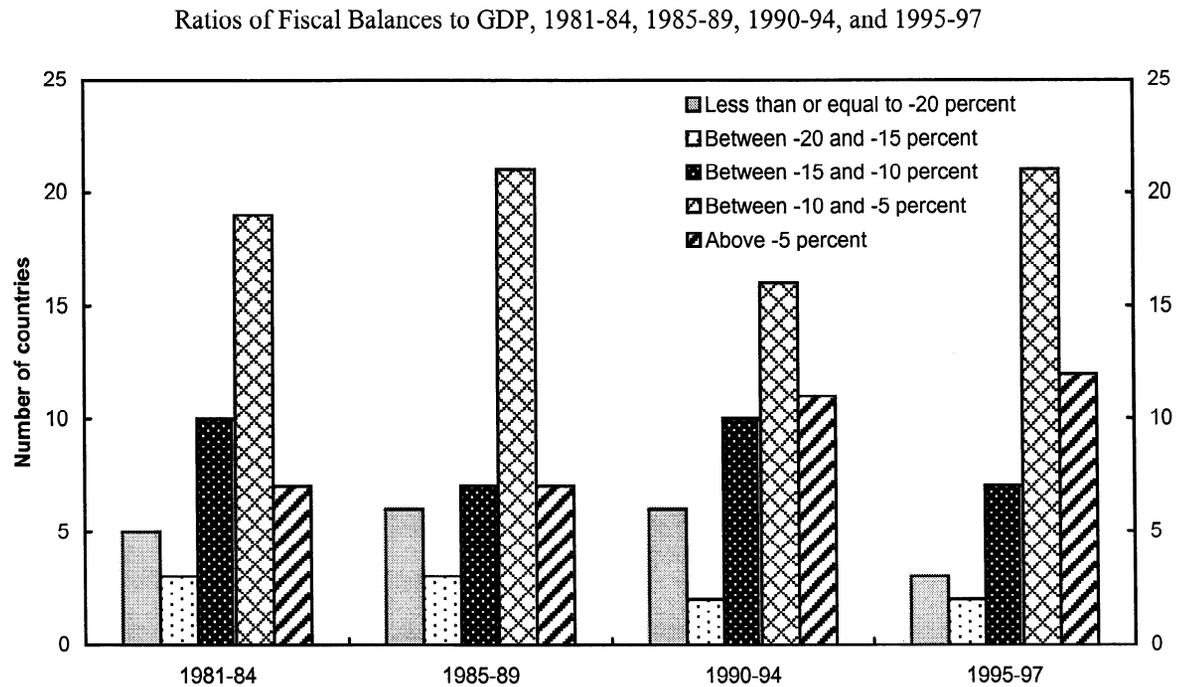
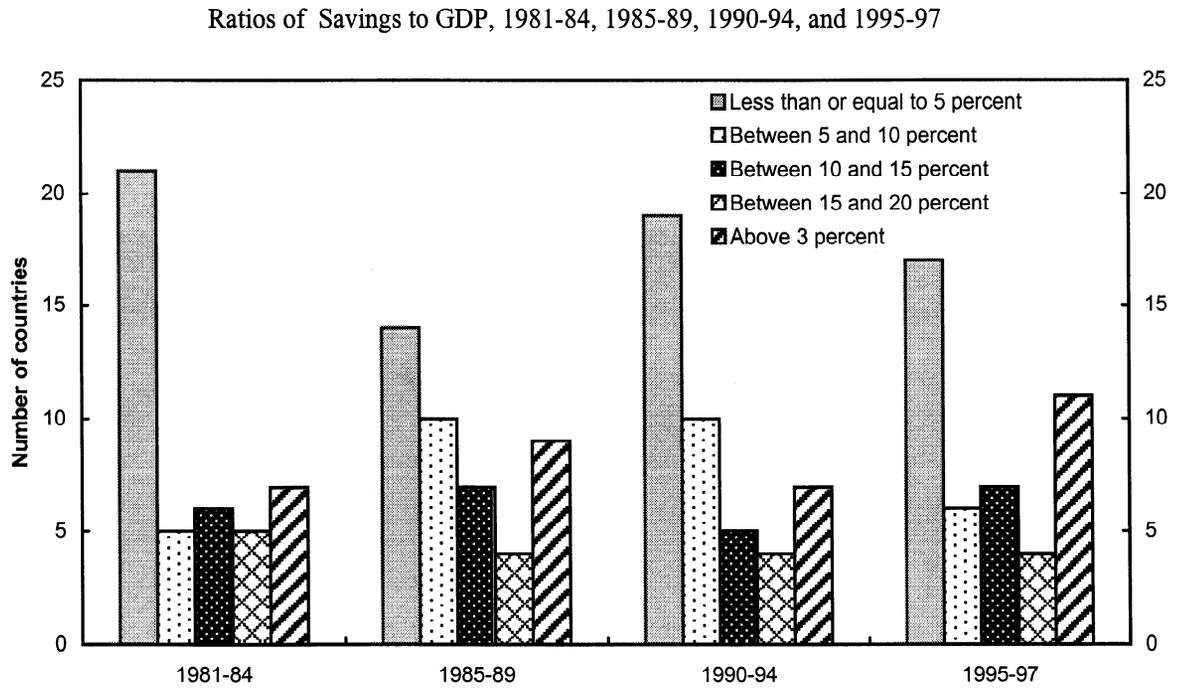
Figure 1. Frequency Distribution of Per Capita Real GDP Growth and Inflation Rates 1/



Source: Table 7.

1/ Sample of 46 countries. For each sample period, the frequency distribution shows the number (or frequency) of countries that fall within specified ranges of values for a selected economic indicator.

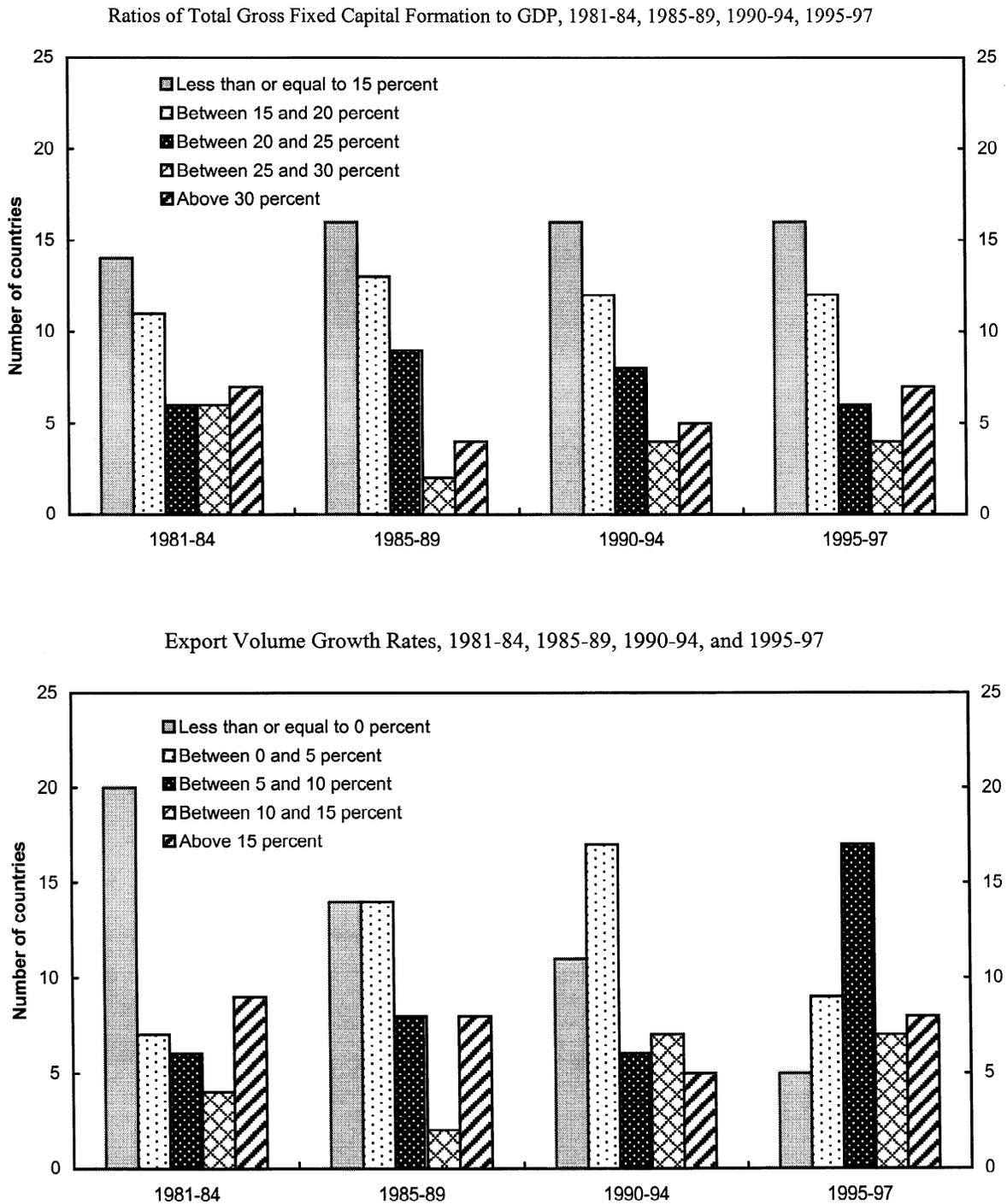
Figure 2. Frequency Distribution of Ratios of Savings and Fiscal Balances to GDP 1/



Sources: Table 7 and Table 8.

1/ Sample of 46 countries. For each sample period, the frequency distribution shows the number (or frequency) of countries that fall within specified ranges of values for a selected economic indicator.

Figure 3. Frequency Distribution of Ratios of Total Gross Fixed Capital Formation to GDP and Export Volume Growth Rates 1/



Source: Table 8.

1/ Sample of 46 countries. For each sample period, the frequency distribution shows the number (or frequency) of countries that fall within specified ranges of values for a selected economic indicator.