UNCLASSIFIED
CD/DOC(99)2

OECD DEVELOPMENT CENTRE

TECHNICAL PAPERS

No. 145

ECONOMIC POLICY REFORM AND GROWTH PROSPECTS IN EMERGING AFRICAN ECONOMIES

by

Patrick Guillaumont, Sylviane Guillaumont Jeanneney and Aristomène Varoudakis

Produced as part of the research programme on
Poverty Alleviation — Emerging Africa

March 1999

http://www.oecd.org/dev/pub/tp1a.htm

CENTRE DE DÉVELOPPEMENT
DOCUMENTS TECHNIQUES

Cette série de documents techniques a pour but de diffuser rapidement auprès des spécialistes dans les domaines concernés les résultats des travaux de recherche du Centre de Développement. Ces documents ne sont disponibles que dans leur langue originale, anglais ou français ; un résumé du document est rédigé dans l'autre langue.

Tout commentaire relatif à ce document peut être adressé au Centre de Développement de l'OCDE, 94 rue Chardon-Lagache, 75016 Paris, France. Un certain nombre d'exemplaires supplémentaires sont disponibles sur demande.

LES IDÉES EXPRIMÉES ET LES ARGUMENTS AVANCÉS DANS CE DOCUMENT SONT CEUX DES AUTEURS ET NE REFLÈTENT PAS NÉCESSAIREMENT CEUX DE L'OCDE OU DES GOUVERNEMENTS DE SES PAYS MEMBRES

DEVELOPMENT CENTRE
TECHNICAL PAPERS

This series of technical papers is intended to disseminate the Development Centre's research findings rapidly among specialists in the field concerned. These papers are generally available in the original English or French, with a summary in the other language.

Comments on this paper would be welcome and should be sent to the OECD Development Centre, 94 rue Chardon-Lagache, 75016 Paris, France. A limited number of additional copies can be supplied on request.

THE OPINIONS EXPRESSED AND ARGUMENTS EMPLOYED IN THIS DOCUMENT ARE THE SOLE RESPONSIBILITY OF THE AUTHORS AND DO NOT NECESSARILY REFLECT THOSE OF THE OECD OR OF THE GOVERNMENTS OF ITS MEMBER COUNTRIES

Applications for permission to reproduce or translate all or part of this material should be made to:

Head of Publications Service, OECD
2, rue André-Pascal, 75775 PARIS CEDEX 16, France

© OECD 1999

TABLE OF CONTENTS

ACKNOWLEDGEMENTS 6

RÉSUMÉ 7

SUMMARY 7

PREFACE 9

I. INTRODUCTION 11

II. THE RECENT IMPROVEMENT IN AFRICA'S ECONOMIC PERFORMANCE 15

III. LONG-RUN GROWTH TRENDS IN AFRICA: AN OVERVIEW 19

IV. MODELLING LONG-RUN GROWTH MECHANISMS IN AFRICA 23

V. TOWARDS A SUSTAINED POLICY IMPROVEMENT IN AFRICA? 27

VI. A PROJECTION OF UNDERLYING GROWTH TRENDS IN AFRICA 35

VII. A SCENARIO FOR GROWTH IN THE EMERGING AFRICAN ECONOMIES 43

VIII. CONCLUSION AND POLICY IMPLICATIONS 51

NOTES 53

BIBLIOGRAPHY 55

ANNEX A1. CONTRIBUTIONS TO GROWTH PERFORMANCE 57

ANNEX A2. STATISTICAL TABLES 59

OTHER TITLES IN THE SERIES/AUTRES TITRES DANS LA SÉRIE 63

ACKNOWLEDGEMENTS

The authors would like to thank Jean-Claude Berthélemy, Richard Carey, Jean-Pierre Cling, David Coe, Denis Cogneau, Jackie Damon, Paul Frix, Augustin Fosu, Ulrich Hiemenz, Tony Killick, George Tapinos, Marie-Ange Véganzonès, as well as the participants in the French Economic Society's 1998 Annual Congress, for their comments on an earlier draft of this paper. Valuable research assistance by Christine Richaud, Ludvig Söderling and Caroline Alquier is also acknowledged.

RÉSUMÉ

Nous évaluons le potentiel de croissance des économies d'Afrique à l'horizon de 2010, à partir d'une modélisation des facteurs structurels et politiques de la croissance en Afrique et sur la base de différents scénarios d'évolution des facteurs exogènes et des politiques économiques qui conditionnent les projections. L'analyse s'appuie sur l'estimation d'un modèle de croissance pour 39 économies d'Afrique et sept périodes quinquennales, couvrant les années 1960-95. Le modèle met l'accent sur le rôle de deux moteurs de croissance : *i)* l'investissement et *ii)* la progression des exportations. A partir d'un indicateur composite d'« économie émergente » — construit sur la base des résultats économiques, de la qualité des politiques et de la stabilité politique des pays africains — nous identifions les 14 économies de ce continent les plus susceptibles d'améliorer durablement leurs politiques et leurs performances économiques au cours des années à venir. Ces « économies émergentes » sont situées principalement en Afrique de l'Ouest et du Sud-Est. Nos simulations de croissance s'appuient sur deux scénarios : un « scénario de base », consistant à extrapoler les politiques observées par le passé, et un scénario « d'Afrique émergente », avec quelques variantes, où les « économies émergentes » poursuivent les réformes déjà amorcées et parviennent à une amélioration durable de leurs politiques.

Il ressort des simulations que, en l'absence de progrès des politiques, il existe un risque certain de stagnation du revenu par habitant en Afrique, se traduisant par une marginalisation accrue du continent. A l'inverse, pour les 14 économies émergentes identifiées, le « bonus de croissance » annuel moyen du revenu par habitant est supérieur de 1.5 à 3.5 points de pourcentage par rapport à la situation de référence, en fonction des réformes prises en compte, sur la période 1996-2010. L'accélération de la croissance résulte essentiellement de la suppression des derniers déséquilibres macro-économiques, de la correction des distorsions des prix relatifs, de l'approfondissement des marchés financiers et de l'ouverture sur l'extérieur des économies africaines. Dans le scénario d'« Afrique émergente » de référence, les progrès supplémentaires réalisés dans ces domaines de la politique économique se traduisent par un bonus de croissance annuel de 2.4 points de pourcentage par rapport aux pays qui, dans notre simulation, n'améliorent pas leurs politiques. Notre évaluation de l'impact de la croissance sur la pauvreté dans le scénario « d'Afrique émergente » ne fait pas apparaître de réels progrès, notamment dans les zones urbaines. Toutefois, dans le scénario de « croissance maximum », dont l'horizon temporel est prolongé à 2015, la pauvreté chute de plus de moitié dans les zones rurales et d'environ un tiers dans les villes. Il s'ensuit une diminution globale de la moitié de la part de la population vivant en situation de pauvreté.

SUMMARY

We assess the prospects for growth of African economies up to the year 2010 by modelling structural and policy determinants of growth, under different scenarios for changes in the exogenous factors and economic policies which shape the projections. To this end we estimate a growth model for 39 African economies, during seven five-year periods from 1960 through 1995. The model emphasises two engines of growth: *i)* investment and *ii)* growth of exports. Using a composite indicator of "emerging economies" — set up on the basis of the economic performance, quality of policies and political stability of African countries — we identify 14 African economies that stand better chances to achieve a lasting improvement in their policies and growth performance in the years ahead. These "emerging economies" can be mostly found in the Southern-Eastern and the Western parts of Africa. Our growth simulations involve two policy scenarios: a baseline scenario which extends policy trends observed in the past and a core "emerging Africa" scenario, with some variants, where the "emerging economies" keep on implementing the reforms already undertaken and eventually achieve a sustained improvement in their policies.

The growth forecasts show that, if economic policies are to be kept unchanged, there is an ongoing risk of stagnation of per capita income in Africa, leading to its increased marginalisation. In contrast, the average annual "growth bonus" in per capita income for the 14 "emerging economies", in comparison with the baseline, ranges from 1.5 to 3.5 percentage points during 1996-2010, depending on the scope of the reforms taken into account. The resulting upsurge in growth can be put down mostly to removing the remaining macroeconomic imbalances, lifting relative price distortions, as well as promoting financial deepening and outward orientation of African economies. In the core "emerging Africa" scenario, lasting improvements in these policy areas account for a 2.4 percentage points annual "growth bonus", compared with the countries which, in our simulation, do not upgrade their policies. Our assessment of the impact of growth on poverty in the core "emerging Africa" scenario, shows the path of poverty being somewhat stubborn, especially in urban areas. However, under our "maximum growth scenario", extending the forecast horizon up to 2015 shows rural poverty shrinking by more than half, while urban poverty falls by approximately one-third. This leads to an overall fall by one-half in the proportion of people living in poverty.

PREFACE

Lasting progress in poverty reduction in Africa cannot be achieved without economic take-off. Experience from emerging economies has shown that, even given a starting point of unfavourable conditions, take-off can occur if the right policies are implemented. However, there is no single recipe and in Africa, as elsewhere, there will be leaders and followers.

Identifying African economies which show the best chances for success has important implications for development co-operation efforts. In strong reforming countries, development assistance can be more effective as it can serve to support the reform process, spur growth, and help avoid the policy reversals so often seen in Africa in the past. Positive outcomes in emerging African economies would strengthen the commitment of other countries to carry forward reforms. The eventual success of current strong reformers should create a snowball effect at the regional level, leading to stronger growth in a number of African countries over the next two decades.

This study strongly suggests that such expectations on a regional level can be met. The authors modelled growth performance in Africa, and developed an indicator of policy reform sustainability which identified a group of emerging African economies. They then examined the growth scenarios for these countries to the year 2010. Their analysis includes not only an assessment of the economic growth pay-offs from sustained improvement in macroeconomic and structural policies, but also a discussion of the main obstacles to a resumption of steady growth. In addition, they examine the expected impact of growth resumption on poverty and outline the focus of policy reform needed for these emerging African countries in the years ahead.

This paper was produced in the context of the Development Centre's work programme on emerging Africa. In addition to serving as a guide to growth prospects for individual African economies as well as to overall growth prospects for Africa, this study provides a valuable background framework for international policy comparisons.

Jean Bonvin
President
OECD Development Centre
March 1999

I. INTRODUCTION

After many years of pessimism on the growth prospects of Africa, opinions are about to change. Some encouraging results have been recorded in a number of African countries, while some East Asian countries which had been held up as a model are experiencing major economic downturns. Economic policy reforms that have been gradually undertaken in Africa probably contributed to the resumption of growth on the continent. Economic growth was significantly higher than the rate of population growth from 1994 to 1996 in a number of countries that had experienced so far significant economic downturns, for example Angola, Benin, Côte d'Ivoire, Ethiopia, Togo and Uganda. One important question faced now by the African and international policy-making community is to know what are the prospects for economic take-off in those African countries which have followed appropriate policies on a sustained basis (see also Fischer, Hernandez-Cata and Khan, 1998).

To answer that question it is important to examine the explanatory factors of past growth in Africa, so often short lived and on average weak or negative. Recent research has demonstrated quite convincingly that the growth shortfall of Africa can, to a large extent, be attributed to economic policy failures and to a weak institutional environment that fails to support the smooth operation of market mechanisms (see, for example, Sachs and Warner, 1997). Implementation of better policies would certainly have contributed to a stronger growth performance. Therefore, the main thrust of our analysis will be on assessing the contribution of economic policies to the observed take off in emerging countries, as well as on assessing the growth pay-off in various areas where economic policy reform should be carried forward to improve economic performance in the medium run.

More specifically, the analysis of the paper sheds new light on a number of questions related to growth prospects in Africa in the years ahead, in a time horizon extending up to 2010:

— Which African countries have the best chances for economic take-off due to their progress in sustained policy reform?

— What are the growth prospects of these countries?

— What is the pay-off of a lasting improvement in macroeconomic and structural policies in terms of growth?

— Which are the main factors that drag down potential growth in African economies?

— What should be the appropriate focus of structural policies in the various countries?

— What are the prospects for a reduction of poverty in the medium run, following a resumption of growth?

Identifying those countries in SSA that stand better chances of achieving a lasting improvement in their policies and their performance in the years ahead responds to a perceived concern from the policy-making community to improve targeting of development aid efforts (see also Collier, P. and S. Guillaumont and Gunning, 1997). The indicator of "emerging African" economies put forward in the paper makes some progress in this direction over previous attempts looking at the interaction between development aid and the quality of recipient countries' economic policies (Burnside and Dollar, 1997).

The assessment of Africa's growth prospects is made against a baseline scenario, which extends into the future previous trends in macroeconomic policies, as well as structural patterns in foreign trade, financial development, educational attainment and the availability of infrastructure. This baseline mirrors what growth prospects African countries can expect if they do not secure a sustained improvement in their economic policies.

For the purposes of our analysis a relatively simple model was constructed, which allowed most African countries to be included in the sample and which reflects the least fragile conclusions drawn from existing studies on the factors affecting growth in Africa. The model confirms that the accumulation of capital, despite past illusions about its effectiveness and the associated excesses of unproductive investment, remains fundamental to growth, especially in Africa where it has fallen to a rather low level. It is also shown that exposure to foreign competition and growth of exports are essential to maintaining a high level of investment and growth, particularly in Africa where the size of the economies is small and, consequently, high protection can be especially costly. Thus the investment rate and growth of exports appear to be two essential "intermediate variables" of growth, themselves influenced by structural factors and economic policy. It is also confirmed that macroeconomic imbalances — inflation and budget deficits in particular — as well as distortions related to exchange rate policy mismanagement, are unfavourable to growth in Africa as elsewhere. A reduced-form relationship for growth, together with the estimated relationships for the investment rate and the growth of exports, form the core of our empirical growth model.

The paper is organised as follows. The second section accounts for the upsurge in growth that has been observed in Africa since the mid-1990s and presents some differences in patterns observed across various parts of the continent. Taking a step backwards in time, the third section puts these developments in perspective, by presenting an overview of longer run growth trends in Africa, as well as an account of the explanatory factors of Africa's growth shortfall out of existing empirical studies. In the fourth section, the growth model — used as the primary tool of our forecasting exercise — is calibrated on panel data by a simultaneous equation estimation method.

Then, in the fifth section, a composite indicator of emerging economies is constructed, using principal components analysis, out of a set of macroeconomic and structural policy indicators, variables of economic performance, and indicators of domestic political stability and external conflicts. This makes it possible, firstly, to pick up five African economies, having a good performance, which serve as a benchmark

for further analysis. Secondly, to identify a group of 14 countries, called “emerging”, which seem to have a greater chance of improving their policies in the years ahead. In the sixth section, we project the baseline per capita income growth from 1996 to 2010 of each economy of the sample, by extrapolating from the base trends observed during the two preceding decades. The seventh section presents the growth prospects for “emerging” African economies on the assumption they adopt policies similar to those of the reference group, that is, similar to the best-practice policies undertaken in Africa in previous years. It then discusses the contribution of various macroeconomic and structural imbalances to growth shortfalls and, finally, presents a summary assessment of the impact of our “emerging Africa” growth scenarios on the path of poverty. The eighth section concludes and presents a synthesis of the policy implications of our findings.

II. THE RECENT IMPROVEMENT IN AFRICA'S ECONOMIC PERFORMANCE

In the last few years, Sub-Saharan Africa (SSA) has witnessed a remarkable economic recovery. After a decade of structural adjustment to cope with the debt crisis and an unfavourable external environment, real GDP growth had come to a virtual standstill by the beginning of the 1990s. As shown in Table 1, growth was around 2 per cent on average until 1994. However, starting in 1995, the growth rate has jumped to 4.0 per cent and has remained at consistently higher levels than population growth since then. It is noticeable that, despite the overall slowdown in growth induced by the emerging and transition countries crisis, growth in SSA in 1998 and in 1999 is projected at a higher level than the average one for developing countries. In contrast, over the previous decade, 1980-89, average annual GDP growth in SSA (not shown in the Table) was 2.5 per cent, leading to a gradual fall in per capita income.

The pick up in growth has been, nevertheless, relatively unevenly felt across the continent. As displayed by the regional groupings in Table 1, two regions have shown so far a comparatively stronger growth momentum. First, countries in the Southern-Eastern part of Africa, where the resumption of growth started as early as in 1993 — that is, two years in advance from average. Second, the CFA countries in Western Africa, where growth briskly picked up, shortly after the devaluation of the CFA franc in 1994.

The performance of other groups has been rather mixed: non-CFA countries in the Western part of SSA, had consistently higher than average growth up to 1993, but then witnessed a loss of momentum up to 1996 due to the slowdown in Nigeria. Both non-CFA and CFA Central Africa countries have had erratic and considerably lower growth than average, whereas the pick up in growth has been much more awaited and hesitant. The response of the latter to the stimulus of the CFA franc devaluation has been quite disappointing up to 1996 — although in 1997 their growth performance was comparable to the Western African CFA zone countries. Finally, growth in South Africa — which, to a large extent, drives the growth prospects of the Southern group of countries — has progressively gathered steam starting in 1994, although a slowdown seems to be under way due to the exposure of the country to the ripples of the emerging country crisis — real GDP growth being forecast at 0.8 per cent in 1998.

It is noteworthy that the resumption of growth has been accompanied by progress in economic stabilisation, as shown by the steady fall in inflation in almost all geographical areas — with the exception of the yet unstable Central Africa non-CFA region. Both Western and Central Africa CFA-zone countries stand out for their resiliency to the inflationary consequences of the CFA franc devaluation, having cushioned the entire exchange-rate shock over just about two years. Although inflation has abated in Southern-Eastern African countries, more progress remains to

be done on that front if the resumption of growth is to be further consolidated — and so more in the Western Africa non-CFA countries which have been consistently more inflation-prone.

It is encouraging that the pick up in growth in the two more dynamic areas (Western Africa CFA and Southern-Eastern Africa) has gone along with an increase in investment. Though still remaining low comparatively to the fast-growing developing countries historical record, investment-to-GDP ratios in these two areas have increased by two to three percentage points since 1992-93. This suggests that the resumption of growth has not just stemmed from increased capacity utilisation but is, to some extent, being supported by a build up of productive capacity which, if further enhanced, can put these economies on a sustained path of faster growth.

This stronger investment performance reflects the improvement in growth prospects due to the progress made in macroeconomic stability and in removing major macroeconomic policy imbalances. It is telling that in both Western and Central Africa non-CFA countries, where inflation and current account imbalances have remained unchecked, the investment ratio remained stagnant or has even fallen. Further progress in increasing the investment ratio will certainly be conditional upon consolidating macroeconomic stability. Nevertheless, it will require also a steady increase in saving rates if unsustainable external positions are to be prevented from taking root.

Table 1. **Recent Macroeconomic Performance in Africa**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
GDP Growth										
Sub Saharan Africa[1]	2.2	1.9	1.4	2.4	2.2	4.0	5.2	5.2	3.7*	4.7*
OECD	2.8	1.0	1.9	1.2	2.9	2.2	3.0	3.2	2.2*	1.7*
Dev Countries	4.0	5.0	6.6	6.5	6.7	6.1	6.6	5.8	2.3*	3.6*
					CFA-West					
GDP Growth	1.0	1.3	1.0	-1.2	2.8	5.7	5.7	5.2		
Inflation	0.0	0.5	1.2	1.0	26.4	11.8	4.1	2.3		
Investment ratio	12.3	11.9	10.8	11.8	13.4	15.5	15.8			
Current account	-7.5	-7.0	-6.8	-7.1	0.4	-3.5	-2.5			
					CFA-Central					
GDP Growth	-2.7	2.0	-2.5	-2.6	-0.6	2.9	3.8	5.8		
Inflation	1.7	2.6	-1.2	-4.3	32.3	13.1	3.9	3.1		
Investment ratio	16.9	17.4	16.0	18.0	20.2	17.6	20.4			
Current account	-3.2	-3.3	-2.8	-8.8	-5.9	-3.8	-5.8			
					West-NCFA					
GDP Growth	6.4	3.9	2.5	3.2	1.8	2.6	3.0	5.6		
Inflation	13.5	16.4	31.7	38.3	37.2	47.8	26.3	5.5		
Investment ratio	14.8	20.7	23.8	17.2	16.3	16.3	17.9			
Current account	13.1	2.9	5.1	-4.8	-7.8	-10.8	6.7			
					Central-NCFA[2]					
GDP Growth	-2.3	-1.2	5.6	1.9	2.1	4.0	4.3	5.6		
Inflation	53.4	146.3	148.4	119.7	159.1	80.3	112.2	31.1		
Investment ratio	9.4	7.4	7.5	9.2	9.0	9.1	8.6			
Current account	-4.5	-7.2	-8.9	-2.5	-7.4	-4.6	-9.0			
					Southern-Eastern					
GDP Growth	3.7	2.2	-0.5	5.7	3.3	4.9	7.6	4.6		
Inflation	19.8	23.3	28.3	21.9	19.7	15.0	10.7	13.0		
Investment ratio	17.5	16.5	17.2	18.3	18.0	18.0	19.0			
Current account	-6.8	-7.5	-6.7	-5.7	-6.1	-5.4	-4.9			
					South Africa					
GDP Growth	-0.5	-1.0	-2.6	1.5	2.8	3.1	3.3	2.2	0.8*	2.2*
Inflation	13.5	14.2	13.0	9.3	8.6	8.2	7.2	8.6		
Investment ratio	20.6	19.9	18.9	19.5	23.1	25.1	24.0			
Current account	1.9	2.0	1.5	1.6	-0.3	-2.1	-1.6			

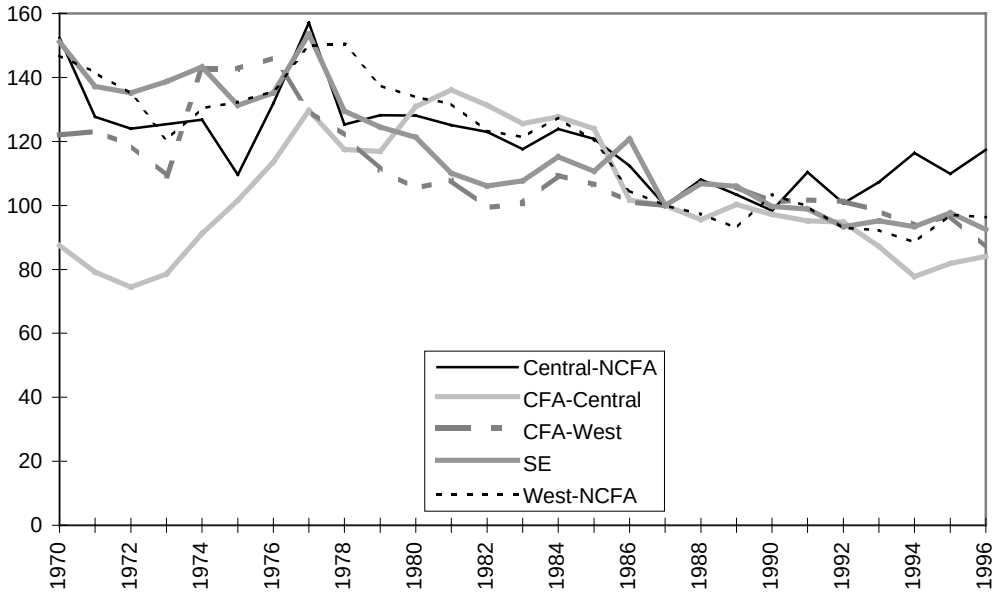
[1] Excluding South Africa; [2] Excluding Angola; * Projections

Note: Sub-Saharan Africa growth and regional figures are computed as weighted averages by using country shares in SSA GDP as weights. The composition of each geographical group is given in Table 3, Annex A2.

Sources: Authors' calculations from IMF and World Bank data; IMF World Economic Outlook; OECD Economic Outlook.

The ongoing change in the underlying factors of Africa's economic recovery can be further confirmed from Figure 1, which shows the long-run trends in terms of trade by regional country groups.

Figure 1. **Terms of Trade by Region**



Source: OECD Development Centre

As it can be observed, contrary to the investment-boom led growth episodes of the 1970s, which stemmed from a temporary improvement in the terms of trade, the current growth upsurge has come in a setting of non improving (or even declining) terms of trade for almost all African regions — with the exception of Central African non-CFA countries and some Western Africa countries. This is in sharp contrast with the situation in the 1980s, when the reversal in the upward trend in the terms of trade was seen as the main factor behind the debt crisis and the worsening of Africa's growth performance. The surge in growth despite the declining trend in the terms of trade testifies for the improved ability of, at least some, African economies to deal with adverse shocks and external volatility. It suggests that macroeconomic stabilisation and the reforms implemented in recent years may have started to pay off.

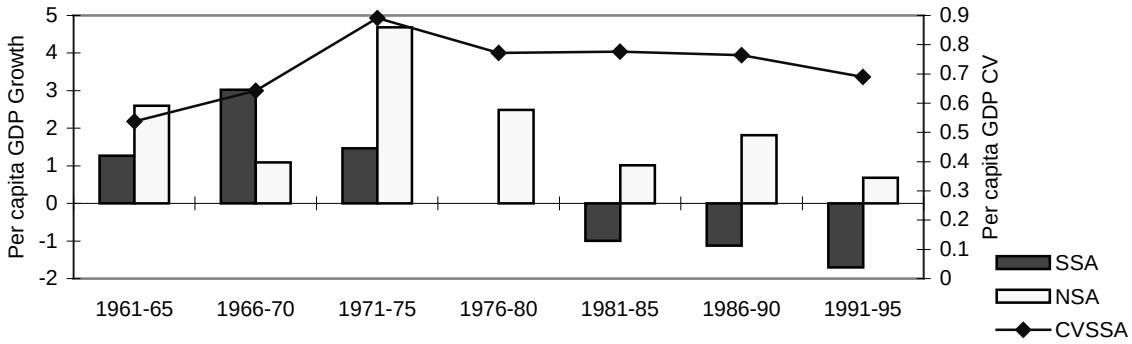
III. LONG-RUN GROWTH TRENDS IN AFRICA: AN OVERVIEW

The underlying change in performance with respect to the past decades becomes even more salient if looked at from a long-run perspective that points to the explanatory factors of Africa's failures in development.

Country Economic Performance in Retrospect: A Negative-sum Game?

Since the beginning of the 1960s, when most African countries became independent, Africa has been characterised by a two-tier growth regime. Growth of per capita GDP has been positive and relatively steady in Northern Africa, South Africa and some SSA countries like Mauritius, leading to a continuous improvement in living standards (see NSA countries in Figure 2). In contrast, after a short-lived period of fast growth during the 1960s, Sub Saharan Africa countries (SSA in Figure 2) witnessed a continuous slowdown in growth, which led to a diminishing level of per capita GDP starting from the beginning of the 1980s. The fall in per capita GDP was exacerbated in the first half of the 1990s, just before the recent upsurge in growth.

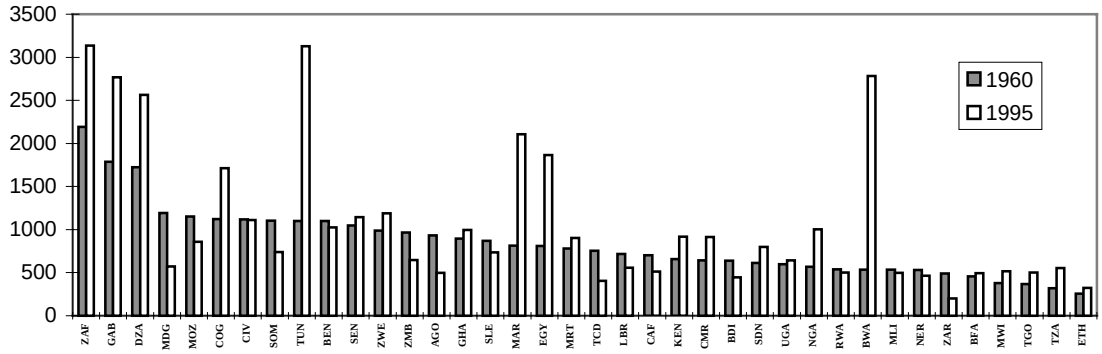
Figure 2. **Contrasting African Growth Performances**



Source: Authors' calculation

Moreover, it is noteworthy that this disappointing overall growth performance has been characterised by rising inequalities in per capita GDP across SSA economies. This is shown by the coefficient of variation of real per capita GDP (measured in PPPs at 1987 US$) at the end of each five-year period (CVSSA in Figure 2). This coefficient, starting from a level of 0.5 in 1965, had reached 0.7 in 1995, after exhibiting two distinct patterns of change: First, a sharp increase during the fast growth period up to the middle of the 1970s and subsequently a relative fall during the period of economic downturn. This suggests that if the economic recovery currently under way in Africa is to gain firm ground, it will likely lead to rising regional economic inequalities, due to the joint existence of strong performers and of laggards. Identifying the countries which could most likely lead the economic upturn is one of the aims of our study.

Figure 3. **Comparative Levels of Per Capita GDP**



Source: Authors' calculation

The discrepancies in growth performances among African countries have shown up in startling differences in levels of per capita GDP in the 1990s as compared to the beginning of the 1960s (Figure 3 — countries being sorted in decreasing order by the level of 1960 per capita GDP)[1]. As can be seen, the three higher income countries in 1960 (South Africa, Gabon and Algeria) had been caught up in 1995 by Tunisia and Botswana, which have been Africa's two strongest performers over the whole 35-year period. It is noticeable that Botswana achieved a six-fold increase in its per capita income starting from a level similar to the one of Rwanda, Mali or Niger, while these countries witnessed a decline in their per capita GDP. The cases of Morocco and Egypt also stand out, as these countries succeeded in more than doubling their per capita GDP, starting from a level slightly lower than the one of Angola, Ghana or Sierra Leone.

A second noteworthy stylised fact from this cursory glance at comparative growth performance is that the lower income countries in SSA appear to have done relatively better than the initially higher income ones. This holds true for Burkina Faso, Malawi, Togo, Tanzania and Ethiopia, which witnessed a rise in per capita income. On the contrary, countries like Madagascar, Mozambique, Somalia, Zambia and Angola, which were ranking comparatively well in 1960, suffered from prolonged periods of economic downturn and had a much lower level of per capita income in 1995.

Finally, despite the benefits of macroeconomic stability provided by the monetary union with France, CFA Franc zone countries have not shown a seemingly better growth performance than the rest of Sub Saharan Africa. Some of these countries (Congo, Côte d'Ivoire, Senegal, Cameroon, Burkina Faso, Togo) have managed to slightly increase — or at least keep from falling — the level of their per capita income. However, others, like Benin, Chad, Central African Republic, Mali and Niger, experienced more or less strong declines in per capita GDP.

The overall picture which emerges from Africa's long-run growth record is one with a handful of outstanding winners, which succeeded in starting a process of economic take-off, a small number of sluggish performers and, most notably, a large number of "losers" who found themselves in the mid-1990s with a level of per capita GDP much lower from the one they had started from at the beginning of the 1960s. Compared to the strong growth performance of other developing areas, this low-

growth African picture looks more like one of a negative-sum game for the continent as a whole. However, although correctly assessing the reasons for this overall growth shortfall is vital, understanding the factors behind the differences in country performance within Africa is equally important in order to assess the likelihood of an upsurge in growth across African economies in the years ahead.

Explaining the African Economic Downturn: Tales from the Empirical Evidence

Many comparative studies, which can be divided into two groups, have tried to explain the factors of long-run growth in Africa. One group consists of studies where African countries account only for a portion of the sample. These studies assume that the same model applies to African and non-African countries, with Africa's specific characteristics being captured by differences in the level of the explanatory variables. Most often they use a dummy variable "Africa", generally negative, which represents the factors of slower African growth not reflected by the model's other variables — see for instance Barro (1991), Levine and Renelt (1992), De Long and Summers (1992). Some of these studies are more focused on the specific position of African countries and try to explain their growth performance by the level of particular variables: for instance Sachs and Warner (1997) stress a lack of openness in policy, Easterly and Levine (1997), followed by Temple (1998), consider a high level of ethno linguistic fragmentation as a determinant of poor economic policies, while Guillaumont, Guillaumont Jeanneney and Brun (1998) focus on the influence of different kinds of exogenous instabilities on policies. Collier and Gunning (1997), taking into account a large set of factors, underline the weak productivity of investment which, in turn, in conjunction with high risk, explains the low level of private investment. Easterly and Levine (1998) have also assumed that policy choices are "contagious across borders" and that African countries suffered from neighbour countries not acting together.

The studies of the second group, which includes the largest number of studies trying to explain weak growth in Africa, are based on a sample that is exclusively African. They assume that the model applicable to Africa is possibly different from the one which is used for other countries, that is, African economies react to changes in the explanatory variables in a specific way. Thus this second type of model allows to take into account to a greater extent Africa's specific behaviour in explaining growth. However these studies do not strongly differ from those of the first category in the kind of explanatory variables used — see for instance Assane and Pourgerami (1994); Azam, Berthélemy and Calipel (1995); Fosu (1992); Fosu (1993); Ghura (1995*a*); Ghura (1995*b*); Gyimah-Brempong (1991); Hadjimichael *et al.* (1995); Lussier (1993); Ojo and Oshikoya (1995); Rodrik (1998); and Savvides (1995).

Of course, the second type of study does not explain why African growth has been less than elsewhere in the world. Nevertheless, this approach seems more appropriate for the question being examined here: why growth has been stronger and more sustainable in some African countries than in others. Therefore, the second type of study appears to be more suitable for treating specifically emerging African economies[2].

The explanatory variables used in cross-country growth studies represent structural factors as well as economic policies. Structural factors are either those which are independent from the policy choices made by individual countries, such as initial levels of per capita GDP, and the changes in the terms of trade, or those which change slowly and independently of short-run macroeconomic conditions, as human capital and core infrastructure. Economic policy variables notably include the budget deficit as a share to GDP, the rate of inflation, the premium on the exchange rate in the black market for foreign exchange, the real exchange rate index in level or in variation, the financial depth, indicators of openness to foreign trade, etc.. Various studies have shown that both economic policies and structural factors have been important determinants of growth shortfalls in Africa, even though there are a large number of indicators used and a significant dispersion of estimated coefficients. There has been a tendency in recent years to underline role the economic policies, especially the role of foreign trade openness (Sachs and Warner, 1997; Rodrik, 1998).

Most often cross-country growth models include the rate of investment among the explanatory variables. Then the policy variables and structural factors only explain the changes in total factor productivity growth. However, economic policy undoubtedly also influences the level of investment. Consequently, for estimating the total impact of economic policy on growth, it is also necessary to jointly estimate a rate of investment function.

Moreover many estimations include the rate of growth of exports, taken as a proxy of foreign trade openness. This variable is, however, itself the result of economic policy and of the influence of exogenous factors as well. It is thus useful, as for the rate of investment, to estimate a relationship for the rate of growth of exports, capturing the effect of both policy and structural variables. Accordingly, a peculiar feature of the present study is to simultaneously estimate a three-equation model, respectively explaining the rate of growth of per capita GDP, the investment-to-GDP ratio and the rate of growth of exports.

Let us note finally that few studies have dealt so far with the reasons why good or poor economic policies have been implemented. In the case of Africa such studies have given rise to hypotheses which lend themselves to controversy, for example, the thesis of ethno-linguistic fragmentation of Easterly and Levine (1997), revised by Temple (1998) and debated by Arcand, Guillaumont and Guillaumont, (1998), or the hypothesis of structural instabilities influencing economic policy put forward by Guillaumont, Guillaumont et Brun, (1998). On that same issue, Collier and Gunning (1997) put forward arguments about the dependency of governments upon support from their urban constituencies and the influence of kin groups on the management of the public sector. Without going into that essential question here, we tried to select the countries which, by the nature and sustainability of their macroeconomic policies and past economic performance, appear to have a good prospect of pursuing in the future policies as good those of the African countries that have been most successful. Then we try to measure what the contributions of these “good” policies to economic emergence could be between now and 2010.

IV. MODELLING LONG-RUN GROWTH MECHANISMS IN AFRICA

In our estimates we use a sample of 39 — out of 54 — African countries over seven five-year periods from 1961-65 to 1991-95. It contains 34 Sub-Saharan African countries (including Mauritius and Madagascar)[3], four Northern African countries (Algeria, Egypt, Morocco, Tunisia) and South Africa.

Per capita GDP growth (equation 1) is explained by:

— a catch-up effect inversely related to the income level (measured in logarithms) at the beginning of each period (LYC);

— the increase in productive capacity linked to (the logarithm of) the investment ratio (LIVY);

— the export growth rate (REX), which can be at the origin of economies of scale and productivity gains linked to access to an enlarged market. This has been shown to be an important explanatory factor of growth in Africa by Ghura and Hadjimichael (1996), as well as by Fosu (1990) and by Ojo and Oshikoya (1995).

— the macroeconomic policies — represented by the inflation rate (INF) and budget deficit as a percentage of the GDP (DEFY) — which can disrupt growth if, due to inappropriate management, they lead to unsustainable macroeconomic imbalances (*cf.* Fischer, 1993)[4];

— the distortions in relative prices, as measured by the real effective exchange rate misalignment (MIS), which are induced to a large extent by misconceived macroeconomic policies. Real exchange rate misalignment can hamper growth by diverting investment out of the more productive tradable goods sectors, toward the sheltered and less productive non tradable goods sectors. It can also disrupt growth by increasing real exchange rate and interest rate uncertainty related to the sustainability of the balance of payments position. Our measure of policy-induced real effective exchange rate misalignment is constructed using a real exchange rate reduced-form equation estimated by Sekkat and Varoudakis (1998) on a panel of 22 African economies, who in turn extended previous work by Cottani, Cavalo, Khan (1990) and by Ghura and Grennes (1993)[5].

Moreover, we take into account the sample's heterogeneity in two different ways: first, by fixed effects reflecting differences in the quality of institutions or different endowments in natural resources; and secondly, by a trend *(T)* for the seven countries of the sample in the middle/upper income level (Algeria, Botswana, Egypt, Mauritius, Morocco, South Africa, Tunisia) which are represented by the dummy variable *(D)*. Our working hypothesis is that these countries' growth could fit to a pattern of convergence towards the advanced economies, rather than a pattern of catching up proper to Africa[6].

The investment ratio (equation 2, in logarithmic form) depends, first, on a set of structural determinants:

— The rate of exposure to foreign competition (LEXFC), measured as (*cf.* OECD, 1997*a*), $X/Y+(1-X/Y)(M/D)$, where *X/Y* is the share of exports in GDP and *M/D* is the share of imports in domestic absorption (ratio of import penetration). It is assumed that exports are 100 per cent exposed to foreign competition, while the exposure of domestically sold production $(1-X/Y)$ is proportional to the imports' penetration ratio (*M/D*). A higher degree of exposure to foreign competition may increase investment by raising efficiency and competitiveness, leading thereby to an increase in the profitability of investment.

— The availability of core infrastructure, measured by the length of roads per capita (LRCP) and the availability of human capital, measured by the adult population's average number of years of schooling (LH), whose complementarity with productive capital can increase capital productivity and improve the incentives to invest.

— The financial sector's development, measured by the ratio of broad money supply to GDP (LMY), which can improve the mobilisation of savings and its allocation to investment.

We also introduce the distortions of capital markets, measured by the foreign exchange parallel market's premium (LBMP), which can hinder the mobilisation of resources for investment, as can political instability, represented by the average number of coups d'état and revolutions (REVC), which increases the risk of long-term projects, thus reducing their expected profit and weakening the incentives to invest. Finally, the fixed effects of the investment equation capture the differences between countries, in particular in natural resource endowments. These can be at the origin of major discrepancies in the "natural propensity" to invest.

A Model of Growth in Africa

Estimation method: Three-Stage Least Squares.

Estimation period: from 1961-65 to 1991-95, by five-year intervals.
Number of countries: 39; Number of observations: 212
Equations 1 and 2 have been estimated with country fixed effects.

Growth equation

$$RYC_{i,t} = \underset{(7.56)}{-0.429}\, LYC_{i,t-1} + \underset{(3.87)}{0.186}\, LIVY_{i,t} - \underset{(1.72)}{0.029}\, INF_{i,t} + \underset{(4.78)}{0.142}\, REX_{i,t} - \underset{(1.52)}{0.307}\, DEFY_{i,t} - \underset{(3.89)}{0.021}\, MIS_{i,t} + \underset{(1.52)}{0.018}\, D \cdot T \qquad (1)$$

Investment equation

$$LIVY_{i,t} = \underset{(7.26)}{0.742}\, LEXFC_{i,t} + \underset{(4.36)}{0.403}\, LRCP_{i,t} + \underset{(1.60)}{0.149}\, LMY_{i,t} + \underset{(1.31)}{0.066}\, LH_{i,t} - \underset{(1.74)}{0.091}\, LBMP_{i,t} - \underset{(2.61)}{0.183}\, REVC_{i,t} \qquad (2)$$

Export Growth equation

$$REX_{i,t} = \underset{(0.07)}{0.01} + \underset{(3.54)}{0.137}\, OECDGR_t + \underset{(6.00)}{0.649}\, RTOT_{i,t} + \underset{(1.46)}{0.109}\, LIVY_{i,t} \qquad (3)$$

In order to reduce the amount of arbitrariness in the choice of control variables for the simulations beyond the interval of estimation, we have completed the model with an equation for export growth (REX), (equation 3), which affects the per capita GDP growth rate. It is assumed, first, that African exports are "pulled" by the growth rate of the world economy, proxied by the growth rate of real per capita GDP of the OECD countries (OECDGR). Secondly, growth of exports is assumed to depend on the rate of change in the terms of trade (RTOT); their improvement increasing the profitability of production for export. Finally, the export growth rate is positively related to the investment ratio, which is conducive to an increase in the overall production capacity and, thereby, to an increase in export capacity.

The model's three equations were estimated simultaneously on the panel of the 39 African economies by the method of three stage least squares *(3SLS)*. That makes it possible to correct for the simultaneity bias likely to appear because of the reciprocity which characterises the relations. The instruments used include all the model's exogenous and lagged *variables (LYC, INF, DEFY, MIS, LEXFC, LRCP, LMY, LH, LBMP, REVC, OECDGR, RTOT, T),* as well as the 39 country dummy variables which define the fixed effects for equations 1 and 2. Because of missing data for some variables, the model was finally estimated on a unbalanced panel of 212 observations. The results are in the box above.

The estimated growth regression confirms, at reasonable levels of significance, the harmful incidence of macroeconomic imbalances as measured by inflation and the budget deficit in per cent of GDP. Moreover, it shows a strongly negative effect from real exchange rate misalignment[7] and a vigorous positive effect from investment and exports. Finally, it reveals an exceptionally rapid conditional convergence of the per capita GDP towards its equilibrium level[8]. The significant coefficient of the trend suggests that the seven middle/upper income African economies appear to have benefited from a "growth premium", probably linked to belonging to a more advanced "convergence club".

The investment regression confirmed the expected influence of structural factors related to exposure to foreign competition and to the availability of core infrastructure and showed weakly positive evidence as to the expected effect of human capital and financial development. It also confirmed the harmful impact of capital market related distortions and of political instability. Likewise, the regression for the growth of exports confirmed the expected influence of the terms of trade and growth of the world economy, and showed a slightly significant effect for the investment rate.

The model's predictive accuracy is reasonably satisfactory. In a static simultaneous simulation of the model's three equations inside the estimated interval, the squares of the correlation coefficients between the forecasts and the observed values of the endogenous variables are 0.54, 0.73 and 0.20 respectively for the per capita GDP growth rate, the investment ratio and the export growth rate.

We further checked the predictive accuracy of the model by looking at the discrepancies between observed and fitted values of per capita GDP growth rate for each of the last four five-year estimation intervals, corresponding to the prolonged

period of African economic downturn (see Figure 2) and for which data exists for the whole set of countries. Table 2 displays the summary results of the growth rate static simulation, separating the five fast-growing middle/high income countries (G5) of the sample which we will use as a "reference" hereafter (Botswana, Mauritius, Morocco, South Africa, Tunisia) and the thirty two other Sub-Saharan countries of the sample (G32) — Algeria and Egypt having been dropped out.

Table 2. **Three-equation Growth Model: In-sample Static Simulation**

G5	*Obs*	*Fitted*	*GapOF*			
1976-80	3.52	2.33	1.19			
1981-85	1.15	1.19	-0.03			
1986-90	1.86	2.24	-0.39			
1991-95	1.24	0.77	0.47			
G32[1]	*Obs*	*Fitted*	*GapOF*	*GrGap*	*Expl*	*Unexpl*
1976-80	0.07	-0.19	0.26	3.46	2.53	0.93
1981-85	-1.42	-0.93	-0.50	2.58	2.11	0.46
1986-90	-0.79	-0.48	-0.31	2.65	2.73	-0.08
1991-95	-1.87	-1.30	-0.56	3.11	2.08	1.03
Average				2.95	2.36	0.59

[1] Excluding Sierra Leone and Somalia.
Source: Authors' calculation.

As it can be observed, the model tracks the growth rates (both in levels and in turning points) fairly accurately, with a discrepancy (GapOF) lower than ± 0.5 percentage points (except for the high first-period under prediction for G5). Focusing in particular on the difference between the advanced five African countries and the rest of Sub-Saharan Africa (GrGap), it can be noted that the model explains a fairly large part of it during the 1980s. The model under predicts this difference by almost one percentage point in 1976-80 and 1991-95. Nevertheless, on average, the model explains about 80 per cent of the 2.95 percentage point difference in growth between the two groups of countries, which is fairly satisfactory and makes us reasonably confident in using the model for out-of-sample simulation purposes.

V. TOWARDS A SUSTAINED POLICY IMPROVEMENT IN AFRICA?

The estimated model was used in a simulation to determine the growth prospects in Africa to the year 2010. This forecasting exercise assumes that some of our group of 32 Sub-Saharan African countries will be in a position to maintain and extend the reforms undertaken since the end of the 1980s — or the first half of the 1990s, in the case of some more recent reformers — and carry in their wake other countries which have already made decisive steps to stabilise and reform their economies. This optimistic scenario, called "emerging Africa", will be compared to a baseline scenario, where growth in Africa is the outcome of an extrapolation of structural trends and economic policies observed during the two previous decades (1975-95). That will make it possible to evaluate growth trends with policies unchanged and the increase which can be expected from a sustained improvement of policies and structural reform.

An Indicator of "Emerging African Economies"

For this exercise, we assumed that one can identify the African economies which in the medium term have reasonable chances of improving their policies in a sustained way, following the example of the five advanced African countries with good performances in our sample (G5). For this purpose, we developed a composite indicator for "emerging economies" which could serve to identify countries which seem to have the ability for sustained improvement of their economic performances. This indicator is derived using principal components analysis, from an unbalanced panel of annual observations for 40 African economies[9]. The estimation period was 1970 to 1996 and the final sample contained 763 observations.

The composite indicator was constructed from a set of 14 variables, that were available on an annual basis, which contained:

— five macroeconomic and structural policy variables;

— seven variables for economic performance;

— two variables for domestic and external conflicts.

The five macroeconomic and structural policy variables are:

— the inflation rate (INF);

— the budget deficit as a percentage of the GDP (DEFY);

— the exchange rate premium on the parallel foreign exchange market (BMP);

— our measure of policy-induced real effective exchange rate misalignment (MIS);

— the degree of the economy's exposure to foreign competition (EXFC).

Our working hypothesis for this last variable is that the greater the integration to the world goods markets, as captured by our indicator of exposure to foreign competition, the less governments tend to introduce distortions which prevent structural adjustment and diminish potential growth. For example, the authorities will probably resort less to an overvalued exchange rate in an open economy with a low level of trade protection. That will also probably work in favour of a liberal regime for capital movements, which will improve the allocation of resources and, at the same time, subject the authorities' policies to market's discipline. Moreover, the authorities will probably be less inclined towards repression of the financial system by controlling interest rates or through selective allocation of credit to protected industries.

The seven indicators for economic performance capture levels, duration and volatility at the same time. They are:

— the growth rate of per capita GDP (RYC);

— the number of years with positive growth of per capita GDP during the previous ten years (YPOS);

— the number of consecutive years with positive growth during the same period (CYPOS);

— the number of years with low inflation (less than 10 per cent) during the previous ten years (YLINF);

— the number of years with high inflation (greater than 40 per cent) during the previous ten years (YHINF);

— the volatility of inflation (standard deviation) during the same period (INFV);

— the investment ratio (INVY).

Our working hypothesis is that environments marked by persistent inflation (YHINF high, YLINF low), by great instability (CYPOS low, INFV high), by low growth (RYC and YPOS low) and by a low propensity to commit resources in long-term projects (INVY low), will be unfavourable to a prudent and forward-looking management of macroeconomic policies with a view to promoting long-term stability. Moreover, such an environment may most likely prevent the authorities from carrying forward structural reforms whose benefits require the passage of considerable time.

The two indicators of conflicts are:

— the average number of coups and revolutions (REVC); and

— the average number of external conflicts (WAR).

A high level of domestic or foreign conflict prevents good management of public affairs and reduces the credibility, thereby the effectiveness, of policies being followed.

Our indicator of emerging economies has been constructed by using as weights the coefficients associated to the first principal component of these variables, which by itself explains nearly 25 per cent of the variance in the data. The coefficients of the first principal component for the 14 indicators are as follows:

Table 3. **Emerging Economies Indicator: Weights of the First Principal Component**

Policy variables	Coefficient	Performance variables	Coefficient	Stability variables	Coefficient
INF	0.554	RYC	-0.393	REVC	0.295
DEFY	0.240	YPOS	-0.640	WAR	0.325
BMP	0.551	CYPOS	-0.531		
MIS	0.453	YLINF	-0.488		
EXFC	-0.411	YHINF	0.676		
		INFV	0.550		
		INVY	-0.561		

Source: Authors' calculation.

As these estimates show, the first principal component makes it possible to distinguish between, on the one hand, economies/years with high inflation (possibly persistent and volatile), high budget deficits, persistent low growth, little exposure to foreign competition, strict capital controls, exchange rate overvaluation, low investment rates, domestic instability and/or external conflicts and, on the other hand, economies/years which, on the whole, do not exhibit these set-backs. Because of the clear-cut nature of this pattern of coefficients, this principal component can be considered as a fairly natural indicator of the chances of a sustainable improvement of policies and, thus, of the likelihood for economic take-off.

To make our indicator of emerging economies an increasing function of good economic policies and performance, we used the negative value of the composite indicator, made by weighting the 14 base indicators with the above coefficients. As principal components analysis implies the normalisation of the original variables into standardised variables, the mean and the standard deviation of the composite indicator are 0 and 1 respectively.

Figure 4 shows the evolution of this indicator for the sample's five advanced countries with good performances. As can be seen, the indicator for these countries has high positive values, in particular during the 1970s and the beginning of the 1980s, which correspond to the initial phases of their take-off. South Africa was an exception from the mid-1980s but shows clear improvement as from 1993, which justifies its inclusion in the group of reference countries. Table A1 of the Annex shows the evolution of our composite indicator for successive sub-periods for the individual countries and for geographic and economic groups of countries. It also shows the percentage of years when the indicator was positive during the 1985-95 period, the number of *consecutive* years when the indicator was improving, and the indicator's average change during the most recent period, 1992-95.

The latter are additional criteria for evaluating the capacity of countries to make sustainable improvements in their policies. In our exercise we identified "emerging countries" of Africa as those which reasonably fulfilled the set of preceding criteria, or a large number of them. Those were countries:

— whose policies and economic environment in the 1985-95 period were systematically above the African average of zero (high percentage of positive values of the indicator);

— which demonstrated a sustained ability for improving these performances (many consecutive improvements of the indicator);

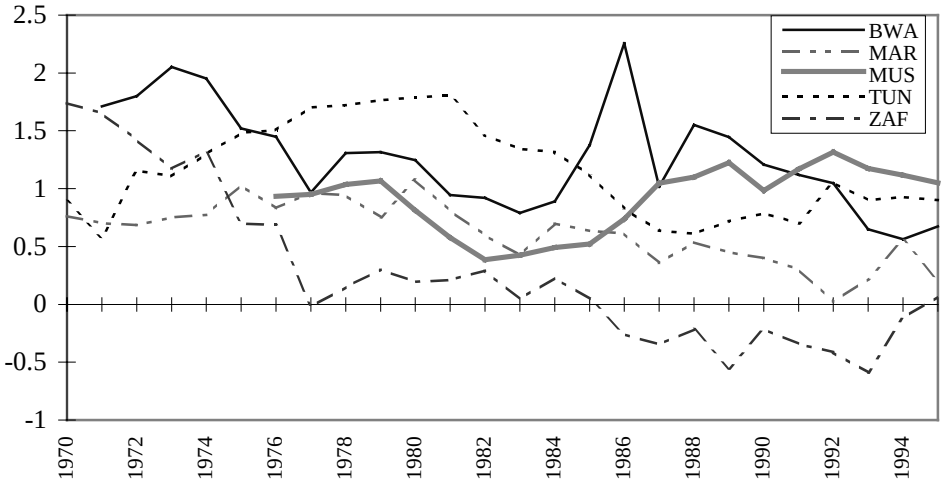
— which have undergone policy improvements during the most recent observation period (1992-95).

We gave this last criterion an especially large weight because of the prospective character of our simulation of growth. The resultant classification obviously entails some arbitrariness of judgement, since the countries studied did not fulfil all the required criteria and had quite varied profiles.

Figure 5 illustrates, by way of example, the profiles of some countries which fulfil these criteria in differing degrees and, thus can be considered emerging economies. Ghana and Uganda are classic examples of emerging countries outside the CFA zone which experienced a continuing decline of their performances until the mid-1980s (Ghana) or the end of the 1980s (Uganda), but which afterwards implemented vigorous reforms which led to a clear improvement of their performances. That is seen in the continual upgrading of our indicator for these two countries.

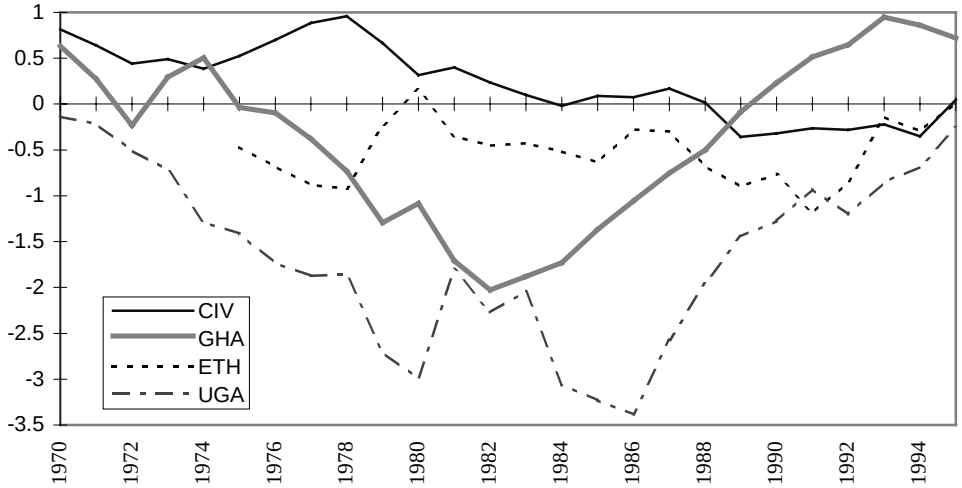
Côte d'Ivoire is a country of the CFA zone which experienced good performances until the end of the 1970s, but whose economic situation sharply worsened because of an inappropriate response to changes in the terms of trade. One can see that, compared to countries outside the CFA zone, the deterioration shown by our indicator is lower for the Côte d'Ivoire and for the other countries of the CFA zone, because of the macroeconomic discipline and the low distortions of capital markets due to their membership in a regional monetary union pledged by France. Despite the indicator's negative value for Côte d'Ivoire since the end of the 1980s, we have classified this country in the group of emerging economies following the perceivable progress made since the devaluation of the CFA franc in 1994, which can be seen in the indicator's improvement.

Figure 4. **Five Benchmark Countries**



Source: Authors' calculation

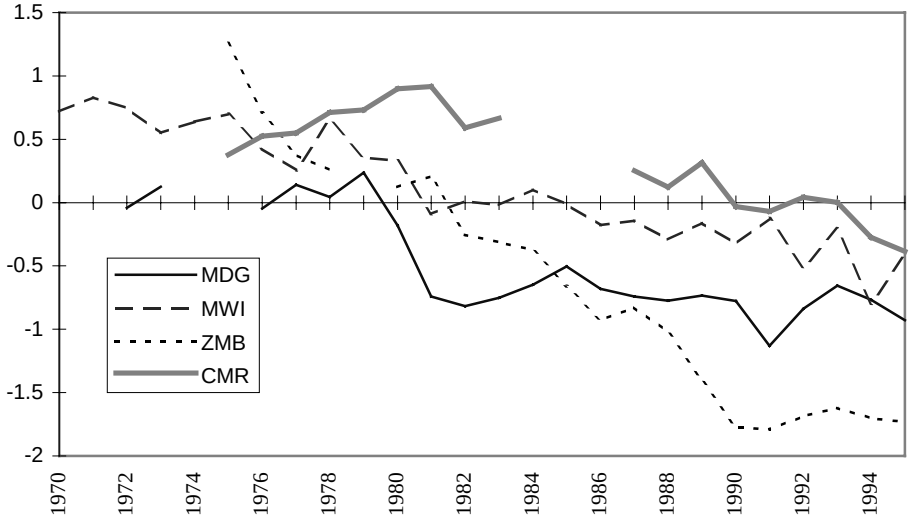
Figure 5. **Profiles of Emerging Economies**



Source: Authors' calculation

Ethiopia provides an example of a country whose systematically negative performances would normally make it ineligible for the group of emerging economies. We decided to include it in this group because of the indicator's substantial improvement since 1990-91 (equivalent to more than one standard deviation), which allows the country to attain the African average on the same basis as Côte d'Ivoire and Uganda[10].

Figure 6. **Profiles of Non-Emerging Economies**



Source: Authors' calculation

Figure 6 illustrates some counter-examples of countries which cannot be considered emerging economies based on our criteria. They are countries which show a continual worsening — greater for Zambia or less for Madagascar — of their performances and economic policies, without any visible signs of improvement. Other countries of this group, like Malawi, also show a continual decline, although less pronounced, interspersed with occasional reversible improvements. Such a "stop and go" profile also cannot guarantee a sustainable improvement of policies in the years to come. Some countries, especially in the CFA zone, like Cameroon, show performances higher than the average during most of the period, but have experienced continuous decline in the 1990s, without any visible sign of improvement until 1995.

Based on these considerations, we selected 14 Sub-Saharan African countries (out of the 32 in the sample) showing a tendency towards a sustainable improvement of their policies which opens the prospect of a sustainable take-off during our forecast period:

— half of these potentially emerging countries belong to the CFA zone: Benin, Burkina Faso, Côte d'Ivoire, Gabon, Mali, Senegal, Togo;

— the rest of them are outside the CFA zone: Ghana, Ethiopia, Kenya, Mauritania, Mozambique, Uganda, Zimbabwe.

From a geographic standpoint, a first development hub containing eight of these emerging economies (of which six belong to the UEMOA) is located in West Africa. Central Africa, with the exception of Gabon, shows no tangible sign of improvement that would allow us to identify emerging economies. Another pole of economic take-off seems to be arising in Southern and East Africa from economies already advanced (South Africa), countries having made perceptible progress

(Botswana) and potential emerging countries (Zimbabwe, Uganda, Kenya, Mozambique, Ethiopia). This last set could possibly be enlarged and bring about geographic contiguousness at the same time, by countries like Tanzania, which are relatively close to the selection threshold of our indicator. This geographic grouping of emerging economies, it should be observed, is in accordance with what more casual inference would have suggested, on the basis of the analysis of Table 1 displaying recent regional macroeconomic performance.

VI. A PROJECTION OF UNDERLYING GROWTH TRENDS IN AFRICA

In order to get a benchmark for the analysis of medium/long-term growth trends in Africa, we performed a baseline simulation of the model consisting of equations 1-3 beyond the interval of estimation, covering the three sub-periods 1996-2000, 2001-05 and 2006-10. The simulation starts at the last estimation period (1991-95) and is dynamic for the three following sub-periods. This baseline scenario is conceived as an extrapolation of the trends in policy and structural variables observed in various countries during the two previous decades.

Assumptions of the Baseline Growth Scenario

We already know that economic trends observed in the past point to a major difference between the five more advanced economies with good performances (G5) and the group of 32 other countries in the sample (G32). While there was a sustained improvement in the performances of the five benchmark countries, there was a general economic downturn in the 32 other countries of sub-Saharan Africa. The subdued economic performance of Africa is tracked by the model's control variables, which capture the general thrust of macroeconomic policies, major economic distortions, as well as structural imbalances and political instability of SSA economies. A simulation of the model by extrapolating the trends of these control variables will provide an idea of Africa's possible condition up to the year 2010 if there is no lasting improvement in economic policies.

In the baseline scenario, the various control variables for the 5 reference countries and the 32 sub-Saharan African countries were extrapolated in a way which reproduces their long-term trend while respecting each variable's specific pattern. These projections are summarised in Table 4, which displays the period-average levels of each variable for the G5 countries, as well as for the 14 "emerging" SSA countries (G14) — according to the "search procedure" of the previous section — and the remaining 18 other SSA countries (G18).

More specifically, in the case of the 32 SSA countries (G14+G18) the various control variables have been dealt with as follows:

— Trends in the accumulation of human capital (H) and in road infrastructure (RCP), were extended based on the average rate of change observed in 1985-95.

— The indicator of financial development (MY), was extended on the basis of more long-term trends, from the average rate of change during the 1970-95 period.

— The indicator of exposure to foreign competition (EXFC), was extended on the basis of the average rate of change observed during the 1975-95 period.

— Inflation (INF) was assumed to be constant and equal to its average level during the 1970-95 period — excluding non recurring hyperinflation episodes. If the inflationary trend thus calculated was higher than in the most recent period, 1991-95, it was replaced by its level during the latter period.

— The budget deficit as a share of GDP (DEFY) was assumed to be constant and equal to its average level during the 1980-95 period. If the budget deficit thus calculated was greater than in the most recent period, 1991-95, it was replaced by its value during the latter period, provided its trend was falling.

— The exchange rate premium on the parallel foreign exchange market (BMP) was based on the average value observed during the last sub-period of estimation (1991-95), by using as a ceiling the premium observed in Ethiopia (171 per cent), which was the fifth highest observed in Africa during the same period.

— Real exchange rate misalignment (MIS) was assumed constant and calculated as the average value observed during the 1985-95 period (except for Zaire, where the 1960-95 period was used), taking into account that in this more recent period most of SSA countries have been attempting to correct imbalances related to RER misalignment.

— The change in the terms of trade (RTOT) was assumed constant and was based on the average rate of change observed during the 1975-95 period — which witnessed both upward and downward swings in the terms of trade.

— Average annual growth of per capita GDP of the OECD countries was assumed to be constant and equal to 2.5 per cent.

— The indicator of domestic political instability (REVC) was assumed to be constant, based on its average value during the 1970-95 period.

It should be noted that for some countries in the sample which experienced major macroeconomic imbalances during the last sub-period, 1991-95, the mere fact of extending the average trend observed during a longer time period involves a fairly appreciable improvement of policies. For example, this is the case of Angola, Somalia and the former Zaire which experienced severe episodes of hyperinflation during the last sub-period. Although this improvement may not be warranted in the case of some countries, it would not be wise to extend previous trends over a 15-year period ahead under conditions of extreme economic instability, in view of the risks of economic and social collapse involved. The improvement in macroeconomic policies, over the last estimation period 1991-95, induced by our extrapolation method, is evidenced in Table 4 by the lower levels of inflation, budget deficit and exchange rate distortions for both G14 and G18 countries as from 1996-2000.

In the case of the five benchmark countries (G5), the same hypotheses were made for the trends in the structural variables over the 1996-2010 period. However, our working assumptions were more favourable for the macroeconomic policy variables, relative price distortions and changes in the terms of trade. We, in this way, have taken into account that these countries have demonstrated an ability to adopt sustainable reforms and, moreover, that their increasing economic diversification could cushion them against a possible worsening of their terms of trade.

Therefore, we assumed, first, a gradual decline of inflation, falling from 4 per cent, to 3 per cent and finally to 2 per cent (except for individual more favourable outcomes already achieved in 1990-95). Second, it was assumed that the budget was balanced, except when it was already in surplus. Third, the exchange rate premium on the parallel foreign exchange market was replaced by the one (negligible) observed in the CFA zone during 1991-95. Fourth, real exchange rate misalignment was assumed to be halved in each time period, being eliminated by 2006-10. Finally, it was assumed that the terms of trade remained constant, except when an upward trend had occurred in the past.

Table 4. **Projections of Control Variables for Growth Simulations**

Group	Period	INF	DEFY	BMP	RCP	MY	H	RTOT	EXFC	MIS	REVC	OECD GR
G5	**1991-95**	**8.48**	**0.53**	**6.10**	**3.90**	**0.53**	**5.21**	**-2.32**	**0.64**	**0.10**	**0.08**	**0.93**
	1996-00	4.00	-2.14	2.53	4.39	0.61	5.83	2.11	0.67	0.05	0.00	2.50
	2001-05	3.00	-2.14	2.53	4.98	0.70	6.53	2.11	0.71	0.03	0.00	2.50
	2006-10	2.00	-2.14	2.53	5.88	0.82	7.34	2.11	0.75	0.00	0.00	2.50
G14	**1991-95**	**13.50**	**4.85**	**20.36**	**3.06**	**0.26**	**2.72**	**0.25**	**0.46**	**0.19**	**0.19**	**0.93**
	1996-00	10.71	2.93	20.36	2.76	0.30	3.26	-7.87	0.47	0.17	0.14	2.50
	2001-05	10.71	2.93	20.36	2.49	0.35	3.93	-7.87	0.49	0.17	0.14	2.50
	2006-10	10.71	2.93	20.36	2.25	0.42	4.76	-7.87	0.51	0.17	0.14	2.50
G14	**1991-95**	**13.50**	**4.85**	**20.36**	**3.06**	**0.26**	**2.72**	**0.25**	**0.46**	**0.19**	**0.19**	**0.93**
Impr	1996-00	4.72	-0.35	2.53	3.33	0.32	3.26	0.51	0.52	0.10	0.00	2.50
	2001-05	2.93	-0.35	2.53	3.66	0.40	3.93	0.51	0.59	0.05	0.00	2.50
	2006-10	2.01	-0.35	2.53	4.13	0.50	4.76	0.51	0.67	0.00	0.00	2.50
G18	**1991-95**	**91.63**	**6.06**	**64.83**	**3.43**	**0.22**	**2.80**	**-1.00**	**0.41**	**0.40**	**0.42**	**0.93**
	1996-00	29.99	5.31	38.92	3.14	0.23	3.34	-4.89	0.42	0.31	0.28	2.50
	2001-05	29.99	5.31	38.92	2.89	0.25	4.01	-4.89	0.43	0.31	0.28	2.50
	2006-10	29.99	5.31	38.92	2.69	0.26	4.84	-4.89	0.44	0.31	0.28	2.50

Note: Observed values of the control variables are denoted by bold characters. The grey panel refers to the "emerging Africa" scenario, involving a policy improvement in the G14 countries, to be discussed in section VII.

Source: Authors' calculations.

The same working assumptions — reflecting the sound policy stance of the 5 benchmark countries (G5) — were made for the group of 14 emerging economies (G14) in the policy improvement scenario to be discussed below (see section VII). The resulting average trends of the control variables are displayed in the grey panel of Table 4. When compared to the 18 other SSA countries, the 14 countries that qualified for our "emerging economies" group display significant progress in removing macroeconomic imbalances and lifting relative price distortions, as evidenced by the much lower levels, in 1991-95 and subsequent periods, of inflation, budget deficit, black market foreign exchange premium, as well as real exchange rate misalignment. On the basis of previous trends, they also exhibit a stronger potential for financial sector development (growth in MY), which might be viewed as the outcome of a less distorted policy toward the financial system. Moreover, political instability was much lower in the G14 countries, which could be a factor securing the implementation of more sound policies over the simulation period.

Nevertheless, the G14 “emerging economies” show similar weaknesses to the G18 countries in the levels of educational attainment and of core infrastructure — as can be seen from the declining ratio of roads per capita in both groups of countries. Moreover, both groups of countries face a worsening trend in the terms of trade, with the G14 countries being even more exposed to that risk. In comparison, the 5 benchmark countries display much more favourable structural features than the 32 SSA countries and, most importantly, show strong improving trends. This is evidenced by the upward trend in the core infrastructure indicator (RCP), the higher and improving level of educational attainment (H), the much higher and rising level of exposure to foreign competition (EXFC), and the twice as high and strongly increasing level of financial development (MY).

Cross-country Differences in Factors Affecting Growth Potential

The summary results of the model’s baseline simulation of average growth and investment rates for different groups of countries are reported in Table 5. The Table shows separately the simulated growth rates for the group of 14 potentially emerging economies (G14) and for the 18 other SSA countries (G18) which do not meet the criteria for sustained improvement of their performances. We also present the difference (GAPGR) between each group’s growth rate and the average growth rate of the five benchmark countries (G5).

Moreover, by using the estimated coefficients from the growth equation (1), the investment equation (2) and the export equation (3), we first computed a reduced form equation for growth performance and, next, we decomposed the corresponding growth gap to the G5 countries into five components (details of this calculation are given in Annex A1):

— A gap linked to factors other than policies taken into account by the model (GAPNP). This component picks up:

  i) the influence of the initial conditions represented by the per capita income level at the beginning of each period (that is, by the catching up factor in the growth equation LYC_{t-1});
  ii) the influence of the fixed effects of the equations for growth and investment;
  iii) the “growth premium”, represented by the time trend for the five benchmark countries in the growth regression.

— A gap arising from differences in macroeconomic policies and related distortions (GAPM), which reflects the combined negative effects of:

  i) inflation and budget deficits, as shown in the growth equation;
  ii) the real exchange rate misalignment and of the exchange rate premium in the parallel foreign exchange market.

— A component reflecting structural differences related to foreign trade and to

the development of the financial sector (GAPSTF), as captured by the effects in the investment equation and the export equation of:

i) the exposure to foreign competition (LEXFC);

ii) the rate of change in the terms of trade (RTOT);

iii) the financial depth measured by the broad money supply as a percentage of GDP (MY).

— A component picking up structural differences related to capital shortages (GAPSCS), as captured by the effects in the investment equation of:

i) the level of educational attainment (LH); and,

ii) the availability of core infrastructure (LRCP).

— A gap arising from differences in political stability (GAPREV), which reflects the negative effect of political unrest on investment (REVC).

Detailed results of this decomposition by country are presented in Table 2 of Annex A2.

Table 5. **Baseline Simulation — Summary Results**

period	GR5	GR32	GAPGR	GAPNP	GAPM	GAPSTF	GAPSCS	GAP REV	INV5	INV32
1991-95	0.77	-1.23	-2.00	1.72	-1.05	-1.84	-0.67	-0.17	25.48	16.57
1996-00	2.20	0.50	-1.70	2.23	-0.66	-2.16	-0.96	-0.15	28.87	17.15
2001-05	2.08	0.30	-1.78	2.61	-0.67	-2.32	-1.24	-0.15	32.38	17.33
2006-10	2.05	0.19	-1.86	3.02	-0.69	-2.47	-1.56	-0.15	36.72	17.57
Avg 96-10	***2.11***	***0.33***	***-1.78***	***2.62***	***-0.67***	***-2.32***	***-1.25***	***-0.15***	***32.66***	***17.35***
period		GR14	GAPGR	GAPNP	GAPM	GAPSTF	GAPSCS	GAP REV		INV14
1991-95		-0.32	-1.09	1.74	-0.38	-1.58	-0.79	-0.08		19.68
1996-00		0.50	-1.70	1.86	-0.47	-1.90	-1.08	-0.11		20.16
2001-05		0.34	-1.74	2.23	-0.48	-2.01	-1.38	-0.11		20.49
2006-10		0.25	-1.80	2.63	-0.50	-2.11	-1.71	-0.11		20.86
Avg 96-10		***0.36***	***-1.75***	***2.24***	***-0.48***	***-2.01***	***-1.39***	***-0.11***		***20.50***
period		GR18	GAPGR	GAPNP	GAPM	GAPSTF	GAPSCS	GAP REV		INV18
1991-95		-2.14	-2.92	1.71	-1.72	-2.10	-0.55	-0.25		13.45
1996-00		0.50	-1.70	2.61	-0.85	-2.43	-0.83	-0.20		14.14
2001-05		0.26	-1.82	2.98	-0.87	-2.63	-1.11	-0.20		14.18
2006-10		0.13	-1.92	3.41	-0.88	-2.83	-1.42	-0.20		14.27
Avg 96-10		***0.30***	***-1.81***	***3.00***	***-0.87***	***-2.63***	***-1.12***	***-0.20***		***14.20***

Source: Authors' calculations.

As can be seen, the baseline simulation shows robust growth prospects of per capita GDP for the five benchmark countries with sound economic policies. Their growth rate settles at an average of 2.1 per cent for the whole 1996-2010 period. In contrast, average growth of the 32 Sub-Saharan African countries indeed recovers in

relation to the slowdown of 1991-95, but still remains at a disappointing 0.3 per cent level on the whole 1996-2010 period. Moreover, it shows a slight downward trend over time. At the same time, the average investment rate rises steadily in the G5, being considerably above 30 per cent at the end of the period and on average remains twice as high as in the group of 32 economies. On the contrary, the investment rate in the latter group of countries remains pretty constant, at the rather low level of 17 per cent of GDP.

The difference in growth between the five benchmark countries and the 32 other African economies turns out to be relatively stable at an average of -1.8 percentage points during the whole 1996-2010 period. It involves a cumulative increase of about 30 per cent during the 15-year period in the (already considerable) difference in the average per capita income of the two groups of countries. It should be noted that the out-of-sample forecast growth gap is only slightly lower than the gap predicted by the model within the estimation period (2.36 per cent, see Table 2), confirming that the baseline scenario can be seen as a reliable benchmark of the underlying growth trends in Africa.

As can be seen, the initial conditions (mostly reflecting a low initial income level, which gives rise to a strong catch-up effect) leads to a difference in growth highly favourable to the group of 32 countries at an average annual rate of about 2.6 per cent during the whole period. In theory, such a rate of growth could be achieved by these countries if their macroeconomic policies, trade and finance-related structure, human capital and infrastructure endowments and political stability were similar to those of the five benchmark countries.

However, their structural weaknesses — arising from their low trade openness, weak financial sectors, adverse terms of trade trends, as well as shortages of human capital and core infrastructure — jointly lead to a large loss of growth potential, put at 3.6 per cent on average during the forecast period. The adverse growth incidence of these structural factors works itself out mainly by depressing the investment ratio, which was seen to be much lower in the G32 countries. Moreover, growth prospects are curtailed further, due to unbalanced macroeconomic policies, by an estimated 0.7 per cent. This effect alone involves a cumulative loss in real per capita GDP on the order of 10 per cent for the whole 15-year period. Finally, by lowering further the investment ratio, political instability leads to an extra annual loss of growth potential estimated at around 0.15 per cent.

All in all, based on the extrapolation of previous trends, the group of 14 potentially emerging countries (G14) shows relatively poor growth prospects, resembling that of the group of 18 other countries (G18). Two differences should be noted, however. First, the potentially emerging countries show an investment ratio significantly higher than the others (20.5 per cent compared to 14.2 per cent on average for 1996-2010). Second, the difference of growth linked to inappropriate macroeconomic policies and structural imbalances related to trade and finance remains less in the G14 than in the G18 countries. The average annual growth gap for 1996-2010, arising from both these factors (GAPM+GAPSTF), amounts to -2.5 per cent in G14 against -3.5 per cent in G18.

This better performance reflects progress in macroeconomic stabilisation already achieved by the emerging economies, which warrants their inclusion in this group. Nonetheless, as the income level of the emerging economies turns out to be comparatively higher, the growth gap related to their initial conditions is less favourable (2.2 per cent against 3 per cent in G18) and, as a result, the difference in growth in relation to the G5 countries finally becomes the same as that of the non-emerging countries. Moreover, it is noteworthy that the loss of growth arising from capital shortages (GAPSCS) is slightly *higher* in G14 than in G18 countries, suggesting that progress achieved so far by emerging economies is linked to macroeconomic stabilisation and structural reform, rather than to initial advantages arising from high educational attainment or from good core infrastructure.

The upshot of this is that, given ongoing progress in macroeconomic stabilisation, if the economies we qualified as emerging are to step forward, efforts should be primarily focused in the years ahead on removing existing impediments to outward economic orientation and to the development of their financial sectors. This would allow these countries to sustain and further strengthen the observed upward trend in investment, which is a powerful factor of enhanced growth prospects.

Furthermore, it should be noted that the differences between the G14 and the G18 economies turn out to be more impressive if one focuses on the first (in-sample) simulation period 1991-95. As can be seen, the growth gap for the emerging economies is only -1.1 per cent, against -2.9 per cent for the G18 countries. Moreover, the annual drag on growth stemming from macroeconomic imbalances amounts to only -0.4 per cent in the former countries, against -1.7 per cent in the latter. As already mentioned, the simulated improvement in the G18 countries in the three periods ahead stems from extending forward past policy trends, observed on a longer term basis, which are more sustainable than the policy stance of the 1991-95 period. Moreover, their growth gap to the G14 countries is further lowered by the fact that, in this baseline scenario, the latter fail — by definition — to carry forward further reforms that would enable them to achieve a pattern of growth similar to the one of the five benchmark countries.

As Table 2 in Annex A2 shows, the countries displaying — on the baseline — above average growth performance among the emerging economies group (G14) are Mali, Uganda, Côte d'Ivoire, Zimbabwe, Mauritania and Burkina Faso. Much of this good performance arises from above average progress in macroeconomic stabilisation, as shown by the low levels of GAPM in the case of Mali, Mauritania and Burkina Faso. Countries which — on previous trends — display, in addition, above average potential for financial development and outward orientation are Mali, Côte d'Ivoire, Zimbabwe and Mauritania. Among those countries, Côte d'Ivoire, Zimbabwe and Mauritania present some further strengths, as their growth prospects turn out to be less hindered by human capital and infrastructure shortages and, in addition, they seem to be able to take advantage from a setting of political stability. Other emerging economies that seem to be comparatively well-placed with respect to human capital and infrastructure endowments are Gabon, Kenya and Ghana.

Among the group of 18 countries that lag behind, it is noteworthy that former Zaire, Angola as well as, to a lesser extent, Burundi and Liberia show growth rates that are higher or comparable to simulated growth for the emerging countries. However, this is largely due to catching up effects linked to the extremely low level of per capita income reached by these countries at the beginning of the 1990s, following a prolonged period of slump. For instance, in the case of the former Zaire, potential growth over 1996-2010 (as measured by GAPNP) could be on average 6.5 percentage points above the growth rate of G5 countries, once all macroeconomic and structural imbalances have been removed (that is, after setting GAPM+GAPSTF+GAPSCS+GAPREV=0). However, the drag on growth arising jointly from macroeconomic policy mismanagement and from trade and finance-related structural imbalances, amounts to 4 per cent on an annual basis, which means a close to 50 per cent cumulative loss of per capita income over the entire forecast period. This gives an idea of the considerable burden on the — otherwise strong — growth prospects of some SSA countries that macroeconomic and structural policy imbalances may induce.

VII. A SCENARIO FOR GROWTH IN THE EMERGING AFRICAN ECONOMIES

In the last part of our simulation exercise, we assess the expected upsurge in growth following a sustained improvement of policies in the 14 potentially emerging African economies. To that end, we performed a second dynamic simulation of the model for the same period, under the working hypothesis that the 14 economies which qualified for the "emerging economies" group would be able to implement the "best practice" policies of the five benchmark countries and to carry forward the required reforms to fix their structural weaknesses. The trends in the control variables of the model, implicit in this "emerging Africa" scenario for the group of 14 SSA countries, are summarised in the grey panel of Table 4. A basic "emerging Africa" scenario is discussed first, followed by two other variants in the second sub-section.

It was, from the outset, assumed that the 14 emerging countries would follow similar macroeconomic policies as the five benchmark countries. This involves identical slowing of inflation over 1996-2010, a balanced budget, an exchange-rate premium on the parallel foreign exchange market identical to the CFA zone's, and removal of real exchange rate misalignment by 2006-2010. It was also assumed that there was no deterioration of the terms of trade. Moreover, both the depth of the financial sector and exposure to foreign competition were set to follow a pattern similar to those of the five benchmark countries at comparable earlier levels of economic development. It was further taken for granted that core infrastructure would be improved by increasing public investment, so that the ratio of total length of roads per capita gradually would return to the considerably higher ratio at the end of the 1970s. Trends in educational attainment remained unchanged from that in the baseline simulation. Finally, domestic political instability was assumed away.

Securing Benefits from a Sustained Policy Improvement: An Assessment

The summary results of this new simulation of the model are presented in Table 6 — which also reproduces from Table 5, for the sake of comparison, the baseline forecasts for the group of the 18 non emerging economies. The average growth rate for the group of 32 SSA countries for the 1996-2010 period is now 1.1 per cent, the upsurge in growth with respect to the baseline scenario (see Table 5) being estimated at 0.8 per cent. The associated average increase in the investment ratio is slightly higher than 5 percentage points and, what is more, contrary to the baseline, the investment ratio keeps rising over the whole forecast period. The cumulative increase in per capita income for the 15-year period over the baseline is about 12 per cent. This, at first sight, small pay-off is due to the relatively limited number of African economies which take part in this economic recovery[11].

Focusing on the group of 14 emerging countries, their growth rate reaches 1.9 per cent on average for the 1996-2010 period and remains pretty stable over

time. The corresponding rise in the average growth rate is of about 1.6 percentage points compared to the baseline scenario. That amounts to a cumulative increase in per capita income of about 27 per cent for the 1996-2010 period. This recovery of growth is being accompanied by a sustained increase in the investment ratio of about 11 percentage points compared to the baseline. For all practical purposes, the average growth rate of the emerging countries looks similar to that of the five benchmark countries.

Table 6. **"Emerging Africa" Scenario — Summary Results**

Period	GR32	GAPGR	GAPNP	GAPM	GAPSTF	GAPSCS	GAPREV	INV32
1991-95	-1.23	-2.00	1.72	-1.05	-1.84	-0.67	-0.17	16.57
1996-00	1.20	-1.00	2.23	-0.49	-1.85	-0.78	-0.10	19.71
2001-05	1.09	-0.99	2.31	-0.49	-1.81	-0.90	-0.10	22.39
2006-10	1.02	-1.03	2.38	-0.50	-1.78	-1.02	-0.10	25.74
Avg 96-10	***1.11***	***-1.00***	***2.31***	***-0.49***	***-1.82***	***-0.90***	***-0.10***	***22.61***
Period	GR14	GAPGR	GAPNP	GAPM	GAPSTF	GAPSCS	GAPREV	INV14
1991-95	-0.32	-1.09	1.74	-0.38	-1.58	-0.79	-0.08	19.68
1996-00	1.91	-0.29	1.86	-0.13	-1.28	-0.74	0.00	25.27
2001-05	1.92	-0.16	1.63	-0.12	-0.99	-0.69	0.00	30.59
2006-10	1.92	-0.13	1.35	-0.11	-0.74	-0.63	0.00	37.21
Avg 96-10	***1.91***	***-0.20***	***1.61***	***-0.12***	***-1.00***	***-0.68***	***0.00***	***31.02***
Period	GR18	GAPGR	GAPNP	GAPM	GAPSTF	GAPSCS	GAPREV	INV18
1991-95	-2.14	-2.92	1.71	-1.72	-2.10	-0.55	-0.25	13.45
1996-00	0.50	-1.70	2.61	-0.85	-2.43	-0.83	-0.20	14.14
2001-05	0.26	-1.82	2.98	-0.87	-2.63	-1.11	-0.20	14.18
2006-10	0.13	-1.92	3.41	-0.88	-2.83	-1.42	-0.20	14.27
Avg 96-10	***0.30***	***-1.81***	***3.00***	***-0.87***	***-2.63***	***-1.12***	***-0.20***	***14.20***
GR14-GR18[1]	***1.61***	***=***	***-1.39***	***+ 0.75***	***+ 1.63***	***+ 0.44***	***+ 0.2***	

[1] Difference in average growth rates between G14 ("emerging scenario") and G18 (baseline scenario) countries. This difference is accounted for by corresponding differences in average levels of GAPNP, GAPM, GAPSTF, GAPSCS and GAPREV.

Source: Authors' calculations.

As can be seen from a comparison with Table 5 (or from Table 7 below, which shows contributions to change with respect to the baseline for individual G14 countries), the improvement in growth prospects comes: first, from more balanced structural characteristics related to foreign trade and financial development (1 percentage point); second, from a higher level of educational attainment and a better endowment of core infrastructure (0.7 percentage points); third, from further removing macroeconomic imbalances and distortions (0.4 percentage points); and, finally, from enhanced domestic political stability (0.1 percentage points). Nevertheless, the higher level of income achieved in each time period, compared to the baseline, weakens the catching up effects and takes away approximately 0.6 percentage points of growth.

According to the above calculation, the contribution of better macroeconomic policies to the revival of growth may well appear to be rather small. Nevertheless, it should be recalled that, by definition, these countries had already started to improve their policies, which already could be perceived before the beginning of the simulation period. As can be seen from Table 6, in the last forecast period (2006-2010), macroeconomic imbalances no longer involve a significant loss of growth momentum for our group of emerging economies. Structural imbalances related to trade and finance (GAPSTF), as well as to human capital and infrastructure shortages (GAPSCS) curtail growth on an equal foot, by around -1.4 percentage points on a combined basis. Favourable catching up effects, still related to lower initial per capita income, make up for this loss, so that the emerging economies end up with a rate of growth close to that of the five benchmark countries.

Compared with the 18 countries which, in our simulation, do not make lasting improvements in their policies, the potential gain of the 14 emerging economies appears to be even more significant (see last row of Table 6). The average difference in growth rates is estimated at 1.6 percentage points during 1996-2010 and seems to be increasing over time. This involves a 27 per cent cumulative gain in per capita income over the 15-year forecast period. It is interesting to observe that the sound stance of macroeconomic policies in emerging economies accounts, on average, for 0.8 percentage points of higher annual growth. The corresponding contribution of removing impediments to foreign trade openness and to the development of the financial sector is twice as large, i.e. 1.6 percentage points on an annual basis. Taken together, removing remaining macroeconomic imbalances, lifting relative price distortions and promoting finance and outward orientation account for a 2.4 per cent annual “growth bonus”. This involves a 43 per cent cumulative gain in per capita income over the 15-year forecast period, suggesting that embarking on sustained macroeconomic and structural policy reform brings forth a substantial growth pay-off.

It is also noteworthy that making up for productive capital shortages, by building core infrastructure, gives rise to an estimated growth bonus as high as approximately 0.5 percentage points on an annual basis. However, economic growth reduces the catch-up effect, taking away about 1.4 percentage points from the annual growth gain. It should be noted that these calculations are rather conservative in nature, insofar as a lasting economic take-off could be at the origin of a kind of threshold effect, shifting the economy on a convergence path towards a “club” of more advanced economies. As our estimations show for the five benchmark countries, this effect could add substantial gains to growth which are not taken into account in the present scenario.

Turning next to individual emerging economies (see Table 7) Ethiopia, Mozambique and Uganda display the most vigorous growth prospects for the 1996-2010 period, with growth rates of per capita income ranging from 2.6 to 3.2 per cent, while Zimbabwe, Côte d’Ivoire and Burkina Faso exhibit also above average growth. Ethiopia, Mozambique, Uganda, Zimbabwe, Togo and Ghana are the countries which seem to benefit more from the resumption of growth relative to their respective baseline forecasts. Four countries in East Africa — namely Ethiopia, Mozambique, Uganda and Zimbabwe — show the biggest growth benefits from the

removal of macroeconomic policy imbalances and relative price distortions. In the case, for instance, of Ethiopia, the pay-off is as high as 0.8 percentage points on an annual basis, amounting to a 13 per cent cumulative per capita income gain over the 15-year forecast period.

Table 7. **"Emerging Africa" Scenario — Contributions to Growth by Country**
Average levels for 1996-2010

	GR[1]	GAPGR[2]	DGR[3]	DGAPNP[3]	DGAPM[3]	DGAPSTF[3]	DGAPSCS[3]	DGAPREV[3]
ETH	3.17	1.06	3.25	-1.36	0.81	2.00	1.49	0.30
MOZ	2.95	0.84	2.84	-1.17	0.72	1.90	0.95	0.44
UGA	2.59	0.47	1.68	-0.71	0.45	1.27	0.52	0.15
ZWE	2.31	0.20	1.63	-0.69	0.69	0.83	0.80	0.00
CIV	1.99	-0.12	1.15	-0.46	0.40	0.38	0.83	0.00
BFA	1.96	-0.15	1.50	-0.59	0.16	1.09	0.53	0.30
GHA	1.79	-0.32	1.63	-0.68	0.38	1.46	0.47	0.00
MLI	1.73	-0.38	0.75	-0.27	0.05	0.13	0.72	0.12
MRT	1.66	-0.45	0.99	-0.38	0.32	0.34	0.71	0.00
KEN	1.57	-0.54	1.31	-0.50	0.32	0.78	0.71	0.00
TGO	1.45	-0.66	1.78	-0.74	0.10	1.38	0.89	0.15
SEN	1.36	-0.75	1.54	-0.61	0.42	1.01	0.73	0.00
BEN	1.35	-0.76	1.14	-0.42	0.15	0.88	0.54	0.00
GAB	0.91	-1.20	0.53	-0.23	0.11	0.62	0.00	0.03
Avg	*1.91*	*-0.20*	*1.55*	*-0.63*	*0.36*	*1.01*	*0.71*	*0.11*

[1] Average growth rate over 1996-2010; [2] Growth gap to G5 countries; [3] Changes with respect to the baseline scenario. DGR = DGAPNP + DGAPM + DGAPSTF + DGAPSCS + DGAPREV.

Source: Authors' calculations.

Insofar as macroeconomic stabilisation and lifting of price distortions pave the way to the implementation of structural reforms in the areas of foreign trade and finance, the growth bonus can be expected to increase even further. Indeed, Ethiopia, Mozambique and Uganda are among the countries which, according to the "emerging Africa" scenario, reap the biggest benefits from the removal of impediments to foreign trade and financial development — Ghana and Togo being also countries with above average gains. In the specific cases of Ethiopia and Mozambique, the corresponding growth bonus was estimated at 2 per cent, bringing about an extra 15-year compounded increase in per capita income of 35 per cent. Finally, investment in core infrastructure could give rise to substantial benefits — ranging from 0.9 to 1.5 percentage points of extra growth on an annual basis — in some countries like Ethiopia, Mozambique and Togo, that seem to suffer mostly from productive capital shortages.

A Comparison of Potential Growth Scenarios

The growth forecasts of the "emerging Africa" growth scenario examined so far should be looked at as a rather cautious assessment of Sub-Saharan Africa's strong reformers' growth prospects. Indeed, the average rate of growth of 1.9 per cent predicted for the 14 emerging economies over 1996-2010 does not allow them to make up for the existing per capita income gap to the five benchmark African

countries (G5). However, there is still considerable room for improvement, as evidenced by the estimates of growth gaps arising from remaining structural imbalances (negative values of GAPSTF and GAPSCS) which have been reported in Table 6. Removing these imbalances by carrying forward further structural reforms in the areas of foreign trade and finance and by enhancing even more educational development and investment in core infrastructure, so as to move closer to the structural pattern of the five benchmark countries, could spur growth even further.

Table 8. **Alternative Growth Scenarios in "Emerging Africa"**

	GRBASE	GREM1	GREM2	GRMAX
ETH	-0.07	3.17	5.70	8.79
MOZ	0.11	2.95	4.66	5.28
UGA	0.91	2.59	5.42	6.72
ZWE[1]	0.67	2.31	2.46	2.46
CIV[1]	0.84	1.99	2.56	2.56
BFA	0.46	1.96	3.70	5.35
GHA	0.17	1.79	3.11	3.71
MLI	0.98	1.73	2.88	4.28
MRT	0.67	1.66	1.50	1.69
KEN	0.26	1.57	2.28	2.68
TGO	-0.33	1.45	2.01	2.71
SEN	-0.19	1.36	2.61	3.58
BEN	0.21	1.35	2.51	3.79
GAB[1]	0.38	0.91	1.10	1.10
Average	***0.36***	***1.91***	**3.04**	**3.91**

[1] GRMAX is equal to GREM2, as in these cases GAPSCS is positive.

Source: Authors' calculations.

For the sake of comparison, Table 8 presents our per capita income growth forecasts for the G14 countries under four alternative scenarios, starting with the baseline forecast (GRBASE) and our "conservative" emerging economies forecast examined so far (GREM1). Taking into account that in this latter scenario the "emerging economies" were meant to have already removed macroeconomic imbalances and to have achieved domestic political stability, one alternative scenario to examine would involve moving one step forward and relieving all remaining structural imbalances related to foreign trade and to the development of the financial sector. Formally, the growth forecasts under this "optimistic" emerging economies scenario can be derived by setting all policy-related growth gaps to the G5 countries — other than that linked to capital shortages (GAPSCS) — equal to zero[12]. Denoting by GREM2 the average growth rate for this scenario, we get: GREM2 = GR5 + GAPNP + GAPSCS, where GR5 is the average baseline growth rate of the five benchmark countries (which was projected at 2.1 per cent — see Table 5)[13].

From a medium-run policy perspective such a growth scenario makes much sense, since removing human capital and core infrastructure shortages involves a substantial investment effort and may take considerable time. Thereafter, the third emerging economy scenario to consider is precisely long-run in focus, assuming away all capital shortages thanks to an appropriate investment policy, so that the pattern of human capital and core infrastructure in the emerging economies looks

exactly like that of the five benchmark countries. The growth rate associated with this scenario is, therefore, in some sense, a maximum growth rate attainable (GRMAX), which assumes away all policy impediments to growth and has the growth rate determined only by catching-up effects and by genuine differences in initial conditions. Formally, GRMAX = GR5 + GAPNP, so that GRMAX = GREM2 - GAPSCS[14].

As can be seen from Table 8, in the "optimistic" emerging Africa scenario, where all but capital shortages-related imbalances have been removed, the average growth rate of per capita income in 1996-2010 for the G14 countries is projected at 3 per cent. This is 1.1 percentage points higher than that forecast in the "conservative" emerging Africa scenario. Taking account of population growth trends in SSA, this is approximately equivalent to the 5 per cent GDP growth predicted by OECD (1997*b*) for Sub-Saharan Africa in the high-growth scenario of its 1996-2020 "linkages" exercise[15]. Moreover, removing all remaining capital shortages, as implied by the "maximum growth scenario", brings about a growth rate as high as 3.9 per cent, which represents an extra annual growth bonus of 0.9 percentage points. The maximum growth scenario involves, therefore, an average annual growth rate twice as high as our first "cautious" emerging Africa scenario.

In that "maximum growth" scenario, some of our emerging economies turn out to have outstanding growth prospects — reminiscent of those of pre-crisis East Asian economies — like for instance Ethiopia whose average growth rate stands close to 9 per cent, or Uganda whose potential growth could be as high as 6.7 per cent. In the case of Uganda, sustaining such a fast growth path over a 15-year period would involve upgrading per capita income to a level similar to that of a country like Egypt. Other countries which show impressive growth prospects in this scenario are Mozambique, Burkina Faso and Mali, whose maximum estimated per capita income growth rates range from 4.3 to 5.3 per cent. These country rankings remain broadly unchanged under the relatively more moderate emerging Africa scenario (GREM2), where Ethiopia, Uganda and Mozambique still keep the lead, with impressive growth rates of around 5.5 per cent for the first two and 4.7 per cent for the latter.

Assessing the Impact of Growth on the Path of Poverty

These estimates point to the rather conservative nature of our first emerging Africa scenario (GREM1) and confirm that considerable room for growth seems to exist in Africa, provided there is steady progress in fixing structural imbalances. A growth rate close to 4 per cent induces an 80 per cent cumulative increase in per capita income over a 15-year period, which involves a substantial improvement in Africa's population living standards. A more accurate assessment of this improvement can be provided by looking at the prospects for a reduction in poverty in Sub-Saharan Africa, based on our various growth forecasts.

Some estimates of the responsiveness of various measures of rural and urban poverty to growth and to changes in income distribution were provided recently by Ali and Thorbecke (1998). These estimates were derived from household survey data on a cross-section of 16 SSA countries. According to the findings, in SSA, rural

poverty seems to be much more responsive to growth than does urban poverty. More specifically, if one focuses on the head-count ratio measure of poverty, its elasticity with respect to the level of per capita income is twice as high in rural areas than in urban areas (-0.5 against -0.24). On the contrary, urban poverty seems to be comparatively more responsive to changes in income distribution.

Table 9. **Growth scenarios and poverty alleviation**

	Avg rate of growth in emerging economies 1996-2010	Cumulative increase in per capita income 1996-2010	Projected level in 2010 of head-count ratio measure of poverty (in %)	
			Rural areas (initial level: 58.7)[1]	Urban areas (initial level: 43.0)[1]
Baseline	0.36	5.5	57.1	42.4
Emerging Africa 1	1.91	33.0	49.1	39.6
Emerging Africa 2	3.04	57.0	42.0	37.1
Maximum Growth	3.91	78.0	35.8	35.0

[1] Average levels, according to Ali and Thorbecke (1998).

Source: Authors' calculations.

On the basis of these estimates, Table 9 reports some back-of-the-envelope calculations of the impact of growth on poverty in SSA, holding by assumption constant income distribution. We examine separately the impact on rural and urban poverty, taking as measure the head-count ratio, for the four growth scenarios summarised in Table 8: *i)* the baseline scenario; *ii)* the "conservative" emerging Africa scenario ("emerging Africa 1"); *iii)* the "optimistic" emerging Africa scenario ("emerging Africa 2"); and *iv)* the maximum growth scenario. Our horizon extends over the 15-year period, from 1996 up to 2010.

As could be expected, under the baseline scenario, which amounts to extending previous trends in economic policies, poverty remains practically unchanged at its prevailing exceptionally high levels. More interestingly, growth under our conservative "emerging Africa 1" scenario turns out not to be strong enough to bring about a significant reduction in poverty. At the end of the 15-year period, rural poverty, as measured by the head-count ratio, although lower, it remains around 50 per cent, whereas urban poverty recedes by only three percentage points. From a political economy point of view, such slow progress in eradicating poverty could undermine the commitment to sound macroeconomic policy and structural reform, the sustainability of which is a prerequisite for the resumption of growth implicit in this scenario.

On the contrary, under both the optimistic "emerging Africa 2" and the "maximum growth" scenarios, poverty looks much less stubborn, especially in rural areas. It is in this respect noteworthy that rural poverty subsides to a level close to that of urban poverty, which undoubtedly would strengthen the support of rural populations to the structural reform programmes that underlie our growth scenarios. It is interesting to observe that under the "maximum growth scenario", when the forecasting horizon is extended up to 2015, rural poverty shrinks more than half — by 58 per cent — while urban poverty falls by 28 per cent. Overall, sustaining such a growth rate over a 20-year period could reduce by one-half the proportion of

people living in poverty, which would then meet the major goal stated in the OECD Development Assistance Committee Member Countries' Development Partnerships Strategy (OECD, 1996).

These calculations could, however, underestimate still quite substantially the impact of growth on poverty, for at least two reasons: first, the comparatively high responsiveness of rural poverty to growth could be thought of as being good news, insofar as it would probably check immigration of rural poor to cities. This could alleviate urban population pressures — in comparison to past observed trends — and, accordingly, warrant a more rapid alleviation of urban poverty as well. Second, our "emerging Africa" scenarios (especially the "maximum growth" one) involve a steady improvement in educational attainment and an upgrading of core infrastructure, which could be powerful in reducing income inequalities. Extending the provision of basic education and vocational training can even out income inequalities as better skills lead to higher individual and family earnings. Moreover, improving core infrastructure leads to a more balanced geographical distribution of economic activities and thereby of incomes. This could provide a check on a major source of income inequalities, stemming from regional disparities which are especially acute in poor countries. Levelling up income inequalities would in turn considerably reinforce the impact of growth on poverty, provided the pattern of growth remains balanced as assumed in our "emerging Africa" scenarios.

VIII. CONCLUSION AND POLICY IMPLICATIONS

Several policy lessons can be drawn from this study. First, if economic policies are to be kept unchanged, there is an ongoing risk of stagnation of per capita income in Africa, leading to its increased marginalisation. The persisting high levels of poverty would then involve risks of political and policy instability that could uphold the vicious cycle of policy mismanagement, low economic security and poor growth performance.

Nevertheless, growth prospects can be significantly fostered, provided sustained progress is made in implementing sound policies. Removing macroeconomic imbalances and distortions is the natural item to begin with, though not the only area of concern. In the emerging African economies macroeconomic policies have been already substantially amended, yet there is still considerable scope for improvement especially in structural policies to promote foreign trade openness and to strengthen the financial sector of the economy. Securing progress in these policy areas currently seems essential for raising the investment rate, which at present appears to be a main impeding factor of a genuine growth take-off in Africa.

However, if growth is to be strengthened as much as needed to bring about a lasting reduction in poverty in the years ahead, significant progress needs to be made still in promoting the provision of adequate levels of education and training, as well as in removing existing shortages of core infrastructure. Without a firm and lasting resumption of growth, the resulting reduction in poverty may not be strong enough to induce the political support needed to secure commitment to policy reform. This involves a risk of reforms being scaled back, with a harmful incidence on growth prospects. Some corrective policy intervention may then be recommended along with structural reform, to smooth existing extreme inequalities in income distribution, so as to foster the reduction in poverty and strengthen the commitment to bold reform.

Thanks to our indicator of “emerging economies” our analysis provided some hints as to those countries in SSA that stand better chances of achieving a lasting improvement in their policies and their performance in the years ahead. It could be argued that policy efforts put forward by these countries deserve special support from the international community. Insofar as the benefits from a sustained resumption of growth in these “emerging economies” are likely to spread over to their neighbourhood, their commitment to reform should be considered as a kind of a “public good” whose provision should be secured at an adequate level, taking into account its beneficial side effects.

For each country included in the “emerging Africa” group, the analysis pointed to specific policy areas (among macroeconomic stabilisation, trade openness, strengthening of the financial sector, education, infrastructure) where further reform would provide the bigger pay-off in terms of growth. This information could be useful

as a first step to laying down a consistent programme of policy reform on a country-by-country basis. The next step would be to identify the most appropriate institutional framework to carry forward the needed reforms in each policy area, on the basis of country-specific characteristics.

Indeed, institutions play a key role in sustaining economic take-off in sub-Saharan Africa, where policy reforms have so often in the past been scaled back, or reversed, because of lack of appropriate supportive institutions. Hence, there is an intimate relationship between building of suitable institutions, policy reform and economic and social development. Even though a better understanding of these links involves in-depth country-by-country information, our study can still provide some guidance in this regard, to the extent that in our growth scenarios the "emerging African" economies are supposed to implement the "best practice" policies of the five successful African economies (Botswana, Mauritius, Morocco, South Africa, Tunisia). Looking at institutional reforms carried forward in each policy area by these benchmark countries, can already give enough information as a starting point for institutional reform in the rest of SSA.

On the analytical side, several extensions to the present study are readily apparent. First, it would be necessary to deepen the analysis of factors that can contribute to a lasting upsurge of productive investment, with a view to analysing the conditions ensuring that an investment boom would not be bound to lead to unsustainable foreign debt. Incorporating savings behaviour into the model, so as to study policies leading to greater mobilisation of domestic resources, would be of help in this respect.

Moreover, the growth prospects of each African country should probably not be considered in isolation. The effects of regional growth spillovers should be taken into account when assessing the growth prospects of emerging economies. Sustainable economic take-off can occur most likely in broader geographical areas which foster economic ties among developing economies, as it has been already suggested by the geographical groupings of emerging African economies identified in our analysis.

Strengthening economic ties among SSA economies through closer regional co-operation will be a major policy challenge in the years ahead. This co-operation can be expected to enhance growth spillovers through various channels: by triggering complementarity and thus trade, among SSA economies; by improving technology transfers within regions; by attracting adequate levels of foreign direct investment; by promoting the adoption of sound economic policies; and by enforcing commitment to reform by submitting national policies to supranational discipline. Assessing the scope for stronger regional trade links in sub-Saharan Africa, in connection with the higher growth prospects of emerging economies and the current trend towards freer regional trade; identifying the most promising policy areas of regional co-operation; and exploring how the international donor community can most effectively support sound regional co-operation initiatives are high-ranking items in the policy agenda and present major challenges for policy research.

NOTES

1. Abbreviations used throughout the paper for country names can be found in Table 3, Annex A2.

2. There are also some studies comparing the coefficients obtained from an African sample with that from a non-African sample: Grier and Tullock (1989), Fosu (1990), De Long and Summers (1993), and De Haan and Sierman (1996); while Guillaumont, Guillaumont and Brun (1998), as well as Arcand, Guillaumont and Guillaumont (1998), test the stability of the general model and its relevance on an African sample.

3. The 34 sub-Saharan African countries are: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo (Brazzaville), Democratic Republic of the Congo (formerly Zaire), Côte d'Ivoire, Ethiopia, Gabon, Ghana, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritius, Mauritania, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Uganda, Zambia, Zimbabwe.

4. The effect of inflation was underscored for a sample of African countries by Ojo and Oshikoya (1995), Ghura (1995*a*), Ghura (1995*b*), Hadjimichael *et al.* (1995), Assane and Pourgerami (1994). That of budget deficit was shown for a sample of African countries by Ghura (1995*a*) and Hadjimichael *et al*. (1995).

5. It is, therefore, assumed that the pattern of explanatory factors of RER misalignment found in the 22 SSA countries by Sekkat and Varoudakis (1998) extends to the 39 SSA countries of the current sample. According to these estimates, policy-induced RER misalignment is computed as resulting from three sources: *i)* excessive trade protection leading to inward-orientation of the economy; *ii)* excessive foreign borrowing; and *iii)* excess domestic credit expansion.

6. Empirical evidence in favour of the existence of threshold growth effects, giving rise to "convergence clubs", in connection with educational attainment and financial development, has been presented by Berthélemy and Varoudakis (1996).

7. This finding is in line with previous evidence on this matter reported by Razin and Collins (1997), and suggests that — contrary to evidence from large international cross-country samples which shows that only high levels of RER over-valuations appear to slow growth — in the case of African economies, even small relative price distortions stemming from real exchange rate misalignment can be harmful to growth.

8. This result is characteristic of panel estimates by the method of fixed effects, which favours the temporal dimension of each economy's convergence towards its own steady-state income level. For analogous estimates see Nagaraj, Varoudakis and Véganzonès (1998). This dimension is lacking in cross-section estimates on large samples of countries, which provide much smaller estimates for the speed of convergence.

9. The 39 economies of the model estimation and Gambia.

10. Our inclusion in the group of "emerging economies" of some less well-known "good performers", like for instance Mauritania, might as well look surprising at first sight. However, this turns out to be in line with current, more informal, country assessments — see, for example, the supplement on Mauritania in the *Financial Times*, December 4, 1998.

11. It may be noted that the model forecasts average growth of 1.15 per cent for the group of 32 countries during the first two sub-periods, (1996-2005). That is similar to the growth forecast of 1.2 per cent by the World Bank (1997) for all of sub-Saharan Africa for the 1997-2006 period — and

would become even slightly higher by adding our growth forecast for Botswana, South Africa and Mauritius.

12. From a policy sequencing point of view, recent research has shown that promoting the accumulation of human capital when the market incentives faced by individuals are distorted may be counter-productive insofar as it can lead to an inefficient sectoral allocation of skilled labour — see, for instance, Berthélemy, Pissarides and Varoudakis (1998) for a theoretical analysis and some related empirical evidence, as well as Pritchett (1996) for further cross-country evidence on that matter. Hence, growth prospects under this scenario may have been underestimated, to the extent that removing all foreign trade and finance-related distortions, which often lead to rent seeking practices, may enhance the impact of education on growth relative to previous trends.

13. The figures for the growth gaps arising from factors other than policy (GAPNP), used in these alternative scenarios, have been taken from the “conservative” emerging economies scenario discussed so far.

14. In three cases (Côte d’Ivoire, Gabon, Zimbabwe) where GAPSCS was slightly positive, meaning that, under our “cautious” emerging economies scenario, these countries had already achieved a human capital and core infrastructure endowment somewhat higher than the five benchmark countries, GRMAX was set equal to GREM2.

15. According to these estimates, labour force expansion and TFP improvement would contribute each approximately 1.5 per cent to the projected 5 per cent rate of GDP growth, the remaining 2 per cent coming from capital accumulation.

BIBLIOGRAPHY

ALI, A.G.A. and E. THORBECKE (1998), "The State and Path of Poverty in Sub-Saharan Africa: Some Preliminary Results", presented at the African Economic Research Consortium Bi-Annual Research Workshop, Nairobi, May.

ARCAND, J.L., P. GUILLAUMONT and S. GUILLAUMONT (1998), "Ethnicity, Communication and Growth: the Tragedy of Africa Revisited", *Etudes et documents*, CERDI, Université d'Auvergne.

ASSANE, D. and A. POURGERAMI (1994), "Monetary Co-operation and Economic Growth in Africa: Comparative Evidence from the CFA Zone Countries", *The Journal of Development Studies*, Vol. 30, January.

AZAM, J.P., J.C. BERTHÉLEMY and S. CALIPEL (1996), "Risque politique et croissance en Afrique", *Revue Economique*, Vol. 47, May.

BARRO, R.J. (1991), "Economic Growth in a Cross-section of Countries", *Quarterly Journal of Economics*, Vol. 106, May.

BERTHÉLEMY, J.C., C. PISSARIDES and A. VAROUDAKIS (1998), "Human Capital and Growth: The Cost of Rent-seeking Activities", *in* T. DE RUYTER VAN STEVENINCK (ed.), *Economic Growth and its Determinants*, Kluwer Academic Publishers, Dordrecht.

BERTHÉLEMY, J.C. and A. VAROUDAKIS (1996), "Economic Growth, Convergence Clubs and the Role of Financial Development", *Oxford Economic Papers*, (48).

BRUN, J.F., J.L. COMBES and P. MOTEL COMBES (1998), "Geographical Spillovers and Growth", *Etudes et documents*, CERDI, Université d'Auvergne, May.

BURNSIDE, C. and D. DOLLAR (1997), "Aid, Policies, and Growth", *The World Bank*, Policy Research Working Paper No. 1777, June.

COLLIER, P., P. GUILLAUMONT, S. GUILLAUMONT and J.W. GUNNING (1997), "The Future of Lomé: Europe's Role in African Growth", *The World Economy*, (20).

COLLIER, P. and J.W. GUNNING (1997), "Explaining African Economic Performance", Centre for the Study of African Economies, University of Oxford, Working Paper No. 97-2.

COTTANI, J.A., D.F. CAVALLO and M.S. KHAN (1990), "Real Exchange Rate Behavior and Economic Performance in LDCs", *Economic Development and Cultural Change*, (39), 61-76.

DE HAAN, J. and C.L.J. SIERMANN (1996), "Political Instability, Freedom and Economic Growth: Some Further Evidence", *Economic Development and Cultural Change*, Vol. 44, January.

DE LONG, J.B. and L.H. SUMMERS (1992), "How Strongly do Developing Economies Benefit from Equipment Investment?", *Journal of Monetary Economics*, Vol. 32, December.

EASTERLY, W. and R. LEVINE (1997), "Africa's Growth Tragedy: A Retrospective, 1960-1989", *Quarterly Journal of Economics,* November.

EASTERLY, W. and R. LEVINE (1998), "Troubles with the Neighbours: Africa's Problem, Africa's Opportunity", *Journal of African Economies*, Vol. 7, No.1, March.

FISCHER, S. (1993), "The Role of Macroeconomic Factors in Growth", *Journal of Monetary Economics*, (32).

FISCHER, S., E. HERNANDEZ-CATA and M. KHAN (1998), "Africa: Is This the Turning Point?", *International Monetary Fund*, Paper on Policy Analysis and Assessment, 98/6, May.

FOSU, A.K. (1990), "Exports and Economic Growth: The African Case", *World Development*, Vol. 18, June.

FOSU, A.K. (1992), "Effect of Export Instability on Economic Growth in Africa", *The Journal of Developing Areas*, Vol. 26, No. 3, April.

FOSU, A.K. (1993), "Political Instability and Economic Growth: Evidence from Sub-Saharan Africa", *Economic Development and Cultural Change*, Vol. 40, July.

GHURA, D. (1995*a*), "Macro Policies, External Forces and Economic Growth in Sub-Saharan Africa", *Economic Development and Cultural Change*, Vol. 43, July.

GHURA, D. (1995*b*), "Effects of Macroeconomic Policies on Income Growth, Inflation and Output Growth in Sub-Saharan Africa", *Journal of Policy Modeling*, Vol. 17, August.

GHURA, D. and GRENNES (1993), "The Real Exchange Rate and Macroeconomic Performance in Sub-Saharan Africa", *Journal of Development Economics*, Vol. 42.

GHURA, D. and M.T. HADJIMICHAEL (1996), "Growth in Sub-Saharan Africa", *IMF Staff Papers*, Vol. 43, No. 3.

GRIER, K. et TULLOCK G. (1989), "An Empirical Analysis of Cross-national Economic Growth, 1951-80", *Journal of Monetary Economics*, Vol. 24, September.

GUILLAUMONT, P., S. GUILLAUMONT JEANNENEY and J.F. BRUN (1998), "How Instability Lowers African Growth", *Journal of African Economies*, Vol. 8, No. 8.

GYIMAH-BREMPONG, K. (1991), "Export Instability and Economic Growth in Sub-Saharan Africa", *Economic Development and Cultural Change*, Vol. 39, No. 4, July.

HADJIMICHAEL, M.T., D. GHURA, M. MÜHLEISEN, R. NORD and E. MURAT UÇER (1995), "Sub-Saharan Africa: Growth, Savings and Investment, 1986-93", *International Monetary Fund Occasional Paper*, No. 118, January.

LEVINE, R. and D. RENELT (1992), "A Sensitivity Analysis of Cross-country Growth Regressions", *American Economic Review*, Vol. 82, September.

LUSSIER, M. (1993), "Impacts of Exports on Economic Performance: a Comparative Study", *Journal of African Economies*, Vol. 2, May.

NAGARAJ, R., A. VAROUDAKIS and M.-A. VÉGANZONÈS (1998), "Long-Run Growth Trends and Convergence Across Indian States", Technical Paper No. 131, OECD Development Centre, Paris, January.

OECD (1996), *Shaping the 21st Century: The Contribution of Development Co-operation*, Development Co-operation Directorate, Development Assistance Committee, Paris.

OECD (1997*a*), *Science, Technology and Industry: Scoreboard of Indicators*, Directorate for Science, Technology and Industry, Paris.

OECD (1997*b*), *The World in 2020: Towards a New Global Age*, Paris.

OJO, O. and T. OSHIKOYA (1995), "Determinants of Long-term Growth: Some African Results", *Journal of African Economies*, Vol. 4, October.

PRITCHETT, L. (1996), "Where has all the Education Gone?", *World Bank Policy Research Paper*, No. 1581, March.

RAZIN, O. and S.M. COLLINS (1997), "Real Exchange Rate Misalignments and Growth", *National Bureau of Economic Research*, Working Paper No. 6174, September.

RODRICK, D. (1998), "Trade Policy and Economic Performance in Sub-Saharan Africa", *National Bureau of Economic Research*, Working Paper No. 6562.

SACHS, J. and A. WARNER (1997), "Sources of Slow Growth in African Economies", *Journal of African Economies*, (6).

SAVVIDES, A. (1995), "Economic Growth in Africa", *World Development*, Vol. 23, March.

SEKKAT, K. and A. VAROUDAKIS (1998), "Exchange Rate Management and Manufactured Exports in Sub-Saharan Africa", Technical Paper No. 134, OECD Development Centre, Paris, March.

TEMPLE, J. (1998), "Initial Conditions, Social Capital and Growth in Africa", *Journal of African Economies*, (7).

WORLD BANK (1997), *Global Economic Prospects and the Developing Countries*, Washington, D.C.

ANNEX A1. CONTRIBUTIONS TO GROWTH PERFORMANCE

The three equations of the growth model of section IV can be written, in analytic form, as follows:

$$RYC_{i,t} = \alpha_{0,i} + \alpha_1 LYC_{i,t-1} + \alpha_2 LIVY_{i,t} + \alpha_3 INF_{i,t} + \alpha_4 REX_{i,t} + \alpha_5 DEFY_{i,t} + \alpha_6 MIS_{i,t} + \alpha_7 D \cdot T \quad \text{(A.1)}$$

$$LIVY_{i,t} = \beta_{0,i} + \beta_1 LEXFC_{i,t} + \beta_2 LRCP_{i,t} + \beta_3 LH_{i,t} + \beta_4 LBMP_{i,t} + \beta_5 LMY_{i,t} + \beta_6 REVC_{i,t} \quad \text{(A.2)}$$

$$REX_{i,t} = \gamma_0 + \gamma_1 OECDGR_t + \gamma_2 RTOT_{i,t} + \gamma_3 LIVY_{i,t} \quad \text{(A.3)}$$

Combining (A.1) to (A.3), the reduced-form equation for the rate of growth of per capita GDP can be expressed as follows:

$$\begin{aligned} RYC_{i,t} = {} & \left[\alpha_{0,i} + \beta_{0,i}(\alpha_2 + \alpha_4\gamma_3) + \gamma_0\alpha_4\right] + \alpha_1 LYC_{i,t-1} + \alpha_3 INF_{i,t} + \alpha_5 DEFY_{i,t} \\ & + \alpha_6 MIS_{i,t} + \alpha_7 D \cdot T + \alpha_4\gamma_1 OECDGR_t + \alpha_4\gamma_2 RTOT_{i,t} \\ & + \beta_1(\alpha_2 + \alpha_4\gamma_3) LEXFC_{i,t} + \beta_2(\alpha_2 + \alpha_4\gamma_3) LRCP_{i,t} + \beta_3(\alpha_2 + \alpha_4\gamma_3) LH_{i,t} \\ & + \beta_4(\alpha_2 + \alpha_4\gamma_3) LBMP_{i,t} + \beta_5(\alpha_2 + \alpha_4\gamma_3) LMY_{i,t} + \beta_6(\alpha_2 + \alpha_4\gamma_3) REVC_{i,t} \end{aligned} \quad \text{(A.4)}$$

Omitting explanatory factors which are common to all countries in the sample (that is, the OECD rate of growth $OECDGR_t$ and the intercept of the export growth equation), the breakdown of the growth gap to the five benchmark countries into the components discussed in section VI can be summarised as follows[1]:

$$GAPM_{i,t} = \alpha_3\left(INF_{i,t} - \overline{INF_t}\right) + \alpha_5\left(DEFY_{i,t} - \overline{DEFY_t}\right) + \alpha_6\left(MIS_{i,t} - \overline{MIS_t}\right) + \beta_4(\alpha_2 + \alpha_4\gamma_3)\left(LBMP_{i,t} - \overline{LBMP_t}\right)$$

$$GAPSTF_{i,t} = \alpha_4\gamma_2\left(RTOT_{i,t} - \overline{RTOT_t}\right) + \beta_1(\alpha_2 + \alpha_4\gamma_3)\left(LEXFC_{i,t} - \overline{LEXFC_t}\right) + \beta_5(\alpha_2 + \alpha_4\gamma_3)\left(LMY_{i,t} - \overline{LMY_t}\right)$$

$$GAPSCS_{i,t} = \beta_2(\alpha_2 + \alpha_4\gamma_3)\left(LRCP_{i,t} - \overline{LRCP_t}\right) + \beta_3(\alpha_2 + \alpha_4\gamma_3)\left(LH_{i,t} - \overline{LH_t}\right)$$

$$GAPREV_{i,t} = \beta_6(\alpha_2 + \alpha_4\gamma_3)\left(REVC_{i,t} - \overline{REVC_t}\right)$$

$$GAPNP_{i,t} = \left(RYC_{i,t} - \overline{RYC_t}\right) - GAPM_{i,t} - GAPSTF_{i,t} - GAPSCS_{i,t} - GAPREV_{i,t}$$

NOTE

1. The average levels of the variables pertaining to the five benchmark countries are denoted with a bar.

ANNEX A2. STATISTICAL TABLES

Table 1. **Indicator of Emerging Economies**

		Ctry	1970-79	1980-84	1985-89	1990-92	1993-95	% Pos 85-95	No cons 85-95	Avg.Var (92-95)
		BEN	0.30	0.33	0.14	0.06	0.17	0.82	4	0.023
		BFA	0.30	0.04	0.09	0.13	0.00	0.73	3	-0.039
		CIV	0.65	0.21	0.00	-0.29	-0.17	0.45	2	0.078
WESTERN	**UEMOA**	**MLI**	0.43	0.55	0.36	0.24	0.14	1.00	0	0.009
		NER	0.25	0.15	-0.13	-0.42	-0.32	0.11	3	-0.006
		SEN	0.08	-0.13	-0.07	0.07	0.09	0.64	2	0.053
		TGO	0.96	0.19	0.39	0.22	-0.11	0.82	2	0.034
		avg.	0.42	0.19	0.11	0.00	-0.03	0.65	2.29	0.022
		GHA	-0.11	-1.64	-0.75	0.46	0.84	0.55	9	0.052
		GMB	0.64	0.46	-0.05	0.15		0.33	2	0.085
	Other	**LBR**	1.06	0.30					0	
AFRICA	**non-CFA**	**MRT**	0.16	-0.11	0.21	0.09	0.59	0.82	6	0.216
		NGA	0.88	0.53	-0.45	-0.29	-0.70	0.00	2	-0.143
		SLE	0.02	-0.68	-1.47	-2.02	-1.74	0.00	3	0.044
		avg.	0.44	-0.19	-0.50	-0.32	-0.25	0.34	3.67	0.051
		CAF	0.18	-0.29	-0.19	-0.21	-0.33	0.00	3	-0.051
		CMR	0.59	0.77	0.23	-0.02	-0.22	0.56	0	-0.079
CENTRAL	**UDEAC**	**COG**	1.05	1.47	0.39	0.08		0.83	0	-0.641
		GAB	2.34	0.88	0.24	0.40	0.17	0.80	3	0.028
		TCD	-0.13	-0.64	-0.59	-0.19	-0.10	0.00	2	0.020
		avg.	0.81	0.44	0.02	0.01	-0.12	0.44	1.60	-0.144
		AGO	0.52	-1.21	-1.00	-1.47	-6.67	0.00	0	-1.969
		BDI	-0.01	-0.06	-0.18	0.15	-0.16	0.30	2	-0.030
AFRICA	**Other**	**RWA**	0.00	0.27	0.01	-0.32		0.50	0	
	non-CFA	**SDN**	0.04	-0.25	-1.88			0.00	0	
		ZAR	-1.02	-1.16	-2.64	-4.64	-4.80	0.00	3	0.132
		avg.	-0.09	-0.48	-1.14	-1.57	-3.88	0.16	1.00	-0.622
		ETH	-0.64	-0.32	-0.56	-0.93	-0.14	0.09	2	0.300
		KEN	0.79	-0.06	-0.08	-0.01	-0.04	0.30	0	0.053
EASTERN		**MDG**	0.09	-0.63	-0.69	-0.92	-0.78	0.00	2	0.051
AFRICA		**SOM**	-0.12	-0.76	-1.74			0.00	0	
		TZA	0.41	-0.47	-0.35	-0.36	-0.48	0.00	2	-0.043
		UGA	-1.25	-2.43	-2.52	-1.14	-0.60	0.00	5	0.168
		avg.	-0.12	-0.78	-0.99	-0.67	-0.41	0.07	1.83	0.106
		MOZ		-1.41	-1.23	-1.23	-0.51	0.00	3	0.180
SOUTHERN		**MWI**	0.59	0.07	-0.16	-0.32	-0.47	0.00	0	-0.073
AFRICA		**ZMB**	0.80	-0.12	-0.97	-1.75	-1.68	0.00	2	0.014
		ZWE	0.59	0.18	0.27	0.05	0.05	0.82	3	-0.052
		avg.	0.66	-0.32	-0.52	-0.81	-0.65	0.20	2	0.018
		BWA	1.56	0.96	1.53	1.12	0.63	1.00	2	-0.111
FIVE		**MAR**	0.82	0.72	0.52	0.24	0.33	1.00	2	-0.024
REFERENCE		**MUS**	1.00	0.54	0.93	1.16	1.11	1.00	5	-0.029
COUNTRIES		**TUN**	1.32	1.54	0.78	0.85	0.91	1.00	2	0.049
		ZAF	0.91	0.19	-0.26	-0.32	-0.21	0.18	2	0.103
		avg.	1.12	0.79	0.70	0.61	0.55	0.84	2.60	0.003

Table 2. **Baseline Simulation — Country Results**

	GR	GAPGR	GAPNP	GAPM	GAPSTF	GAPSCS	GAPREV	INV
G5								
BWA	2.42	0.31	-1.76	0.51	0.02	1.54	0.00	41.51
MAR	2.39	0.28	1.68	-0.13	-0.46	-0.82	0.00	32.03
ZAF	2.17	0.06	-0.04	-0.13	-0.46	0.70	0.00	26.66
MUS	1.94	-0.17	0.19	-0.13	0.99	-1.22	0.00	30.38
TUN	1.63	-0.48	-0.07	-0.12	-0.09	-0.20	0.00	32.69
Avg	***2.11***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***0.00***	***32.66***
G14								
MLI	0.98	-1.13	2.44	-0.10	-1.23	-2.12	-0.12	24.16
UGA	0.91	-1.20	5.32	-0.59	-3.97	-1.82	-0.15	15.61
CIV	0.84	-1.27	0.53	-0.52	-0.82	-0.46	0.00	18.80
ZWE	0.67	-1.44	-0.64	-0.83	-0.83	0.87	0.00	26.18
MRT	0.67	-1.44	-0.03	-0.26	-0.24	-0.91	0.00	25.46
BFA	0.46	-1.65	3.82	-0.29	-2.70	-2.18	-0.30	21.46
GAB	0.38	-1.73	-1.36	-0.24	-0.68	0.58	-0.03	47.85
KEN	0.26	-1.85	1.07	-0.46	-1.36	-1.11	0.00	23.52
BEN	0.21	-1.90	2.10	-0.31	-1.87	-1.82	0.00	14.08
MOZ	0.11	-2.00	4.34	-0.88	-3.44	-1.57	-0.44	19.73
GHA	0.17	-1.94	2.28	-0.52	-2.63	-1.07	0.00	13.42
ETH	-0.07	-2.18	8.04	-0.96	-4.38	-4.58	-0.30	10.19
SEN	-0.19	-2.30	2.08	-0.57	-2.10	-1.70	0.00	11.45
TGO	-0.33	-2.44	1.34	-0.23	-1.81	-1.59	-0.15	15.11
Avg	***0.36***	***-1.75***	***2.24***	***-0.48***	***-2.01***	***-1.39***	***-0.11***	***20.50***
G18								
ZAR	3.77	1.66	6.51	-1.19	-2.79	-0.66	-0.21	9.52
AGO	1.68	-0.43	1.88	-2.65	0.16	0.63	-0.44	13.70
BDI	0.83	-1.28	3.15	-0.32	-2.77	-1.04	-0.29	19.67
LBR	0.68	-1.43	3.04	-1.20	-1.55	-1.37	-0.35	14.91
CMR	0.64	-1.47	0.02	-0.43	-1.35	0.28	0.00	23.28
NGA	0.41	-1.70	3.93	-0.87	-1.91	-2.56	-0.30	21.24
SOM	0.25	-1.86	3.94	-1.10	-2.96	-1.44	-0.30	22.92
TZA	0.09	-2.03	4.25	-0.70	-5.50	-0.07	0.00	17.54
SDN	0.07	-2.04	10.34	-0.96	-6.66	-4.17	-0.59	6.01
TCD	0.05	-2.06	1.35	-0.53	-1.97	-0.47	-0.44	6.24
ZMB	-0.11	-2.22	1.43	-1.08	-2.18	-0.33	-0.06	13.91
SLE	-0.14	-2.25	2.11	-1.04	-1.72	-1.51	-0.09	9.72
MDG	-0.20	-2.31	1.51	-0.44	-2.81	-0.48	-0.09	7.42
MWI	-0.20	-2.31	2.34	-0.49	-1.79	-2.38	0.00	16.72
CAF	-0.37	-2.48	0.58	-0.57	-3.05	0.56	0.00	8.25
COG	-0.57	-2.68	-0.14	-0.88	-1.16	-0.34	-0.15	23.81
RWA	-0.67	-2.78	3.55	-0.64	-3.89	-1.60	-0.21	12.89
NER	-0.88	-2.99	4.26	-0.47	-3.46	-3.17	-0.15	7.79
Avg	***0.30***	***-1.81***	***3.00***	***-0.87***	***-2.63***	***-1.12***	***-0.20***	***14.20***

Source: Authors' calculation

Table 3. **List of Country Groupings and Abbreviations**

Region [1]	Abbreviation	Country
	AGO	Angola
Central-NCFA	BDI	Burundi
Central-NCFA	NAM	Namibia
Central-NCFA	RWA	Rwanda
Central-NCFA	SDN	Sudan
Central-NCFA	ZAR	Congo, Dem Rep
CFA-Central	CAF	Central African Republic
CFA-Central	CMR	Cameroon
CFA-Central	COG	Congo
CFA-Central	GAB	Gabon
CFA-Central	TCD	Chad
CFA-West	BEN	Benin
CFA-West	BFA	Burkina Faso
CFA-West	CIV	Côte d'Ivoire
CFA-West	GNB	Guinea-Bissau
CFA-West	MLI	Mali
CFA-West	NER	Niger
CFA-West	SEN	Senegal
CFA-West	TGO	Togo
North	DZA	Algeria
North	EGY	Egypt
North	MAR	Morocco
North	TUN	Tunisia
South-East	BWA	Botswana
South-East	ETH	Ethiopia
South-East	KEN	Kenya
South-East	LSO	Lesotho
South-East	MDG	Madagascar
South-East	MOZ	Mozambique
South-East	MUS	Mauritius
South-East	MWI	Malawi
South-East	TZA	Tanzania
South-East	UGA	Uganda
South-East	ZMB	Zambia
South-East	ZWE	Zimbabwe
	SOM	Somalia
West-NCFA	GHA	Ghana
West-NCFA	GIN	Guinea
West-NCFA	GMB	Gambia
West-NCFA	LBR	Liberia
West-NCFA	MRT	Mauritania
West-NCFA	NGA	Nigeria
West-NCFA	SLE	Sierra Leone
	ZAF	South Africa

[1] This follows the groupings of Table 1 in the text.