

POLICY RESEARCH WORKING PAPER

4519

Is Africa's Economy At A Turning Point?

Jorge Arbache

Delfin S. Go

John Page

The World Bank
Africa Region
Office of the Chief Economist
February 2008



Abstract

In this paper, Arbache, Go, and Page examine the recent acceleration of growth in Africa. Unlike the past, the performance is now registered broadly across several types of countries—particularly the oil-exporting and resource-intensive countries and, in more recent years, the large- and middle-income economies, as well as coastal and low-income countries. The analysis confirms a trend break in the mid-1990s, identifying a growth acceleration that is due not only to favorable terms of trade and greater aid, but also to better policy. Indeed, the growth diagnostics show that more and more African countries have been able to avoid mistakes with better macropolicy, better governance, and fewer conflicts;

as a result, the likelihood of growth decelerations has declined significantly. Nonetheless, the sustainability of that growth is fragile, because economic fundamentals, such as savings, investment, productivity, and export diversification, remain stagnant. The good news in the story is that African economies appear to have learned how to avoid the mistakes that led to the frequent growth collapses between 1975 and 1995. The bad news is that much less is known about the recipes for long-term success in development, such as developing the right institutions and the policies to raise savings and diversify exports, than about how to avoid economic bad times.

This paper—a product of the Office of the Chief Economist, Africa Region—is part of a larger effort in the department to examine the recent acceleration of growth in Sub-Saharan Africa, its underlying factors and sustainability. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The author may be contacted at dgo@worldbank.org.

The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations, or those of the Executive Directors of the World Bank or the governments they represent.

*Is Africa's Economy At A Turning Point?*¹

Jorge Arbache, Delfin S. Go, and John Page

I. Introduction

There is something decidedly different and new about the economic landscape of Sub-Saharan Africa (Africa or the region hereafter). After stagnating for much of 45 years, economic performance in Africa is markedly improving. In recent years, for example, GDP growth in SSA is accelerating to its strongest point at about 6 percent a year while inflation registered below two-digit level, its lowest point. The much improved economic performance is confirmed by several recent assessments.²

Although the current economic growth is still short-lived relative to Africa's long history of growth crisis and is certainly nowhere close to the standard of East Asia, it is nonetheless noteworthy and a cause for guarded optimism. The performance at least calls for a closer examination. Several interesting questions can immediately be raised: Is Africa finally overcoming the challenges of growth and poverty to claim the 21st century, as posed, for example, by Gelb et al. (2000), Collier (2007), and Ndulu et al. (2007)? In particular, is there indeed a turning point? How widespread are the recent gains among the 47 countries in the region? What are the key factors underlying the recent improvements in Africa's economic performance? Why have the recent oil price increases not dampened its growth performance? Is the growth robust and supported by improvements in the economic fundamentals? What major risks and challenges remain? Will Africa attain the Millennium Development Goals by 2015?

The rest of the paper looks at these questions and is organized as follows. The recent acceleration of growth in Africa is discussed in the next section. Then, the growth diagnostics in the following section carefully examine the differences since 1995, the likely causes and robustness of the recent growth. The paper then looks at the key actions

¹ This paper will appear in a revised form in *Africa at a Turning Point? Growth, Aid and External Shocks*, edited by Delfin Go and John Page (forthcoming), Africa Development Essay Series, The World Bank. We thank Betty P. Dow, Cristina Savescu, and Xiao Ye for excellent research assistance.

² These assessments include AfDB and OECD (2007); AFRCE (various years); EIU (2007); IMF (2007a, 2007b); and World Bank (2007a, 2007b, 2007d). AFRCE briefs, from which much of this paper is derived, are biannual economic briefs prepared by the Chief Economist Office of the Africa Region at the World Bank. The briefs cover recent economic growth in Sub-Saharan Africa, issues about the scaling up of foreign aid, and the effect of external shocks. In addition, the papers by Arbache and Page cited in section 3 are key sources of the growth analysis.

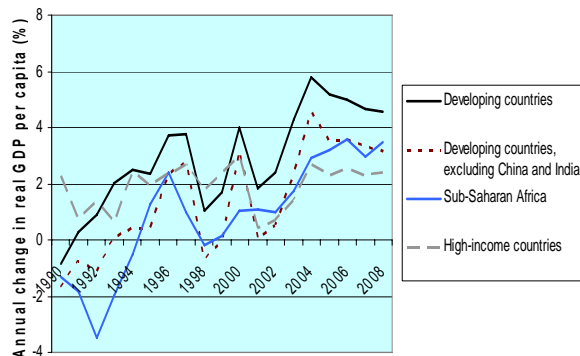
that are necessary to promote and sustain growth and discusses why growth should be shared. The paper concludes by summarizing Sub-Saharan Africa's economic prospects.

II. The Recent Acceleration of Growth in Africa

Is the growth failure in Sub-Saharan Africa finally reversing? An upward shift in the recent growth rates suggests that a trend break may have taken place around the mid-1990s.³ Annual GDP growth was a sluggish 2.9 percent in the 1980s and 1.7 percent during 1990–94. Since 1994, however, the pace of economic expansion has approached the threshold of moderate growth of 5 percent a year. Even if the record is measured more conservatively with regard to per capita income, the shift is perceptible: relative to its prolonged stagnation or contraction, per capita income grew by 1.6 percent a year in the late 1990s and by 2.1 percent to 3.0 percent a year since 2000. Despite the recent oil price shock, growth has remained good. From 2004 to 2006, the annual growth in GDP and per capita income, when weighted by each country's GDP, approaches 6 and 4 percent, respectively. Although improvement in aggregate output does not necessarily indicate broad economic development of the region, the current growth episode has nonetheless lasted 12 years altogether, a period that is neither trivial nor brief.

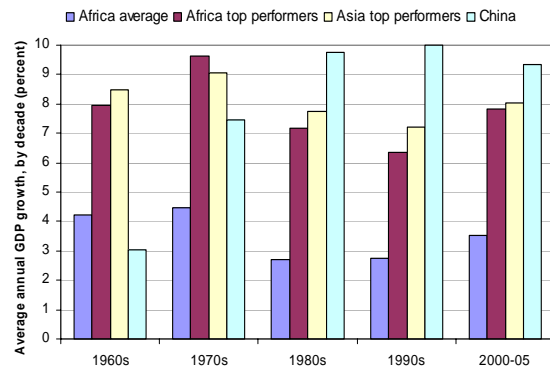
In fact, average incomes in Africa have been rising in tandem with those in other regions (figure 1). The top performers in Africa are doing very well compared with fast-growing countries in other regions (figure 2).

Figure 1: African per capita income relative to other developing countries



Source: World Bank various years g.

Figure 2: Africa's five fastest growing economies relative to Asia

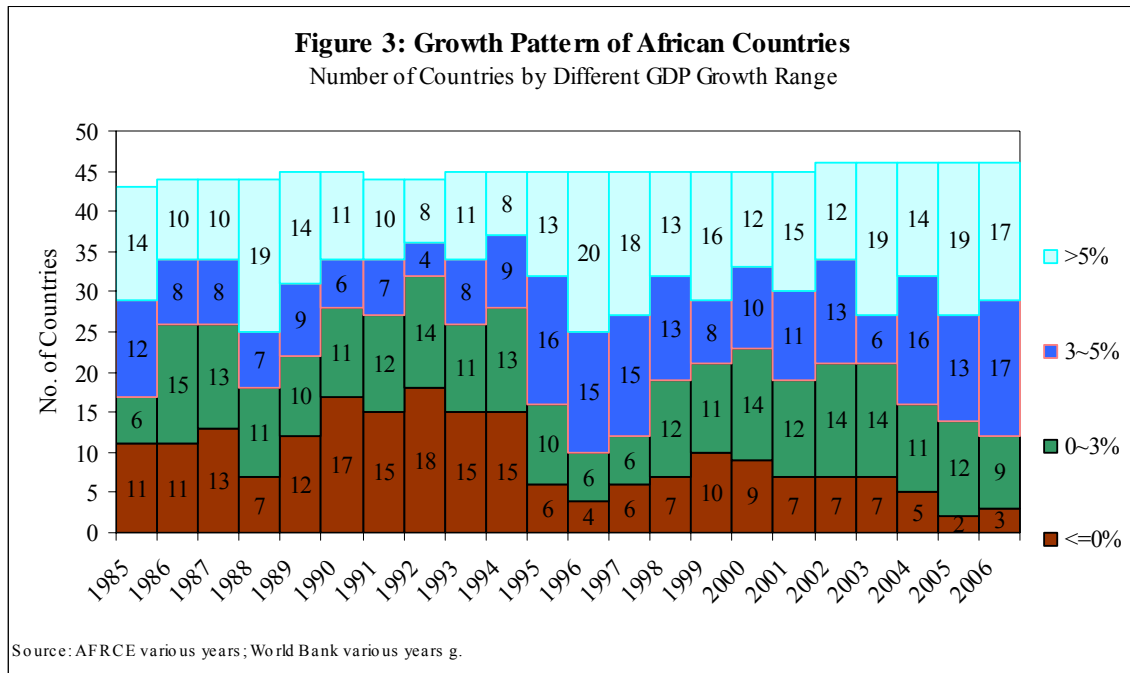


Source: World Bank various years g.

A. How widespread is the current growth acceleration?

³ We test the statistical significance of this hypothesis in the growth analysis of the next section.

The recent economic expansion seems to be registering across an increasing number of countries (figure 3). The number of countries with economic declines dropped from 15 to 18 in the early 1990s to about 2 to 5 countries in recent years. Only one country has significant economic contraction—Zimbabwe.⁴ In contrast, about 40–45 countries have positive growth, and 14–19 countries are growing by more than 5 percent a year.



During 2000–06, about 26 countries had GDP growth exceeding 4 percent a year, while as many as 14 countries exceeded 5.5 percent. Countries with at least 4 percent GDP growth now constitute a sizable portion of Sub-Saharan Africa—about 70 percent of the region’s total population and 80 percent of the region’s GDP. As a group, these countries have been growing consistently at nearly 7 percent a year, whether considered in the more recent period or a longer period since the mid-1990s. The classification of countries in table 1 is fairly stable in the two time periods. There are some exceptions near the cut-off point: the performance of São Tomé and Príncipe, Sierra Leone, South Africa, and Zambia has improved in performance during the more recent period (2004–06), whereas that of Malawi and, to a smaller extent, Cameroon and Mauritius has deteriorated.

⁴ This assessment does not include Somalia, where no good data are available, and the numbers for Sudan may not fully cover its southern regions. Both current and past data face the same limitations.

Table 1: GDP Growth Rates for Individual Countries in Sub-Saharan Africa¹					
Countries with GDP Growth > 4%, 2000-06 (70% of SSA Population) (78% of SSA GDP)			Countries with GDP Growth < 4%, 2000-06 (30% of SSA Population) (22% of SSA GDP)		
	2000- 2006	1995- 2006		2000- 2006	1995- 2006
Equatorial Guinea	23.1	36.2	Mauritius	3.9	4.4
Sierra Leone	11.6	1.7	Cameroon	3.7	4.1
Chad	10.9	7.4	Kenya	3.6	3.3
Angola	10.6	9.8	Niger	3.5	3.6
Liberia	8.9	12.1*	Lesotho	3.4	3.2
Mozambique	7.6	7.9	Madagascar	3.2	3.2
Sudan	7.3	5.8	Guinea	2.8	3.6
Tanzania	6.3	5.2	Congo, Democratic Republic of	2.6	0.6
Ethiopia	6.2	5.7	Malawi	2.6	4.4
Burkina Faso	6.1	6.6	Comoros	2.4	2.2
Cape Verde	5.7	6.9	Swaziland	2.4	2.8
Nigeria	5.6	4.4	Burundi	2.2	0.3
Uganda	5.6	6.4	Togo	1.7	2.3
Rwanda	5.5	9.7	Eritrea	1.3	2.6
Botswana	5.3	6.3	Guinea-Bissau	1.2	0.3
Ghana	5.0	4.8	Gabon	1.1	1.4
São Tomé and Príncipe	5.0	3.7	Central African Republic	0.2	1.1
Mauritania	4.9	4.6	Seychelles	0.1	2.3
Gambia, The	4.9	4.6	Côte d'Ivoire	-0.3	2.0
Congo, Republic of	4.9	3.6	Zimbabwe	-5.5	-2.6
Mali	4.9	5.1			
Zambia	4.8	3.4	Average	1.8	2.3
Namibia	4.5	4.1			
Benin	4.2	4.6			
South Africa	4.1	3.5			
Senegal	4.1	4.3			
Average	6.8	6.9			

Source: World Bank World Development Indicators database.
¹The cut-off point of 4 percent is based primarily on the performance during 2000-06. Somalia is not included for lack of data. At the World Bank, Djibouti is classified as part of Middle East and not part of Sub-Saharan Africa.
*Data for Liberia was available only for 1999-2006.

B. Performance by different types of countries

Nonetheless, the range of growth among individual countries can vary widely, anywhere from -5.5 percent to a high of 23.1 percent. Alternative taxonomies of countries are often necessary to characterize the growth story better. Table 2 presents the growth performance for frequently used country groups for the 1980s, the 1990s, and the more recent periods. The numbers show that, unlike the past, the recent acceleration of growth is broadly registered across different types of countries.

An immediate issue in characterizing group performances is the choice of central tendencies. Population weights are best if the desired reference is the typical African in the group. If the typical country and its representative economic experience and policies are the targets as in this analysis, simple averages are more appropriate to give equal weights to individual countries.⁵ This method is used to characterize growth in table 2. The overall regional growth is, however, also presented by weighted average by GDP.

Large Countries. Nigeria and South Africa are the two largest economies in Sub-Saharan Africa, accounting for almost half the regional GDP and one-fourth the population. Their slow growths in the past have tended to pull down any regional growth averages, especially if GDP weights were used. However, as may be seen in table 2, the growth performance of Nigeria and South Africa has improved significantly since 2000. During 2004–06 in particular, their GDP growth reached about 6.2 and 5.0 percent a year, respectively. The rest of Sub-Saharan Africa continued to do better at 6.5 percent a year during 2004–06. The weighted average (about 6 percent) for the whole region is better than its simple average (about 5 percent) for the same period, which suggests that large countries in general are doing well.

Oil Exporting Countries. Higher oil prices since 2000 now directly benefit eight countries where net oil exports make up 30 percent or more of total exports: Angola, Cameroon, Chad, Republic of Congo, Equatorial Guinea, Gabon, Nigeria, and Sudan. Côte d’Ivoire is also producing oil, but its net exports of oil are still low. Angola and Nigeria are the largest oil exporters, accounting for about 20 percent and 53 percent, respectively, of Africa’s total oil exports. As a group, the oil exporters represent about 25 and 29 percent of Africa’s GDP and population, respectively. Moreover, fuel now makes up about 40 percent of Africa’s total merchandise exports.

Partly as a result of the recent higher oil prices, real GDP growth in oil-exporting countries accelerated to about 8.4 percent a year during 2000–06. This growth represents the strongest economic expansion among the possible country groupings shown in table 2. Growth during the 1990s was also significant at 5.9 percent a year.

Oil Importing Countries by Endowment and Location. Although growth in oil-importing countries lagged behind the regional average, it has also been improving, reaching 4.7 percent during 2004–06. This group is large and diverse, encompassing the majority of African countries and a wide range of characteristics. For digging deeper, the classification of countries by endowment and location, as suggested by Collier and O’Connell (2006), is useful. Countries are grouped in a nonoverlapping way as non-oil resource-intensive countries, coastal, and landlocked countries.⁶

⁵ If there is any pattern growth, small countries in the resource-rich groups (oil and non-oil) tend to benefit more from higher commodity prices and additional revenue than larger countries in the groups. As a result, simple averages will tend to be higher than weighted averages. The reverse pattern between simple and weighted averages seems to be the case in countries that are not rich in resources.

⁶ Strictly speaking, oil-exporting and oil-importing countries may belong to two or more subgroups simultaneously. For purposes of describing the performance, however, the classification is not overlapping, so that the subgroups add up to 100 percent. Collier (2007) and Collier and O’Connell (2006) also argue that oil and non-oil resource endowments are dominant characteristics relative to the others.

Table 2: Real GDP growth in Sub-Saharan Africa

Categories of countries	1980-2006			Recent Periods			Since mid-90s
	1980~1989	1990~1999	2000~2006	2000~2003	2004~2006	2007*	1995-2006
I. Sub-Saharan Africa							
A. Regional simple average	2.9	3.3	4.6	4.3	5.1	5.3	4.9
w/o Zimbabwe	2.9	3.3	4.9	4.5	5.3	5.6	5.0
B. Regional weighted average	2.3	2.1	4.6	3.9	5.9	6.1	4.1
Nigeria	1.7	2.8	5.6	5.2	6.2	7.3	4.4
South Africa	2.2	1.4	4.1	3.4	5.0	5.0	3.5
Rest of SSA	2.7	2.5	4.9	4.0	6.5	6.1	5.1
II. Oil Exporting Countries	3.5	5.9	8.4	8.4	8.4	8.2	9.1
III. Oil Importing Countries	2.8	2.7	4.1	3.7	4.7	5.0	4.1
A. By endowment & location							
Resource intensive countries	3.2	1.3	5.7	6.1	5.1	4.9	3.8
Costal countries	2.9	3.4	3.8	3.4	4.4	5.0	4.3
Landlocked countries	2.9	2.5	3.0	2.1	4.2	4.3	3.6
B. By income level & fragile states							
Middle income countries	5.6	4.5	3.7	3.5	4.0	4.7	4.2
Low income countries	2.1	3.5	4.9	4.3	5.6	6.1	5.2
Fragile countries	2.2	0.5	2.8	2.4	3.2	3.6	2.5
IV. Regional Groups							
EAC	3.4	3.9	5.1	4.5	6.0	6.4	5.0
SADC	3.6	2.6	4.0	3.1	5.2	5.7	4.0
CFA franc zone	2.8	4.9	4.9	5.1	4.7	4.3	5.9
WAEMU	2.1	3.5	3.2	2.9	3.5	4.0	3.6
CEMAC	3.8	6.8	7.3	8.0	6.4	4.7	9.0
ECOWAS	2.4	2.8	4.7	4.8	4.5	5.2	4.4
ECCAS	2.8	3.6	6.3	6.0	6.9	6.6	7.1
COMESA	3.0	2.3	3.5	2.4	5.0	5.8	3.8
IOC	2.9	3.5	2.4	2.1	2.9	5.1	3.0
V. Others							
Flexible exchange rate regime	2.3	2.4	5.1	4.3	6.1	7.1	5.1
Fixed exchange rate regime	3.5	3.9	4.3	4.3	4.4	4.1	5.1
MDRI	2.1	2.7	5.3	5.1	5.6	6.0	5.0

Source: World Bank WDI, ADI and IMF WEO database. All statistics are annual percent rates and simple averages unless otherwise mentioned.

*Estimates based on AFRCE briefs, World Bank GEP, and IMF (2007).

Notes : ECOWAS: Economic Community of West African States;
CEMAC: Economic and Monetary Community of Central Africa;
SADC: Southern African Development Community ;
EAC: East African Community;

WAEMU: West Africa Monetary Union of the CFA franc zone;
ECCAS: Economic Community of Central African States;
COMESA: Common Market for Eastern and Southern Africa;
IOC: Indian Ocean Commission.

The six *non-oil resource-intensive countries* represent roughly 4.9 percent of Africa's GDP and 4.2 percent of its population.⁷ Like the oil exporters, the group also did very well relative to its own past performance: 5.1 percent during 2000–06 or 5.7 percent since 2000.

The 19 *coastal countries* account for about 53 percent of the regional GDP and 32 percent of the total population.⁸ This group has been growing by 3.4 percent a year since 2000—a rate that has further improved to 4.4 percent a year during 2004–06.

The 13 *landlocked countries* were traditionally the laggards in growth.⁹ Although they represent as much as 32 percent of the total population in the region, they take up only 17 percent of the regional income. Annual growth in GDP since 2000 has averaged only 3 percent but has improved to 4.2 percent recently. The individual records are mixed. Although the group includes noted growth failures such as the Central African Republic and Zimbabwe, it nonetheless has several bright spots, as reported in table 1: Burkina Faso, Ethiopia, Mali, Rwanda, and Uganda.

Oil Importing Countries by Income and Fragile States. An alternative classification of the oil-importing countries is by income level and fragile states—that is, low- and middle-income countries plus fragile states. The International Monetary Fund, (IMF) for example, has used this classification (see IMF 2007a).¹⁰

The eight *middle-income countries* correspond to less than 8 percent of the region's total population but to 40 percent of regional income.¹¹ South Africa alone represents 6.3 percent of the population and 35 percent of Africa's GDP. The individual performances in this group have been mixed: whereas South Africa's performance has been improving in recent periods, that of others (such as the Seychelles, Swaziland, and to some extent Mauritius) has slowed down. Zimbabwe, which used to be in this group, is now a fragile low-income country. As a result of the mixed performance of several countries, average growth for the group has fallen slightly from the 1980s and 1990s. However, growth during 2004–06 has again rebounded to about 4 percent a year.

Fifteen countries may be classified as *low income* and non-oil exporting.¹² They are home to 45 percent of the total population but only 25 percent of the total income in the region. However, the recent performance of the group is heartening: growth has been

⁷ These countries are Botswana, Guinea, Namibia, São Tomé and Príncipe, Sierra Leone, and Zambia.

⁸ These countries are Benin, Cape Verde, Comoros, Côte d'Ivoire, Eritrea, The Gambia, Ghana, Guinea-Bissau, Kenya, Liberia, Madagascar, Mauritania, Mauritius, Mozambique, Senegal, the Seychelles, South Africa, Tanzania, and Togo.

⁹ These countries are Burkina Faso, Burundi, the Central African Republic, the Democratic Republic of Congo, Ethiopia, Lesotho, Malawi, Mali, Niger, Rwanda, Swaziland, Uganda, and Zimbabwe.

¹⁰ The classification, like that of oil-importing countries by endowment and location, is not overlapping (see footnote 6).

¹¹ These countries are Botswana, Cape Verde, Lesotho, Mauritius, Namibia, the Seychelles, South Africa, and Swaziland.

¹² These countries are Benin, Burkina Faso, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mali, Mozambique, Niger, Rwanda, Senegal, Tanzania, Uganda, and Zambia.

steadily improving, from 2.1 percent a year in the 1980s to 3.5 percent in the 1990s and 4.9 percent since 2000. In recent years, growth has been approaching 5.6 percent annually. The top performers in this group include Ghana, Mozambique, Senegal, and Tanzania plus the bright spots mentioned for landlocked countries: Burkina Faso, Ethiopia, Mali, Rwanda, and Uganda.

Fragile states without significant oil resources—14 countries—still account for 18 percent of the total population and 10 percent of total income in the region.¹³ For the most part, GDP growth in this group is stuck at less than 2.5 percent, but it improved to 3.2 percent during 2004–06. The challenges faced by this group are many and daunting, as has been portrayed persuasively by sources such as Collier (2007) and the World Bank (2007b, 2007c). Even so, there are hopeful signs; a few countries have managed to turn around at least their output growth (as reported in table 1): The Gambia, Liberia, São Tomé and Príncipe, and Sierra Leone.

Regional Groupings. There are several overlapping regional groupings in Sub-Saharan Africa. Among those presented in table 1.2, the East Africa Community (EAC),¹⁴ the Economic and Monetary Community of Central Africa (CEMAC),¹⁵ and the Economic Community of Central African States (ECCAS)¹⁶ did the best, at 6.0, 6.4, and 6.9 percent, respectively, during 2004–06. The Southern African Development Community (SADC)¹⁷ and the Economic Community of West African States (ECOWAS)¹⁸ did as well as the regional average in recent years. Regional groups below the African average include the western part of the franc zone—the West African Economic and Monetary Union (WAEMU)—and the island economies in the Indian Ocean Commission.¹⁹ WAEMU has the fixed exchange rate but not the oil resources of the eastern part.²⁰

In sum, there is therefore evidence that economic growth is accelerating and registering across several types of countries, not just oil-exporting and resource-rich countries, but also oil-importing, landlocked, and—to some extent—fragile countries. Are country patterns with respect to growth becoming less defined? Arbache and Page (2008) found no obvious pattern when classifying countries according to long-term growth, geography, and geology, thus suggesting that initial conditions and other factors

¹³ These countries are Burundi, the Central African Republic, Comoros, the Democratic Republic of Congo, Côte d'Ivoire, Eritrea, The Gambia, Guinea, Guinea-Bissau, Liberia, São Tomé and Príncipe, Sierra Leone, Togo, and Zimbabwe.

¹⁴ Kenya, Tanzania, and Uganda.

¹⁵ Cameroon, the Central African Republic, Chad, Equatorial Guinea, Gabon, and the Republic of Congo.

¹⁶ Angola, Burundi, Cameroon, the Central African Republic, Chad, the Democratic Republic of Congo, the Republic of Congo, Equatorial Guinea, Gabon, Rwanda, and São Tomé and Príncipe.

¹⁷ SADC comprises Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe. SADC is the largest regional group in table 1.2 (about 52 percent of Africa's GDP).

¹⁸ ECOWAS comprises Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.

¹⁹ WAEMU comprises Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Liberia, Mali, Niger, Senegal, and Togo.

²⁰ The Indian Ocean Commission comprises Comoros, Mauritius, Madagascar, and the Seychelles.

may play an important role in explaining performance. They found, however, that income typology—classification of countries above and below the median GDP per capita—to be suitable to predict human development indicators and economic performance when tested against others. In any case, the next section analyzes the recent growth record more rigorously over a longer period of time.

III. Growth Diagnostics - What Is Different Since 1995?

How different is the recent experience in the context of Africa's history of frequent growth accelerations and collapses? This section examines the issue on the basis of findings from a series of growth diagnostics and statistical tests conducted by Arbache and Page using long time-series and most recent purchasing power parity data for 45 African countries. One of those studies (Arbache and Page 2007c) examine the characteristics and patterns of long-term growth in Sub-Saharan Africa for cross-country income structure, convergence, country level, growth persistence, and evidence for the formation of country groups or clubs. The growth diagnostics of this section are derived from the two other studies on growth cycles and their robustness (Arbache and Page 2007a, 2007b), as well as various briefs by the Office of the Chief Economist of the World Bank's Africa region (AFRCE various years).

A. Africa's growth 1975-2005

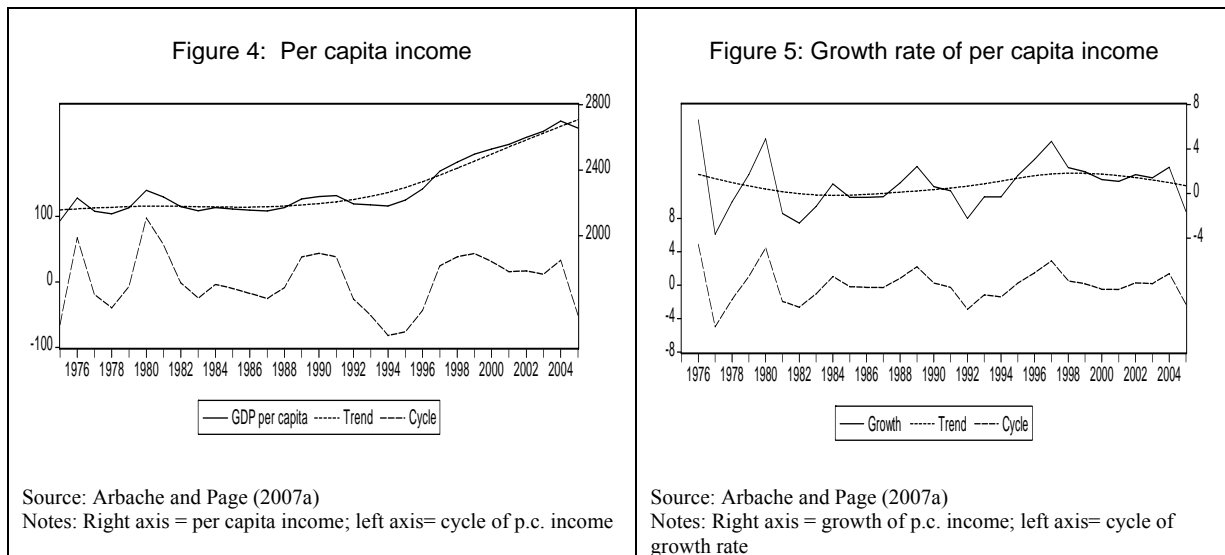
The analysis uses GDP per capita (or per capita income hereafter) with regard to purchasing power parity (PPP) at 2000 international prices and its growth rate. Data on per capita income (PPP at 2000 international prices) and its growth rate are taken from the World Bank's (various years) *World Development Indicators (WDI)*, unless otherwise specified. The sample includes all Sub-Saharan countries except Liberia and Somalia, for which there are no data. Because the emphasis is on the representative country, unweighted country data in the aggregate analysis are used unless otherwise stated. The time-series spans 1975–2005.²¹ Thus, there is an unbalanced panel of data with $T = 31$ and $N = 45$. This period follows the first oil shock and includes the commodity prices plunge, when many African economies collapsed and several conflicts erupted; the introduction of structural reforms, which brought significant changes in many economies; and the recently observed growth recovery.

Figure 4 shows that mean per capita income in Africa had a slow, positive long-term trend, consisting of about 20 years of virtual stagnation with a point of inflexion upward in the mid-1990s. Since then, actual income has remained above the trend most of the time and the variance appears to have declined.²² The same is true if growth rates of per capita income are used. Figure 5 shows Africa's growth path over the same period. Trend growth declined until the late 1980s and increased thereafter, although there is

²¹ The *WDI's* GDP per capita PPP series starts in 1975.

²² The Hodrick-Prescott filter is used in figures 1.4 and 1.5 to smooth the estimate of the long-term trend component of the GDP series.

evidence of a slowdown in recent years. Variance has declined since the mid-1990s, and actual growth has tended to be above and closer to the trend (table 3).



A trend break in 1995. At the regional level, growth in per capita income increased substantially during 1995–2005 and was accompanied by a sharp reduction in the coefficient of variation. This story is consistent with that about aggregate GDP growth discussed earlier. The per capita growth rate rose from –0.23 percent of the previous decade to 1.88 percent during 1995–2005, and the absolute value of the coefficient of variation fell from (–25.5) percent to 3.2 percent (table 1.3). This shift implies an increase of 2 percent in growth, which is about three times the long-term growth rate of 0.7 percent. Income per capita went up to \$2,486 in 1995–2005, which represents an increase of about \$300, or 11 percent, compared with previous periods. Recursive residual estimations, Chow breakpoint tests, and Chow forecast tests do not reject the hypothesis that a structural break in the growth series occurred between 1995 and 1997 (Arbache and Page 2007b)

Table 3: Per capita income, mean growth, and variation for different periods in Africa				
Period	Growth rate			GDP per capita
	Mean	Standard deviation	Coefficient of variation	
1975-2005	0.70	6.27	8.96	2,299
1975-1984	0.13	6.92	53.23	2,180
1985-1994	-0.23	5.87	-25.52	2,183
1995-2005	1.88	5.99	3.19	2,486
1975-1994	-0.07	6.33	-90.43	2,182
(1995-2005) minus (1985-94)	2.11	0.12	28.71	303
(1995-2005) minus (1975-94)	1.95	-0.34	93.61	304

Source: Arbache and Page (2007a)

Hence, statistical evidence suggests that structural breaks occurred in the mid-1990s for per capita income or its growth, thereby making it legitimate to break up the series before and after this period. To put the recent growth experience in better perspective, however, one must look at Africa's long history of economic boom-bust cycles.

B. History of growths and collapses

Although there has been a recent trend break, Africa's growth over the past three decades has been both low and highly variable (Ndulu et al. 2007). Between 1975 and 2005, per capita income PPP grew by 0.7 percent per year, by far the lowest figure among developing regions. At the same time, country growth rates were highly volatile. Interestingly, however, there is no evidence that growth volatility was associated with Africa's poor long-term economic performance (see Arbache and Page 2008c). This result is unexpected (Ramey and Ramey 1995; Hnatkovska and Loayza 2004 and may be misleading. Perhaps because no statistical association exists between Africa's long-term growth rate and its volatility, most attempts to explain Africa's growth performance have focused on investigating the determinants of growth over time and across countries using standard models and techniques (Collier and Gunning 1999; O'Connell and Ndulu 2000; Ndulu et al. 2007). Instead, given Africa's high growth volatility, it may be more relevant and rewarding to examine the causes and consequences of medium-term deviations from the long-run trend: growth accelerations and decelerations.

Identifying good times and bad. As a means of investigating this phenomenon, the economic performance of African countries is classified into growth acceleration and deceleration on the basis of a variation of the methodology in Hausmann, Pritchett, and Rodrik (2005). What constitutes good times for a given country? There are four conditions: First, the four-year forward-moving average of GDP per capita growth minus the country's four-year backward-moving average is greater than zero for a given year. Second, the four-year forward-moving average of growth is above the country's long-run trend. Third, the four-year forward-moving average of GDP per capita exceeds the four-year backward-moving average. Fourth, the first three conditions are satisfied for at least three years in a row, followed by the three subsequent years after the last year that satisfies the first three conditions. And what constitutes bad times?—the opposites of the first three conditions for good times.

In contrast to Hausmann, Pritchett, and Rodrik (2005), this methodology does not impose common parameters for identifying growth acceleration in a cross-section of countries. Instead, it identifies growth acceleration *and* deceleration by *endogenizing* each country's economic conditions into the method, thus allowing for a much wider and more informative investigation of growth volatility. For example, a period with a modest average per capita growth rate of, say, 3 percent may not be substantial for many countries, but it may well be a genuine growth boom for a country enduring very low growth rates. This method takes care of this kind of issue, avoids unsupported generalizations, and provides more sensible results.

Using this methodology, one finds that African countries have experienced numerous episodes of growth acceleration in the past 30 years, but also a comparable number of growth collapses. In short, Africa's long-run record of slow and volatile growth reflects a pattern of alternating, identifiable accelerations and declines, rather than random variations of growth rates around the long-run trend. In addition, growth volatility—when viewed as the product of accelerations and declines—is not neutral and indeed matters for economic and social outcomes. To begin to address the public policy questions posed by these results, one must look for correlates associated with acceleration and deceleration episodes and examine the probability that an economy will undergo a growth acceleration or deceleration.

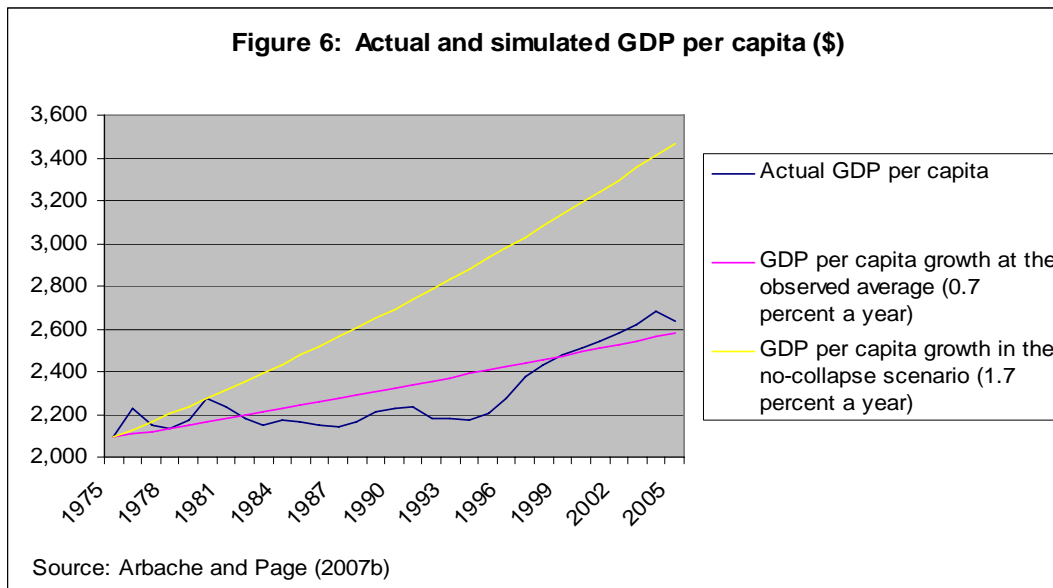
Growth acceleration and deceleration over time. Table 4 shows the unconditional probability of accelerations and decelerations and their respective growth rates for different periods. For the entire period from 1975 to 2005, there is a slightly higher probability of growth acceleration than deceleration: 25 percent of the 1,243 country-year observations (total of valid observations per country per year) refer to countries experiencing growth acceleration, while 22 percent refer to countries experiencing growth decelerations.²³

Table 4: Likelihood and growth rates of economic acceleration and deceleration in Africa, 1975-2005							
Period	All cty years in the period		Cty years with growth acceleration		Cty years with growth deceleration		Cty years with trend growth
	Observations (country-years)	Growth rate	Frequency (of cty years)	Growth rate	Frequency (of cty-years)	Growth rate	Frequency (of cty-years)
1995-2005 (after trend break)	494	1.88	0.42	3.76	0.12	-1.29	0.46
1975-1994 (before trend break)	749	-0.07	0.14	3.39	0.29	-3.14	0.57
1985-1994	433	-0.23	0.21	3.21	0.36	-3.18	0.43
1975-1984	316	0.13	0.04	4.61	0.18	-3.06	0.78
1975-2005 (All years)	1,243	0.7	0.25	3.64	0.22	-2.74	0.53
Source: Arbache and Page (2007a)							

Between 1975 and 2005, countries in Africa that experienced growth accelerations managed to grow on average by 3.6 percent during those episodes, compared with the regionwide average of 0.7 percent. During decelerations, countries contracted on average by -2.7 percent. Given the almost equal probabilities of growth

²³ As a means of checking the robustness of the results, growth accelerations and decelerations were also identified by replacing 0 with +1 percent and -1 percent for acceleration and deceleration, respectively, in condition 1, but the results did not change substantially. Therefore, only the base-case results are reported, because they are less restrictive

accelerations and decelerations, most of the benefits of growth accelerations on Africa were offset by growth collapses, leading to an overall tepid rate of growth. Had Africa avoided its growth collapses, it would have grown at 1.7 percent a year in per capita terms instead of 0.7 percent. Figure 6 shows the actual and simulated GDP per capita at these growth rates. Income per capita would have been at least 30 percent higher in 2005 had bad times been avoided.²⁴ This finding is consistent with Easterly (1998), who argued that the incremental capital-output ratio, ICOR (or its inverse, the marginal returns of investment) of African countries such as Zambia fluctuated too much, so that growth opportunities were missed. Growth decelerations matter a great deal in the fight against poverty in Africa.



The relative frequency of good and bad times over the past three decades follows Africa's long-run pattern of growth. Accelerations were more frequent in 1995–2005; decelerations were more common in the two preceding decades. Forty two percent of the 494 country-year observations for 1995–2005 occurred in countries experiencing growth accelerations, and only 12 percent in countries undergoing growth decelerations. The remaining 46 percent of observations belong to years in which countries were experiencing neither growth acceleration nor deceleration. In 1975–1984, growth decelerations were 350 percent more frequent than accelerations.²⁵ In 1985–1994, this ratio had dropped to 71 percent, mainly because of a sharp rise in accelerations to 21 percent from 4 percent.

In 1995–2005, the average growth rate for countries during acceleration episodes was 3.8 percent, the second-highest average among the three 10-year periods.

²⁴ The simulated growth rate without collapses takes into account the growth rate during all country-years but growth deceleration years. The additional GDP per capita results from the difference in compound growth at 1.7 percent and 0.7 percent in 1975–2005.

²⁵ Calculated as $((0.18/0.04) - 1) \times 100$.

Interestingly, it was in 1975–1984, a period of very modest regional economic growth, that average growth during accelerations reached its highest rate. This finding reflects a compositional effect at work. In the past decade, even long-stagnant economies, such as the Central African Republic, Ethiopia, Mali, Mozambique, Sierra Leone, and Tanzania, experienced some sustained growth, pushing down the averages during acceleration episodes, whereas in 1975–1984, the high average growth rate was mainly due to a few growth accelerations overall and very rapid growth in the Republic of Congo.

The average (negative) growth rate for countries experiencing growth decelerations in 1995–2005 was less than half that in previous decades, contributing to the more positive overall economic performance of the period. Economic declines had both the highest frequency—double that of the next highest decade—and the greatest impact on countries during the 1985–1995 period.

Nonetheless, some caution arises from the fact that a significant amount of time—53 percent—pertains to country-years with neither growth acceleration nor growth deceleration for the entire period from 1975 to 2005. These are supposed to be “normal times,” when countries were growing at the trend line. For much of the time before 1995, however (as shown in figure 4), that trend is very flat, the growth stagnant. From a very high 78 percent during 1975–84, that likelihood also fell to about 43 percent during 1975–94. Since 1995, the probability of growing at the trend is still high at 46 percent, but the trend has shifted up to 1.9 percent a year.

Country pattern of growth cycles. Over the entire 30-year period, richer countries have had more growth accelerations, and poorer countries have experienced more growth collapses. This result is, of course, to some extent endogenous; average income per capita will tend to rise in countries with more frequent growth accelerations and fall in countries with more frequent collapses. But this result also holds in each 10-year period, where the compounding effects may be assumed to be less important. It may indicate that richer countries can better take advantage of propitious circumstances and that poorer countries are less able to avoid bad times. There is one interesting exception. Income per capita for countries experiencing growth accelerations in 1995–2005 is slightly below the average for the region overall, thus indicating that growth successes have been spreading to poorer countries in the past decade.

Table 5 shows the frequency of growth acceleration and deceleration episodes by country category and compares them with the mean. In general, there is no substantial difference in the probabilities of growth acceleration and deceleration episodes for a given country category. Although geography does not appear to matter, geology and conflict do.²⁶ As might be expected, oil exporters and resource-rich countries have more frequent growth accelerations but, somewhat unexpectedly, the same frequency of growth decelerations as the regional average. Conflict is also important in determining good times and bad. Major conflict countries had fewer growth accelerations than the regional average but also fewer decelerations. They also had significantly lower average growth than the regional average. Taken together, these results suggest that major conflict

²⁶ See country assignment in table A.2 in Arbache and Page (2007b).

countries were trapped in a low-level equilibrium. Minor conflict countries have a substantially higher probability of a growth deceleration than the average and are much more likely to experience bad times than good times.

Table 5: Frequency of growth acceleration and deceleration by country category

Country category	Growth acceleration		Growth deceleration	
	Frequency (country-years)	Above/below all countries' mean	Frequency (country-years)	Above/below all countries' mean
All countries' mean	0.25	-	0.22	-
Coastal	0.26	Above	0.22	Equal
Landlocked	0.23	Below	0.22	Equal
Coastal without resources	0.24	Below	0.23	Above
Landlocked without resources	0.22	Below	0.22	Equal
Oil exporters	0.29	Above	0.23	Above
Non-oil exporters	0.24	Below	0.22	Equal
Resource countries	0.30	Above	0.21	Below
Non-resource countries	0.23	Below	0.23	Above
Major conflict	0.16	Below	0.17	Below
Minor conflict	0.19	Below	0.32	Above

Source: Arbache and Page (2007b).

Table 6 shows the unconditional probabilities of growth acceleration and deceleration at the country level and the growth rates during these episodes. The gaps between growth rates during accelerations and decelerations at the country level tend to be high, generating the high growth volatility observed in Africa. The high average growth rates observed in many economies during acceleration episodes also show the resilience and capacity of the region's economies to grow when economic and political conditions favor growth. The magnitude of economic contractions during deceleration episodes similarly indicates the severity of the consequences when economic and political conditions are unfavorable.

Sixteen countries in our sample have avoided growth decelerations altogether. Many—Botswana, Cape Verde, Equatorial Guinea, Lesotho, Mauritius, Mozambique, and Uganda—are among the region's top performers in per capita income growth over the three decades, but not all. Burkina Faso, Guinea, Namibia, São Tomé and Príncipe, and Swaziland are not among the region's growth leaders. Avoiding growth collapses is important for long-run success at the country level, but it is not the only factor contributing to robust long-term growth.

Seven countries—the Democratic Republic of Congo, Eritrea, Gabon, The Gambia, Madagascar, Mauritania, and Niger—have never had a growth acceleration. Of those seven, only Eritrea shows good long-term per capita income growth. Four of the seven had long-run declines in per capita income.

Table 6: Frequency of growth acceleration and deceleration and growth rate at the country level

Country	Frequency of growth acceleration	Frequency of growth deceleration	Growth rate (1976-2005)	Growth rate during growth acceleration years	Growth rate during growth deceleration years
Angola	0.48	0.28	0.70	3.93	-5.48
Benin	0.27	0.23	0.59	1.60	-0.99
Botswana	0.43	0.00	6.24	6.87	
Burkina Faso	0.43	0.00	1.21	1.39	
Burundi	0.20	0.23	-0.47	1.48	-4.45
Cameroon	0.23	0.23	0.81	2.21	-5.34
Cape Verde	0.42	0.00	3.26	3.57	
Central African Republic	0.23	0.53	-1.27	0.89	-1.95
Chad	0.20	0.20	1.34	7.66	-1.66
Comoros	0.24	0.28	-0.14	0.11	-1.89
Congo, Dem. Rep.	0.00	0.30	-3.94		-7.60
Congo, Rep.	0.20	0.43	0.61	10.05	-2.25
Cote d'Ivoire	0.20	0.63	-1.57	1.82	-3.81
Equatorial Guinea	0.42	0.00	10.55	20.88	
Eritrea	0.00	0.00	1.96		
Ethiopia	0.25	0.25	0.42	3.71	-3.05
Gabon	0.00	0.40	-0.91		-1.52
Gambia, The	0.00	0.23	0.29		-0.99
Ghana	0.43	0.20	0.60	2.15	-4.33
Guinea	0.37	0.00	0.98	1.78	
Guinea-Bissau	0.23	0.20	-0.70	0.76	-1.87
Kenya	0.20	0.40	0.48	1.76	-0.75
Lesotho	0.23	0.00	3.27	3.83	
Madagascar	0.00	0.43	-1.38		-2.12
Malawi	0.23	0.37	0.22	1.68	-2.12
Mali	0.33	0.23	0.86	2.75	-3.09
Mauritania	0.00	0.00	0.10		
Mauritius	0.28	0.00	4.22	5.65	
Mozambique	0.32	0.00	2.08	5.08	
Namibia	0.32	0.00	0.15	2.14	
Niger	0.00	0.43	-1.01		-3.55
Nigeria	0.53	0.20	0.27	1.99	-4.79
Rwanda	0.20	0.20	1.68	2.27	2.12
Sao Tome and Principe	0.47	0.00	0.31	0.99	
Senegal	0.27	0.23	0.36	1.75	-1.38
Seychelles	0.53	0.00	2.46	4.01	
Sierra Leone	0.20	0.47	-0.57	7.95	-2.92
South Africa	0.23	0.40	0.12	1.96	-1.72
Sudan	0.30	0.00	1.72	3.90	
Swaziland	0.27	0.00	1.15	4.63	
Tanzania	0.47	0.00	1.69	3.69	
Togo	0.20	0.60	-0.60	4.27	-2.61
Uganda	0.30	0.00	1.92	3.69	
Zambia	0.23	0.50	-1.23	2.35	-2.38
Zimbabwe	0.20	0.27	-1.26	2.61	-5.34

Note: blank space means country did not experience growth acceleration and/or deceleration.
Source: Arbache and Page (2007b).

C. Does growth accelerations and deceleration matter?

Although growth accelerations and decelerations are important features of Africa's low and volatile long-run growth, do they matter for economic and social outcomes beyond their direct consequences on the rate of growth? If growth accelerations and decelerations have effects that are not neutral, one would expect economic, social, and governance

indicators during such episodes to be different than such indicators during normal times. We investigate the non-neutrality of growth volatility by examining differences in mean values in countries experiencing growth acceleration and deceleration episodes and simple correlations between changes in key economic and social variables and the presence or absence of growth accelerations and decelerations. Table 7 shows simple sample averages during growth accelerations, decelerations, and “normal” times (defined as the absence of either). It also gives the correlation coefficients between a number of economic, social governance, and institutional characteristics and the frequency of acceleration and deceleration episodes.

What appears to increase the odds for good times?—in general, higher savings and investment, more foreign direct investment (FDI), and a more competitive exchange rate. What appears to increase the odds for bad times?—bad macroeconomic policy (high inflation), political instability, and bad governance. The specific results in table 7 also reveal an asymmetric relationship between growth accelerations and decelerations and some economic indicators.

Savings, investment and consumption. The major changes in national accounts during growth episodes take place in investments and savings rather than in consumption. Savings and investments are higher during accelerations, compared with normal times, and substantially lower during deceleration episodes. FDI during accelerations is six times the figure for deceleration episodes.

Correlations show that countries that have high savings and investment have a higher probability of growth acceleration and less probability of deceleration. Consumption is relatively lower during growth accelerations, which is consistent with the higher allocation of resources for investment. But consumption is also lower during decelerations, which is probably due to the fall in the purchasing power of households.

Structure of the economy. The share of the agriculture sector is slightly higher in countries experiencing decelerations, whereas industry’s share is slightly larger in countries going through accelerations. Correlations suggest that countries that rely more on agriculture have more spells of growth deceleration, possibly because of a higher exposure to insects, droughts, and other natural disasters, but also because of swings in agriculture commodity prices.

Macroeconomic management appears to be an important factor in both good times and bad times. Decelerations are accompanied by high inflation; one recent example is Zimbabwe. There is a positive correlation between inflation and the frequency of growth decelerations. Public debt is higher during both acceleration and deceleration episodes than it is during normal times, and government consumption falls during both accelerations and decelerations. Correlations suggest that countries that increased their debt also experienced more growth accelerations and decelerations, which may support the view that prudent debt management is important for reducing growth volatility.

The real effective exchange rate is more competitive during growth accelerations and highly appreciated during decelerations. Correlations suggest that exchange rate appreciation is associated with growth deceleration, whereas depreciation is associated with acceleration. There is no evidence that current accounts change during growth acceleration and deceleration.

Trade is substantially lower during decelerations. Exports and especially imports drop sharply. Correlations indicate that countries that trade less are more exposed to growth decelerations. Somewhat surprisingly, the terms of trade are lower during growth accelerations. This result may indicate that although high commodity prices trigger growth, they may not be the main factor behind medium-term growth spells in Africa.

Aid. Official development assistance (ODA) as a percentage of GDP is similar in both good and normal times but falls during growth decelerations. Per capita ODA, however, is higher during growth accelerations and lower during decelerations. The correlation analysis suggests that a higher share of ODA in GDP is associated with fewer growth collapses and that countries with higher ODA per capita experience more growth accelerations and have fewer collapses. These results indicate that ODA has been procyclical, reinforcing arguments for greater predictability of ODA to underpin sustained growth.

Policies, institutions and governance. Policies and institutions are also closely associated with both good and—especially—bad times. The World Bank’s Country Performance and Institutional Assessment (CPIA) score, a broad measure of policy and institutional performance, is lower during decelerations, but not significantly different between accelerations and normal times. The correlation coefficients suggest that countries with lower CPIA scores tend to experience more economic collapses.

All the governance indicators—political stability, government effectiveness, rule of law, and control of corruption—are lower for growth decelerations than for the region as a whole.²⁷ Correlation coefficients are negative, suggesting that a deterioration of governance is accompanied by more frequent growth decelerations. Voice and accountability scores are higher during growth accelerations. The correlations also suggest that countries that experience more growth accelerations have more voice and accountability and better regulatory quality.

Minor conflicts are more frequent during growth deceleration episodes than during normal times. Major conflicts are less frequent during acceleration and deceleration episodes than for the region as a whole. The correlation coefficients suggest that minor conflicts are associated with collapses and that major conflicts hamper the chances of a growth acceleration.

These results reinforce the findings of other empirical studies (Dufrénot, Sanon, and Diop 2006; Ndulu et al. 2007) of the close relationship between institutions and

²⁷ Governance indicators are available for the following years: 1996, 1998, 2000, 2003, 2004, and 2005.

governance and economic performance in Africa. However, they also reveal that governance appears to be more relevant to understanding how to avoid a growth deceleration than how to promote an acceleration.

Table 7: Means of economic, social governance, institutional characteristics during growth acceleration/decelerations and their correlations with the frequency of acceleration/deceleration episodes									
	Mean during normal times or trend growth	Growth acceleration			Growth deceleration				
		Mean		Correlation Coefficient	Mean		Correlation Coefficient		
Savings, Investment & Consumption									
Savings (% GDP)	11.4	15.3	*	.180	*	7.1	*	-.177	*
Investments (% GDP)	20.0	23.1	*	.176	*	15.5	*	-.236	*
Private sector investment (% GDP)	12.2	13.8	*	.125	*	9.2	*	-.166	*
Foreign direct investments net flow (% GDP)	2.51	4.20	*	.130	*	0.72	*	-.135	*
Consumption (% GDP)	93.4	88.8	*	-.091	*	89.7	*	-.058	*
Macroeconomic Management									
Consumer price index (%)	27.2	15.2		-.034		184.7	*	.084	*
GDP deflator (%)	26.9	16.7		-.028		175.0	*	.078	*
Public debt (% GNI)	87.3	112.3	*	.077	*	115.7	*	.089	*
Government consumption (% GDP)	17.2	16.0		-.038		15.2	*	-.084	*
Real effective exchange rate (2000=100)	130.2	115.1	*	-.107	*	186.4	*	.168	*
Current account (% GDP)	-5.96	-5.83		.056		-6.03		.011	
Structure of the Economy									
Agriculture value added (%GDP)	29.8	28.6		-.050		31.9	*	.069	*
Industry value added (% GDP)	25.3	26.9		.061	*	24.6		-.042	
Service value added (% GDP)	44.9	44.3		-.044		43.5		-.040	
Trade									
Trade (% GDP)	74.7	76.2		.065	*	58.7	*	-.176	*
Exports (% GDP)	30.1	31.6		.056	*	26.5	*	-.083	*
Imports (% GDP)	44.6	44.4		.054		32.5	*	-.217	*
Terms of trade (2000=100)	109.5	102.2	*	-.102	*	114.5		.082	*
Aid									
ODA (% GDP)	14.2	13.8		.001		12.1		-.059	*
ODA per capita (US\$)	57.3	69.5	*	.100	*	41.8	*	-.122	*
Policies, Institutions, and Governance									
CPIA (scale 1=low to 6=high)	3.17	3.19		.065		2.75	*	-.206	*
Voice and accountability (-2.5 to +2.5, low to high)	-0.65	-.45	*	.168	*	-1.08	*	-.209	*
Political stability (-2.5 to +2.5)	-0.47	-.45		.051		-1.07	*	-.200	*
Government effectiveness (-2.5 to +2.5)	-0.65	-.58		.100		-1.03	*	-.203	*
Regulatory quality (-2.5 to +2.5)	-0.61	-.49		.129	*	-.97	*	-.176	*
Rule of law (-2.5 to +2.5)	-0.62	-.65		.037		-1.14	*	-.227	*
Control of corruption (-2.5 to +2.5)	-0.55	-.57		.025		-0.92	*	-.182	*
Minor conflict (frequency)	0.09	.08		-.046		0.16	*	.082	*
Major conflict (frequency)	0.12	.05	*	-.070	*	0.07	*	-.044	

Human Development Outcomes							
Life expectancy (years)	50.8	51.3	.062	48.2	*	-.136	*
Dependency ratio	0.93	.91	-.067	.93		.053	
Under 5 mortality (per 1,000)	150.4	145.8	-.108	188.7	*	.237	*
Infant mortality (per 1,000 live births)	86.2	84.2	-.108	114.1	*	.277	*
Primary completion rate (% of relevant age group)	53.2	52.7	.049	40.9	*	-.178	*
Notes: (*) t-test significant at the 5% level. The means of variables are tested against the means of normal times corresponding to the respective periods of growth acceleration or decelerations. However, the sub-sample means of normal times are generally similar to those of the entire period in the second column. See reference below for the details including the corresponding standard errors. Source: Arbache and Page (2007b)							

Human development outcomes. Growth variability also affects a number of important human development indicators. Life expectancy is substantially lower in countries experiencing growth decelerations than in countries experiencing normal times. The correlation coefficient is negative, suggesting that more collapses are associated with lower life expectancy. The dependency ratio is slightly lower during growth accelerations, and the correlation coefficient is negative, as expected. Mortality for children under age 5 and infant mortality are substantially higher during growth decelerations than in normal times, but these indicators do not improve during growth accelerations (see box 1). Correlation coefficients suggest that growth collapses are associated with increases in mortality. The primary completion rate is substantially lower in countries experiencing growth decelerations and is negatively correlated with growth collapses.

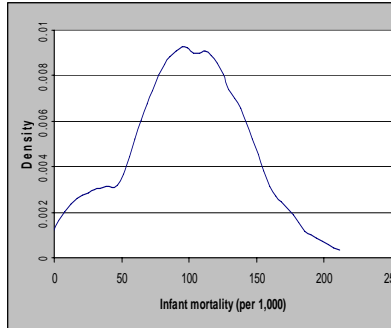
Box 1: Asymmetric impacts of good and bad times on the poor: the case of infant mortality

During normal times the average infant mortality rate across Sub-Saharan Africa is 86.2 per 1,000. During good times, the ratio falls slightly to 84.2, which is not statistically different. But there is a major increase of infant mortality to 114.1 during the bad times. This evidence is illustrated by the kernel density distribution. During normal or accelerating times the kernel is right skewed (figures 6a and 6b). But during decelerating times the kernel curve is clearly skewed to the left, and a second peak emerges, representing the countries experiencing much worse infant mortality levels (figure 6c).

Among the countries in the second peak are Malawi and Mali in 1980, both of whose infant mortality rate was 176. Remarkably, as growth accelerated these countries experienced substantially lower figures: 115 in 1995 for Malawi and 124 in 2000 for Mali. Other countries in the second peak include Angola in 1990 and 1995, Niger in 1985 and 1990, and Sierra Leone in 1985, 1990, and 1995. These examples highlight the asymmetric relationship between growth acceleration and deceleration and social indicators, suggesting that growth volatility does matter and is marginally more important for the poor than growth acceleration.

Figure 6: Infant mortality (kernel density estimation)

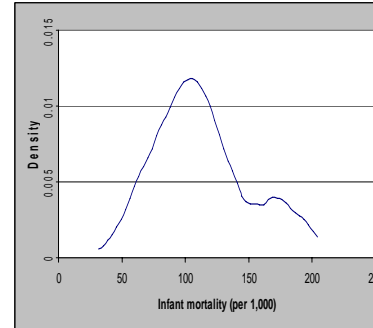
a) during normal times



b) during growth acceleration



c) during growth deceleration



Source: World Bank Africa Development Indicators 2007.

Explaining the probability of growth accelerations and decelerations. Table 8 shows the conditional probabilities of a country experiencing a growth acceleration and deceleration at the aggregate level. Models 1–4 refer to growth accelerations and models 5–12 to growth decelerations. These regressions represent a further search for stylized facts about acceleration and deceleration episodes. No causality is inferred from the relationships, and no attempt has been made to control for endogeneity of some of the right-hand-side variables.

Model 1 shows that a 1 percent change in investment is on average associated with a higher probability of a growth acceleration of about 0.1 percent. So, an increase of, say, 10 percent in investment is associated with an increase of 1 percent in the probability of a growth acceleration. Voice and resource endowment (models 2 and 3) are also positively associated with a growth acceleration. However, all coefficients are significant at only the 10 percent level, and the R^2 are low. Model 4 shows a regression with all these correlates together. Only voice and resource endowment remain significant at the 10 percent level.

All estimated coefficients of models 5–11 have the expected sign and are significant at the 5 percent level. They show that more investment, higher ODA per capita, increased imports, and better governance indicators are associated with fewer growth decelerations. Model 12 shows the coefficients for all the nongovernance indicators together. In this case, only investment remains significant. The governance indicators were not regressed together because of their very high collinearity.

Only investment is significantly associated with the conditional probability of both acceleration and deceleration episodes. This finding suggests that investment is likely to be an important factor for predicting spells of growth and collapse at the

aggregate level, but one cannot assert with confidence that it is a leading indicator, because of its probable endogeneity. Better governance indicators reduce the likelihood of growth decelerations, but they are not closely associated with more frequent accelerations.

Table 8: Conditional probability of growth acceleration and deceleration at the aggregate level

Variable	Dependent variable: frequency of growth acceleration per country				Dependent variable: frequency of growth deceleration per country							
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Ln investment	.110 (1.70)			.047 (.72)		-.253 (-3.23)						-.233 (-1.97)
Voice (governance indicator)		.056 (1.87)		.061 (1.98)								
Resource rich country			.082 (1.77)	.082 (1.73)								
Ln ODA per capita					-.078 (-2.17)							-.036 (-.84)
Ln imports							-.145 (-2.40)					.020 (.21)
Political stability (governance indicator)								-.068 (-2.08)				
Government effectiveness (governance indicator)									-.127 (-2.63)			
Rule of law (governance indicator)										-.115 (-2.60)		
Control of corruption (governance indicator)											-.132 (-2.68)	
R2	.06	.08	.06	.16	.10	.19	.12	.09	.14	.14	.15	.21
N	45	44	45	44	45	45	45	44	44	44	44	44

Note: t-test in parentheses.
Source: Arbache and Page (2007b).

Table 9 shows fixed-effect logistical models that predict the presence of a growth acceleration or deceleration at the country level. Increases in savings, foreign direct investment, and consumption increase the odds of a growth acceleration, whereas government consumption and major conflicts reduce the odds. In the deceleration regression, increases in savings, investment, FDI, and trade reduce the odds of a growth deceleration, whereas inflation and minor conflicts increase the odds of collapse.²⁸ Only savings, FDI, and conflict appear in both regressions. These results suggest that policies aimed at attaining sustained growth and preventing growth collapses need to focus on ways to increase savings, attract foreign investments, and reduce conflicts.

²⁸ Random-effect models, including dummies for oil-producing countries, and landlocked and resource-rich countries returned statistically insignificant results. Hausmann tests suggest that fixed-effect estimates are preferable to random effect.

Table 9: Predicting growth acceleration and deceleration - panel data

Variable	Dep. variable: dummy of growth acceleration		Dep. variable: dummy of growth deceleration	
	Odds ratio	p-value	Odds ratio	p-value
Savings	1.152	.000	.929	.000
Investment in fixed capital			.956	.062
Foreign direct investments net flow	1.146	.000	.811	.000
GDP deflator			1.010	.016
Consumption	1.051	.004		
Government consumption	.904	.000		
Trade			.980	.008
Minor conflict			1.744	.045
Major conflict	.435	.064		
LR (chi2)	127.6	.000	97.4	.000
N	825		647	
Note: fixed effect logit regression. Source: Arbache and Page (2007b)				

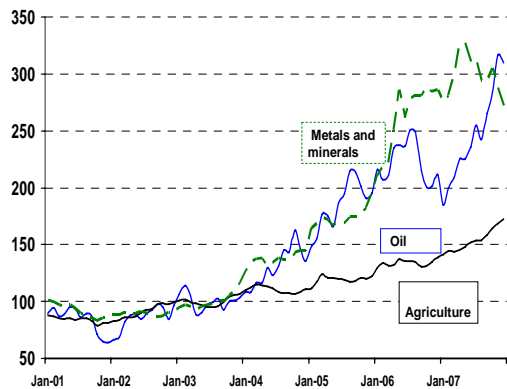
D. Good luck or good policy - How robust is the recent growth?

Today's Africa is clearly different from the Africa of the early 1990s, when it was coming out of the declines after the first two oil price shocks, the debt problems, and stagnation of the adjustment years. Thanks to the recent acceleration of growth, there is definitely a higher economic base to work with. But how sustainable is that growth? Are the main contributing factors good luck or good policy? As the growth diagnostics so far indicate, the answer hinges not only on policy and governance but also on economic fundamentals, such as factor accumulation and productivity as well as trade and export diversification—and the significance of the changes in these fundamentals. This section evaluates Africa's recent growth against the lessons learned in the previous sections.

Commodity prices and terms-of-trade. External circumstances have certainly been favorable since the mid-1990s: the global economy has been expanding at 3.2 percent a year, global trade expanded by 40 percent a year, and the share of FDI in the world GDP nearly doubled from 1.15 percent in 1995 to more than 2.23 percent in 2005. As a result of greater demand, commodity prices, including oil prices, have been pushed to new high levels. Hence, the better economic performance in the recent period is certainly partly due to the higher export prices of many African countries (figure 7). Higher oil prices now benefit about 8–10 oil-exporting countries in Sub-Saharan Africa, as discussed in the previous section. Non-oil commodity prices have also risen significantly. Of the 40 commodity prices monitored regularly, only cotton prices declined from the high prices of the 2003 drought year. Hence, gains from higher export prices for commodities such as gold, aluminum, copper, and nickel more than offset the losses from higher oil import bills in several oil-importing countries, such as Burundi, Ghana, Guinea, Mali, Mozambique, Rwanda, Uganda, Zambia, and Zimbabwe. Overall, compared with the previous major oil price cycle during 1973–1980, the aggregate terms

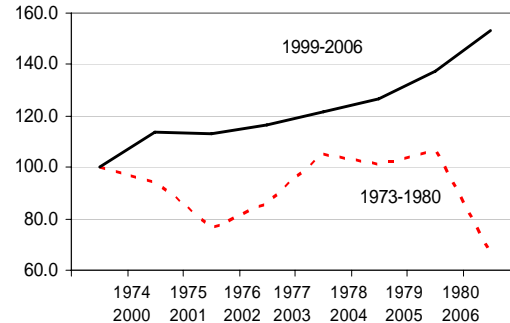
of trade for Sub-Saharan African countries have fared much more favorably in the current oil price cycle, relative to their respective starting points (figure 8).²⁹

Figure 7: Commodity and oil prices
(Price indices, 2000=100)



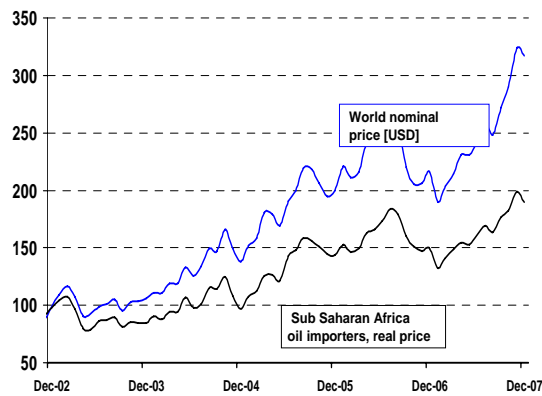
Source: World Bank various years b.

Figure 8: Terms of Trade Index in SSA
1973-1980 and 1999-2006
(1973, 1999 = 100)



Source: AFRCE various years; World Bank various years.

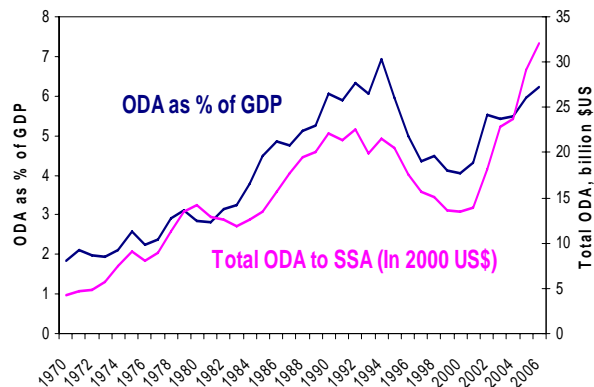
Figure 9: Nominal and Real Price of Oil in SSA
(Price indices, 2000=100)



Source: World Bank, DECPG.

Source: World Bank various years b.

Figure 10: Official Development Assistance to SSA
(In 2000 US dollar and percent of GDP)



Source: OECD DAC various years; World Bank various years h.

For oil-importing countries, the weakening of the U.S. dollar has also meant that the oil price in euros or local currency has not risen as much. For Sub-Saharan Africa in

²⁹ The recovery of terms of trade in non-oil-exporting developing countries since the late 1990s is, however, still below the peaks of the early 1980s. Data are from the World Bank's *World Economic Indicators*.

particular, the real price increases of oil were in fact significantly lower than the recent nominal price increases quoted in dollars, after adjusting for exchange rate movements and domestic inflation. Since 2000, the nominal price of oil has tripled, whereas the real price has doubled (see figure 9). Although the nominal price was approaching \$100 a barrel toward the end of 2007, the real oil price for oil importers in Africa was only 2.6 percent higher than in 2006.

Nonetheless, although economic performance remains strong in many African countries (as seen in table 1), several non-resource-rich countries will have to be monitored because their terms-of-trade losses were exacerbated by unfavorable changes in both oil and import prices. These countries include Benin, Burkina Faso, Cape Verde, Comoros, Eritrea, Ethiopia, The Gambia, Kenya, Lesotho, Madagascar, Mauritius, Niger, Senegal, the Seychelles, and Togo. In most cases, the additional negative shock came from prices of staple imports, such as wheat, rice, and vegetable oils. Eritrea, for example, had an estimated negative terms-of-trade impact of greater than 5 percent of GDP from higher food prices, while Lesotho, Mauritania, Senegal, and Togo had an estimated negative terms-of-trade impact in excess of 2 percent of GDP because of changes in food prices.

Effects of external shocks on growth and poverty. The importance of terms-of-trade shocks in Sub-Saharan Africa has been evolving. Historical data suggest that external shocks are important determinants of growth in Africa (see, for example, Deaton and Miller 1995; Collier and Dehn 2001). Collier (2007) finds this is especially true in resource-rich countries. Moreover, Collier and Dehn (2001) observe that aid may mitigate the negative consequences of external shocks. However, Hausmann, Pritchett, and Rodrik (2005) argue that positive external shocks are strongly correlated only with short-term economic expansions, not with sustained growth episodes. Collier and Goderis (2007) confirmed that positive shocks have short-term effects on outputs, but negative shocks have lasting damaging effects. IMF (2007a) finds that most ongoing growth spells in Africa are taking place amid negative terms-of-trade shocks since the current growth began, suggesting that other factors have been more important in recent years. Looking at these issues carefully, Raddatz (2008) finds that the relative importance of external shocks as sources of output instability in African countries has actually increased in the past 15 years and that this increase is the result of two reinforcing factors: (1) a decline in the variance of internal shocks, including policy failures or conflicts, and (2) a relative increase in the vulnerability of output to external shocks, while output variability in general is declining among African countries. Contrary to the importance attributed to oil prices in policy circles, Raddatz also finds that they are not particularly important for output volatility in the typical African country, but only among those countries that are net oil exporters. Without compensating developments, such as higher export prices, exogenous flows, or adjustment policies, however, the marginal impact of an oil price shock can be quite significant, as shown in two case studies - Andriamihaja and Vecchi (2008) on Madagascar and Essama-Nssah, Go, Kearney, Korman, Robinson, and Thierfelder (2008) on South Africa.

Aid flows and debt relief. Moreover, new commitments to scale up foreign aid from industrial countries have already led to greater external resources and debt relief for poor countries. Recent aid commitments and actual disbursements (inclusive of debt relief) have already recovered to the high points of the early 1990s (see figure 10). Moreover, additional and significant debt relief became a reality when the World Bank and IMF approved the financing and implementation of the Multilateral Debt Relief Initiative (MDRI) starting on July 1, 2006. Sixteen countries in Sub-Saharan Africa, together accounting for 23 percent of the regional income but 43 percent of the total population, have now reached the completion point for significant debt relief under the enhanced Heavily Indebted Poor Country Initiative and have qualified for further assistance from the MDRI. Benefiting from debt relief, MDRI countries did very well recently and grew by over 5.3 percent during 2000–06 (table 1).³⁰

Nonetheless, the promises made at the Gleneagles summit to scale up aid have yet to materialize. In particular, aid still has to go much beyond the high points of the 1990s to double by 2010, as pledged by donors. Chuhan-Pole and Fitzpatrick (2008) reviews several issues relating to aid: its trends, its distribution with regard to debt relief and new flows, its reliability with regard to volatility and predictability, and its progress toward donor alignment and harmonization. The scaling up of aid also presents several challenges in the macroeconomic management of aid, and the paper by Go, Korman, Page, and Ye (2008) reviews the issues regarding the absorption and spending of aid, the efficiency and composition of additional public expenditure, and the evolution of the macroeconomic framework to integrate microeconomic aspects at the World Bank, as well as several case studies on fiscal space issues. Moreover, the paper by Devarajan, Go, Page, Robinson, and Thierfelder (2008) argues that the specter of Dutch disease from additional aid is intrinsically related to the predictability of aid: if aid is certain and sufficient to allow intertemporal substitution to take place in consumption and supply, the issue of real exchange appreciation ceases to be an issue. Moreover, the scaling-up debate is taking place amid rapid globalization and development of capacity, which changes results.

Better leadership. However, the current acceleration of growth is not all due to luck; better policy seems to be taking place in Sub-Saharan Africa. Africa today enjoys better economic prospects because its leaders have undertaken major reforms during the past 10 years and are taking increasing control of their economic destiny. African governments are making regional initiatives in conflict resolution and are taking action to improve governance under the African Union and the New Partnership for Africa's Development initiatives. These initiatives are designed to

- Push African countries to be assertive about ownership and to assume leadership and accountability for their development programs.

³⁰ So far, MDRI countries include Benin, Burkina Faso, Cameroon, Ethiopia, Ghana, Madagascar, Malawi, Mali, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Tanzania, Uganda, and Zambia.

- Improve the reputation of the region through certification of good practices in governance for a critical mass of African countries under the African Peer Review mechanism.
- Increase regional connectivity to improve capacity to trade within the region and with the outside world.
- Enhance the capacity of a rationalized system of regional bodies to provide regional public goods, such as cross-country transportation and power sharing, coordination in managing pandemics, and protection of regional commons such as the Nile and the Great Lakes.

Overall Policy and Institutional Environment. Although there is no perfect or leading indicator of the overall quality of policy and institutional environment, the World Bank's CPIA provides a consistent framework for assessing country performance on 16 items, which are grouped into four wide-ranging clusters: economic management, structural policies, policies for social inclusion and equity, and public sector management and institutions.

The average CPIA scores for African countries have been rising. The average CPIA score in 1995 was 2.8. By 2006, it had risen to 3.2. The number of African countries with scores equal to or greater than the threshold of 3.5 for international good performance had also risen, from 5 countries in 1997 to 17 in 2006.

Economic performance among African countries is highly correlated with the quality of policy (see figure 11). Countries with CPIA scores of greater than or equal to 3.5 by 2006 tend to have higher growth and lower inflation than those with scores lower than 3.5 (excluding Zimbabwe). The low-income countries (excluding middle-income and oil-exporting countries) with good policy and institutional environment are in fact doing very well: growth averaged 5.1 percent and inflation was 6.9 percent.

Macroeconomic Management. The most striking improvement in policy is observed for macroeconomic stabilization. Inflation among African countries has come down dramatically since 1995 (figure 12). The number of countries able to keep inflation below 10 percent a year increased from 11–26 in the early 1990s to about 31–35 since 2000. From the 1980s to the present, there were as many as 10 different African countries with hyperinflation (greater than 50 percent) at one point or another. The extreme values can run over thousands of percentage points. The countries with hyperinflation have included Angola, the Democratic Republic of Congo, Guinea, Guinea-Bissau, Mozambique, São Tomé and Príncipe, Sierra Leone, Sudan, Uganda, Zambia, and Zimbabwe.

Figure 11: Economic Performance of African Countries by Quality of Policy, 2000-06

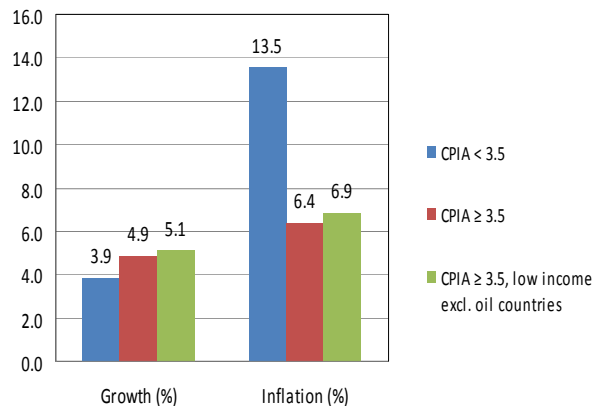
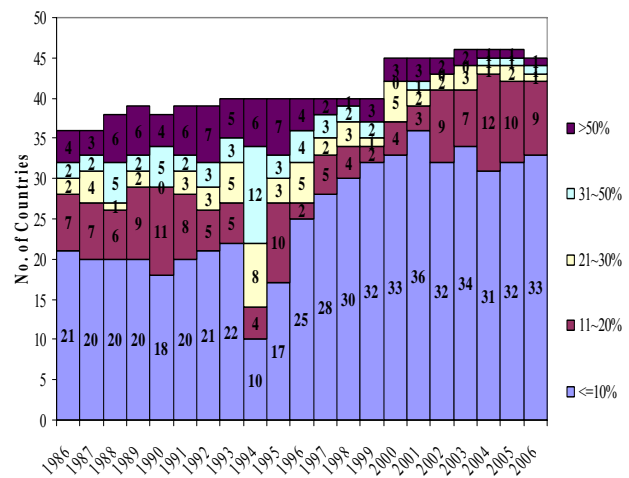


Figure 12: Inflation Pattern of African Countries Number of countries by inflation range



Sources: AFRCE various years; World Bank various years g.

In recent years, all these countries except Zimbabwe have been able to contain inflation drastically. The regional average has fallen below 10 percent since 2002.³¹ This performance is all the more remarkable in view of the significant increase in oil prices that started in 1999.

Another indicator of macroeconomic stabilization, the overall fiscal balance, also improved.³² The average fiscal deficit as a percentage of GDP in African countries declined from 5.7 percent during the 1980s and 1990s to 2.9 percent during 2000–06. Fiscal policy in oil-exporting countries has also improved. Unlike the unchecked wasteful spending in the past, windfalls from oil revenue are increasingly being saved. At the start of the current oil price shock, fiscal deficits were increasingly reduced, and by 2004–06, the overall fiscal surplus averaged about 8 percent for the group. More needs to be done, and two recent papers examine the issues relating to fiscal policy and rules: Devlin, Lewin, and Ranaweera. (2008) examine the fiscal management of oil revenue to improve its effect on growth, while Budina and van Wijnbergen (2008) look at the role of fiscal policy in managing oil revenue volatility in the case of Nigeria.

Adjustment to Higher Oil Prices. For the past seven to eight years, most oil-importing countries in Africa have already been slowly adjusting to the new and higher trend of oil prices, and their ability to continue the adjustment will be the key to future growth, especially if higher oil prices persist. Since 2003, the majority of African countries have allowed frequent and full passthrough of higher oil prices to domestic

³¹ Excluding the hyperinflation in Angola and Zimbabwe. In Angola's case, inflation fell over 300 percent in 2000 to about 13 percent in 2006.

³² Low-income countries in Africa are generally constrained from borrowing in international capital markets. As a result, the current account balance, the other significant macrobalance, is not a policy-dependent variable or a good indicator of macroeconomic management. Imports in these countries tend to adjust to export revenues and aid inflows.

prices. The passthrough is less pronounced in oil-exporting countries. A few countries, such as Côte d'Ivoire and Ethiopia, have at one point or another suspended the use of formulas in favor of less frequent and ad hoc adjustments. Many countries have also tried to protect the poor by limiting price increases and taxation of kerosene. For 14 African countries for which data are available, petroleum subsidies increased from 0.75 percent of GDP in 2003 to 1 percent in 2005. On average, petroleum taxes are important sources of revenue and constitute close to 2 percent of GDP in indirect taxes.

In a recent Energy Sector Management Assistance Program (ESMAP) study³³ of 31 developing countries, the amount of passthrough in gasoline and diesel was found to be positively correlated with a country's terms of trade and inflation (GDP deflator) and negatively correlated with a country's oil vulnerability, overall fiscal position, and per capita income or growth; interestingly, it is also negatively correlated with whether a country is an oil producer or exporter. The debt-to-GDP ratio affects gasoline pricing negatively but not diesel pricing. The 31 developing countries in the sample showed less passthrough of oil cost when compared with industrial countries, particularly with respect to diesel (table 1.10). However, the results for 11 African countries confirmed that African countries have not been delaying adjustment to their fuel prices, even when compared with developed countries; hence, the risks of an unsustainable fiscal position appear to be less than in past episodes of oil price shocks. Overall, diesel prices tended to be protected from increases to protect the poor—although such increases are implemented relatively less often in African countries. Outside of a few instances in which market mechanisms were directly suspended, African governments have been actively intervening in the fuel markets in other ways to help the poor or consumers: by adjusting taxes and subsidies, regulating margins, mandating conservation measures and cash transfers, and so forth.³⁴

³³ See Bacon and Kojima (2006). ESMAP is a global technical assistance partnership that has been administered by the World Bank and sponsored by bilateral official donors since 1983.

³⁴ See Bacon and Kojima (2006) for various case studies of African countries.

Table 10: Pass-Through Coefficients for Gasoline and Diesel		
In Local Currency		
<i>Country</i>	<i>Gasolina</i>	<i>Diesel</i>
Reference industrial countries (6)*	1.13	0.96
Developing countries – (31)	1.03	0.88
Non-SSA countries (20)	0.92	0.73
SSA countries (11)	1.22	1.16
Cameroon	0.91	0.98
Ethiopia	0.48	0.64
Ghana	1.33	1.21
Kenya	0.97	0.79
Madagascar	1.46	1.55
Malawi	1.14	1.22
Mozambique	1.10	1.01
Rwanda	0.98	0.76
Tanzania	1.57	1.52
Uganda	1.23	1.14
Zambia	2.20	1.93
*Figures in parentheses are number of countries.		
Source: Bacon and Kojima (2006).		

Exchange rate regimes. Unlike the past, countries with flexible exchange regimes now account for about 76 percent of Africa's GDP and 68 percent of the region's population. In recent years, and during the current oil price shock, these countries have also tended to grow better than the regional average and better than countries with fixed exchange rates (table 2). In franc zone countries, a strong currency tied to the euro is bringing about concerns regarding real exchange rate appreciation and its impact on export competitiveness (box 2).

Box 2: Real Exchange Rate in franc zone. Countries with fixed exchange rate regimes are mostly in the franc zone, where the CFA franc is tied to the euro. There is however an increasing divergence between the eastern and western part of the zone. The CEMAC countries benefit from large oil inflows and their growth performance is better in the 1990s and since 2000. The WAEMU countries did not adjust as well to higher oil prices, partly because their exports were hurt by an exchange rate tied to a strong euro. The growth of the latter decelerated to 2.7 percent since 2000 with some improvement during 2004-06 at 3.5 percent a year. Real exchange rate changes for selected countries indicate appreciations during 2000-06 of: 17 percent in Benin, 9 percent in Burkina Faso, 18 percent in Chad, 13 percent in Côte d'Ivoire, 8 percent in Togo and 1 percent in Mali. The country level appreciations (with the exception of Mali) are sufficiently large to be worrisome from the point of view of export competitiveness, although whether an adjustment of the CFA franc is necessary depends (among other things) on whether the strength of the euro relative to the dollar will persist.

The Case of Cotton. The structure of CFA zone economies is such that an appreciation of the exchange rate will reduce the real price of exports much more rapidly than the unit cost of labor with negative consequences for export competitiveness; but the impact will vary considerably at the sector level in each country. The case in point is the cotton sector. Because cotton prices are quoted in US dollars, cotton producers in the CFA franc zone are increasingly confronted with export prices that are significantly lower in euro/CFA franc than the price in dollars (see Figure 14). This disparity puts downward pressure on farm gate prices and will add to the potential fiscal cost of any scheme to stabilize farm prices or provide financial assistance to poor farmers. In the case of the cotton sector, the issue goes beyond the exchange rate, however, and reflects declining relative cotton prices driven by new technologies employed by new competitors such as Brazil, China and India.

Figure 13: Real Effective Exchange Rate in Franc Zone Countries

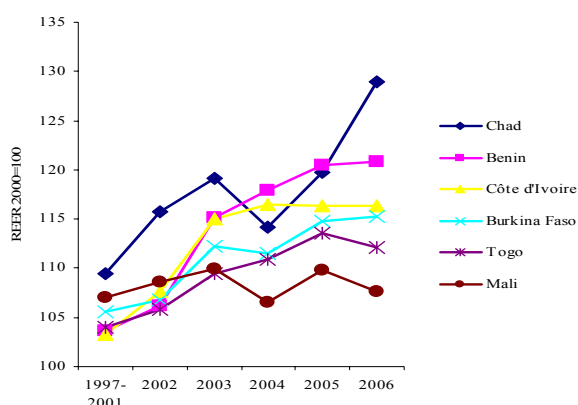
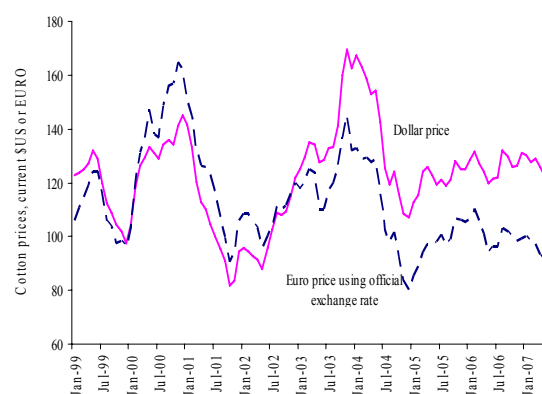


Figure 14: Monthly Price of Cotton (AINDEX) in US Dollar and in Euro



Source: AFRCE various years.

Reduction of policy mistakes across countries. Hence, though external circumstances have been favorable, there is also strong evidence that African countries have increasingly learned to avert economic mistakes and have avoided bad leadership, conflict, corruption, and macroeconomic instability. Such reduction of policy mistakes is central to preventing growth collapses—a key point from the growth analysis described earlier.

To look at how widespread the phenomenon is, table 11 compares the unconditional probabilities of growth acceleration and deceleration by country groups during 1995–2005 against the averages for the entire sample, 1975–2005. The likelihood of growth decelerations has clearly declined by half across the board for different types of countries to about 12–14 percent, which is the average for Africa during 1995–2005. In addition, the probability of major conflict has declined the most: from 17 to 6 percent. Likewise, the likelihood of growth acceleration has improved for different types of countries. That said, oil exporters and resource-rich countries have experienced more growth accelerations than all other country subsets—well above the mean for the entire period or all countries during same recent period. This finding suggests that better commodity prices and terms of trade were still significant factors; for the recent period at least, possessing mineral resources has not been a curse to growth.

Table 11: Frequency (country-years) of growth acceleration and deceleration, by country category, 1995-2005 versus 1975-2005				
Country category	Growth acceleration		Growth deceleration	
	Likelihood 1975-2005	Likelihood 1995-2005	Likelihood 1975-2005	Likelihood 1995-2005
All countries' mean	0.25	0.42	0.22	0.12
Coastal	0.26	0.44	0.22	0.12
Landlocked	0.23	0.34	0.22	0.14
Coastal without resources	0.24	0.38	0.23	0.14
Landlocked without resources	0.22	0.34	0.22	0.14
Oil exporters	0.29	0.49	0.23	0.12
Non-oil exporters	0.24	0.40	0.22	0.12
Resource countries	0.30	0.55	0.21	0.08
Non-resource countries	0.23	0.36	0.23	0.14
Major conflict	0.16	0.35	0.17	0.06
Minor conflict	0.19	0.32	0.32	0.13
Source: Arbache and Page (2007a)				

Economic fundamentals before and after 1995. If growth is robust, economic fundamentals should have become stronger in the past decade. Table 1.12 compares sample means of economic fundamentals during 1995–2005 for all countries and all episodes (growth acceleration, growth collapses, and normal times), as well as for the subset of countries undergoing growth accelerations with sample means of the same

variables in 1985–94. The table examines all countries and then compares resource-rich and non-resource-rich economies.³⁵

Table 12: Differences of Means of Key Economic Variables Before and After 1995									
	All countries			Non-resource rich			Resource rich		
Variable	1995-2005	1985-1994	t-test	1995-2005	1985-1994	t-test	1995-2005	1985-1994	t-test
I. During All Episodes									
Savings (% GDP)	12.05	10.47	*	10.88	10.8		14.85	9.68	*
Investments (% GDP)	20.26	19.4		18.93	18.78		23.4	20.92	**
Private sector investment (% GDP)	12.51	11.46	**	11.23	10.6		15.43	13.47	
Foreign direct investments net flow (% GDP)	4.95	1.50	*	3.63	1.41	*	8.23	1.75	*
Consumption (% GDP)	91.12	92.09		95.85	95.24		79.9	84.15	*
Trade (% GDP)	76.58	68.43	*	72.73	66.11	*	85.77	74.1	*
Exports (% GDP)	32.27	28.06	*	28.86	25.67	*	40.32	33.92	*
Imports (% GDP)	44.27	40.36	*	43.86	40.44	*	45.25	40.18	*
Real effective exchange rate (2000=100)	103.52	182.78	*	100.06	186.64	*	109.18	174.71	*
Terms of trade (2000=100)	102.4	113.7	*	101.63	110.01	*	104.53	123.17	*
Current account (% GDP)	-5.58	-6.17		-6.43	-6.5		-3.71	-5.53	
Consumer price index (%)	33.98	71.8		16.98	81.52		77.81	41.91	
GDP deflator (%)	45.85	65.48		30.46	76.85		71.77	37.28	
Public debt (present value, % GNI)	128.41	85	*	114.53	77.38	*	163.61	104.23	*
Government consumption (% GDP)	15.48	17.24	*	15.12	16.55	*	16.44	18.91	*
II. During Growth Acceleration									
Savings (% GDP)	12.9	20.94	*	12.13	20.27	*	14.1	22.83	*
Investments (% GDP)	21.55	25.47	*	19.39	25.12	*	24.9	26.39	
Private sector investment (% GDP)	13.51	14.15		11.6	13.46	*	16.45	16.23	
Foreign direct investments net flow (% GDP)	5.02	2.4	*	2.35	2.08		9.44	3.24	
Consumption (% GDP)	88.78	88.23		91.89	94.93		83.97	70.92	*
Trade (% GDP)	70.27	86.1	*	60.76	86.21	*	85.22	85.81	
Exports (% GDP)	29.47	35.8	*	24.48	32.49	*	37.21	44.36	
Imports (% GDP)	40.71	50.3	*	36.27	53.71	*	47.69	41.58	
Real effective exchange rate (2000=100)	108.96	128.77	*	109.54	125.87	*	108.35	136.18	**
Terms of trade (2000=100)	104.38	99.06	**	105.51	100.72		102.08	94.14	
Current account (% GDP)	-6.5	-4.46		-6.61	-6.7		-6.33	1.16	**
Consumer price index (%)	14.16	17.06		9.14	16.76	*	23.28	18.45	
GDP deflator (%)	15.54	18.73		9.21	19.12	*	25.1	17.71	
Public debt (present value, % GNI)	120.91	94.52	**	89.75	94.98		172.42	93.14	*
Government consumption (% GDP)	15	17.7	*	13.3	16.74	*	17.85	20.16	
Notes:									
(*) t-test that means are not equal significant at the 5% level.									
(**) t-test that means are not equal significant at the 10% level.									
Source: Arbache and Page (2007a)									

³⁵ So that the subsets' sample sizes are consistent, oil-exporting countries are not accessed separately.

Progress among all African countries was observed in the means of several economic fundamentals for all economic episodes, but the record was not uniform. Savings were higher than in the previous decade, as indicated by the *t*-test. Although aggregate investments did not change significantly, private investment and FDI went up. In particular, FDI increased by threefold in the period 1995–2005, to 5 percent from 1.5 percent in the previous decade. Nonetheless, neither the magnitudes of savings and investments as a percentage of GDP nor their changes were large, relative to levels in other successful sustained-growth economies (such as those in South and East Asia).

Trade as a share of GDP increased significantly (by about 8 percent) with exports and imports increasing by 4 percent each. The small change in the current account balance was not statistically significant, remaining close to about 6 percent. The real exchange rate appreciated substantially to an index of 103.5 from 138.0 in 1985–94, most likely as a result of favorable commodity prices since 2000. This trend raises concerns that the export competitiveness of nonprimary exports will continue to be an issue. On average, the terms of trade became slightly less favorable in the more recent decade, also reflecting the offsetting patterns before and after 2000. Average inflation was cut by half, but the change was not statistically significant because of large variations in the consumer price indexes of individual countries. The present value of public debt increased significantly, but it is likely that these data do not reflect fully the debt relief in more recent years. Government consumption decreased by about 2 percent of GDP to 15.5 percent from 17.2 percent, while no significant difference was observed for private consumption.

Table 12 also presents the results for non-resource-rich and resource-rich countries. For non-resource-rich countries, improvements were also observed for FDI, trade, exports, and imports in the full sample, but they were slightly more muted when compared with the results for all countries. The means for the real exchange rate, terms of trade, public debt, and government were significantly different in the two decades and more or less followed the same pattern as for all countries. In contrast, the means for savings and private investments in non-resource-rich countries were not significantly different in the two periods. The reduction in inflation remains insignificant because of great variation.

The results are somewhat more favorable for the resource-rich countries. Savings and aggregate investments in resource-rich countries experienced substantial increases (by about 5 percent of GDP) in 1995–2005. FDI showed an impressive jump to 8.2 percent of GDP from 1.8 percent, confirming that most FDI flows to Africa are concentrated in the mineral sectors. No significant change was observed for private investment. Mineral wealth did not lead to a higher level of private and public consumption, suggesting that windfall revenue was increasingly saved. However, public debt still increased. Trade, particularly exports, increased more than imports, but not enough to turn the current accounts into surplus. The real exchange rate appreciated, as expected, but as for other countries, the terms of trade became less favorable. Inflation did not improve, and the level was high on average for 1995–2005.

Important compositional effects were at work, affecting the differences of means for the subset of countries experiencing growth accelerations. Savings for all African countries undergoing growth accelerations, for instance, fell significantly, from 21 percent in 1985–94 to 13 percent in 1995–2005. Two factors were at work. Because the probability of a growth acceleration was higher during 1995–2005, the number of observations was larger (for example, 201 country-years for savings), pulling in a wider variety of country circumstances, including economies with low savings rates. In contrast, the probability of a growth acceleration was much lower for 1985–94, and the number of observations was therefore few (for example, 84 country-years for savings). However, the countries that did grow during this more difficult period had substantially better economic indicators than those experiencing normal or bad times. In addition to savings, compositional effects for all countries were also observed in aggregate investment, trade, exports, imports, and terms of trade. This factor was less important for FDI, the real exchange rate, public consumption, and public debt.

In general, there were more significant compositional effects for non-resource-rich countries than for resource-rich countries during growth accelerations. The effect was common only for savings. In non-resource-rich countries, these compositional effects were also observed for aggregate investment, private sector investment, trade, exports, and imports. One area in which the non-resource-rich countries did much better during growth accelerations was inflation: not only was the level much lower in the second period, but also the means in the two periods were significantly different.

Overall, there is therefore modest evidence of improvements in economic fundamentals, in particular for resource-rich countries. The data are, however, somewhat mixed, and the robustness of Africa's growth remains fragile.

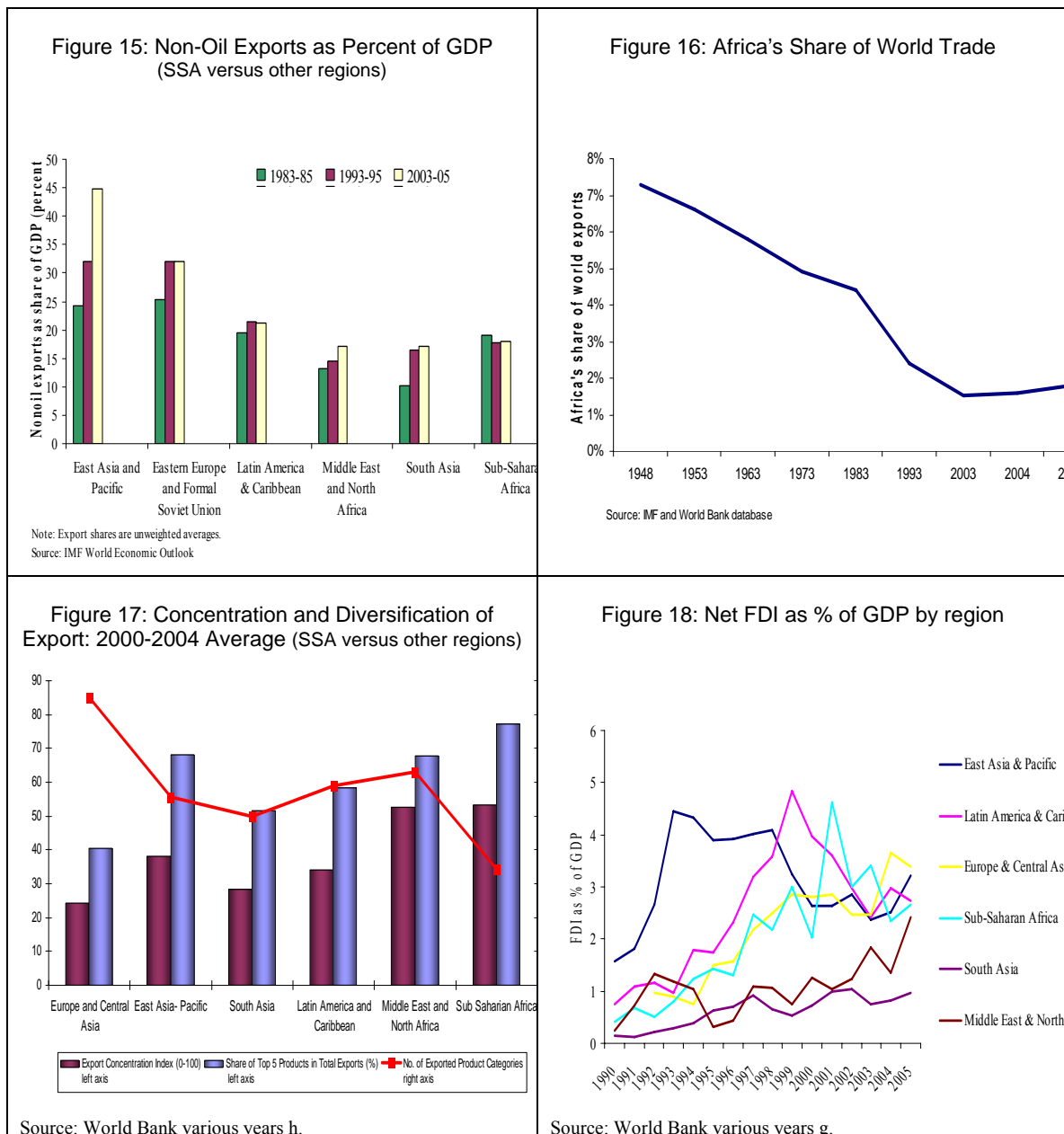
Table 13: Differences between simple sample average by regions, weighted data, 1995-2005

Variable	Sub-Saharan Africa	East Asia & Pacific	Latin America & Caribbean	Middle East & North Africa	South Asia	All Low & middle income
Per capita GDP growth	1.34	6.75	1.13	2.23	4.27	3.89
Savings (% GDP)	17.47	38.45	21.04	23.85	22.39	26.01
Investments (% GDP)	17.69	32.77	19.17	22.49	22.88	23.65
Private sector investment (% GDP)	13.11	19.27	16.39	13.92	16.36	16.83
FDI net flow (% GDP)	2.60	3.22	3.24	1.16	0.79	2.73
Consumption (% GDP)	84.10	68.03	80.85	75.64	80.54	76.23
Trade (% GDP)	62.31	66.85	42.72	57.38	31.90	55.43
Exports (% GDP)	30.62	35.04	21.47	28.15	14.81	27.95
Imports (% GDP)	31.68	31.78	21.25	29.22	17.09	27.47
Terms of trade (2000=100)	101.89	90.89	101.50	NA	104.10	96.28
GDP deflator (%)	7.16	4.91	6.17	5.20	5.67	6.48
Government consumption (% GDP)	16.00	13.47	14.52	15.04	10.83	14.34

Note: the sample averages refer to all years between 1995 and 2005.

Source: Arbache and Page (2007a)

Africa relative to other regions. Table 13 puts Sub-Saharan Africa in perspective and compares key economic indicators with those of other developing regions in 1995–2005. Inflation was single digit and only slightly below that of other regions. On aggregate, FDI and trade compare well with such indicators in other regions (there are issues, however, as discussed next). The growth rate was still behind that of the low- and middle-income countries but comparable to that of Latin America and the Caribbean. Savings and investments were still well below those of other regions. Both private consumption and government consumption were higher than those of other regions, reflecting the low income of African countries.



Trade and FDI. Trade reforms have brought down tariffs in Africa, and the trade regimes do not discriminate against exports relative to other regions worldwide. However, African exports, particularly non-oil exports, are growing slowly (figure 15). In fact, in sharp contrast to the case for China and for Asia's top performing countries, exports are not growing in importance in the region's output and are declining in importance for Africa's top performers. As a result, Africa's share of world trade is falling (figure 16). And Africa's exports remain heavily concentrated compared with those of other regions (figure 17).

Although FDI as a share of GDP has grown since 1990 (see figure 18), the absolute amount is still modest at \$13.3 billion in 2006 and is concentrated primarily in one country, South Africa, and in one line of business, extractive industries. Outside of FDI, migrant remittances appear to be increasing, but a large portion of the flows bypass formal financial channels and these remittances are difficult to account for. Exogenous private flows such as these could certainly become important sources of balance of payment finance to supplement and counter the fluctuations of foreign aid. A recent paper by Ratha, Mohapatra, and Plaza (2008) examines the issues and their potentials.

Table 14: GDP Growth, Investment Rates, and ICOR Select Countries in Asia and Africa, 2000-06			
	GDP Growth	I/Y	ICOR
Top Asian Performers			
China	9.5	39.7	4.2
Cambodia	9.2	19.0	2.2
Vietnam	7.5	33.4	4.5
India	6.9	27.8	4.7
Lao PDR	6.4	25.1	4.0
Top African Performers			
(excl. middle inc., oil & resource intensive ctys)			
Mozambique	7.6	26.4	3.1(5.1*)
Tanzania	6.3	20.2	3.3
Ethiopia	6.2	18.4	3.0
Burkina Faso	6.1	18.5	3.3
Uganda	5.6	20.7	3.8
Rwanda	5.5	19.4	3.7(5.8*)
Ghana	5.0	25.7	5.2
All SSA Ave	4.9	20.5	5.5
Note: Figures in parenthesis include the flood year 2000 in Mozambique and drought year 2003 in Rwanda. I/Y = investment as percent of GDP; ICOR= incremental capital-output ratio. Source: World Bank WDI and authors' estimates.			

Accumulation and productivity of capital. Africa's growth deficit in the past is also the product of low productivity, not just low savings and investment. Growth

accounting shows that physical capital per worker has grown less than 0.5 percent a year, half the world average. In addition, a main culprit in Africa's disappointing growth is total factor productivity, which has been negative since the 1960s and -0.4 percent between 1990 and 2003 (Bosworth and Collins 2003). With Africa's low productivity, it can be argued that low investment in Africa is not a constraint to its development (Devarajan, Easterly, and Pack 2003). Given the importance of capital accumulation, more recent evidence about the quality and quantity of investment among some individual countries should be examined.

For top performers in Africa, the investment rates are becoming comparable to the high-performing Asian countries (table 14). Ghana and Mozambique, for example, are on par with India and the Lao People's Democratic Republic, although their investment rates are still below China's and Vietnam's. Moreover, the aggregate efficiency of investment among top performers in Africa, as reflected by incremental capital-output ratios, is not behind that found in many Asian countries. That said, the ICORs in Africa are less stable and are easily affected by output variation caused by drought (Rwanda in 2003), flood (Mozambique in 2000), or other factors. Also, the improvement of the productivity of investment noted among top performers needs to spread across Africa, where the overall ICOR is still high at 5.5.

Human capital. Although there is evidence that the contribution of human capital has increased (Berthélemy and Söderling 2001), the overall record is still mixed. The contribution of human capital in Africa has kept pace with that in the rest of the world, mainly a result of rising average years of schooling, but health indicators need to be improved.

In particular, gross primary-school enrollment rates rose from 79 percent in 1999 to 92 percent in 2004. Health outcomes are more varied but are also improving in many countries. Between 1990 and 2004, the average literacy rate (in the 29 countries for which data exist) rose from 54 percent to 62 percent, while the range improved from 11–81 percent to 26–87 percent. This convergence is the result of rising primary-school enrollments. Regionwide gross enrollment rose from 79 percent in 1999 to 92 percent in 2004. Some 87 percent of Africans live in countries where the average enrollment rate is over 75 percent, and fewer than 2 percent live in countries where the rate is under 50 percent. Six of the seven top countries worldwide with expanding primary completion rates (by more than 10 percent a year between 2000 and 2005) are in Africa (Benin, Guinea, Madagascar, Mozambique, Niger, and Rwanda). There have been no comparable improvements in secondary and tertiary education. Although East Asian countries increased secondary enrollment rates by 21 percentage points and tertiary enrollment rates by 12 percentage points over 12 years, Africa raised its secondary rates by only 7 percentage points and its tertiary rates by just 1 percentage point.

Africa is the only region in the world where life expectancy has declined. Life expectancy in the region in 1960 was 15 years below that for non-African developing countries. By the 1990s, it had fallen below the non-African developing-country average by nearly 20 years. Between 1990 and 2005, life expectancy at birth in Sub-Saharan

Africa declined from 49.2 years to 47.1. Although life expectancy increased in 25 countries by an average of eight years, it declined in 21 more populous countries by an average of four years. HIV/AIDS, malaria, and armed conflict have contributed to the falling life expectancy. Progress against malaria, tuberculosis, and HIV/AIDS is mixed but showing some positive signs. The spread of AIDS has slowed in Africa, but the continent still bears the brunt of the epidemic. Rapid increases in tuberculosis infections in Africa are linked to the greater likelihood of tuberculosis appearing from latent infections among HIV carriers. Malaria remains Africa's leading killer of children under age five, but a strong new global partnership has formed to address the disease.

HIV/AIDS threatens further progress. Africa is the only region that has experienced a reversal of trend in life expectancy, mostly attributable to the HIV/AIDS epidemic. Africans account for 60 percent of the world's people living with HIV/AIDS. This fact has a profound social and economic impact, which can be seen in the large numbers of premature deaths of people in their prime employment, reproduction, and parenting years and in the large numbers of orphans that burden Africa's families and economies.

The blueprint for success is still not secured. All in all, these results indicate a mixed picture with regard to the robustness of growth in Africa. Growth was certainly higher, more likely, and more widespread, and it was favored by better commodity prices, aid inflows, and policy, as well as by higher productivity in top performers. But there is no strong evidence that it was unambiguously fueled or accompanied by accumulation of capital, that higher productivity is spreading across all countries, and that export diversification has been attained. Although a group of diversified sustained growers is emerging, economic performance varied substantially. Certainly, the story on policy reforms and institutional changes is unfinished (as will be discussed further). Therefore, there are questions about whether the region was experiencing a robust growth period, despite the high growth rates. Without greater productivity and factor accumulation, changes in global demand for oil and metals or other external adverse shocks, including aid flows, could jeopardize the current growth boom.

Relative to the lessons learned about avoiding mistakes, the results also indicate that much less is generally known about the factors and institutions for bringing about success in development (Dixit 2007) or policies to create greater savings rates, productivity, and export diversification. Institutional context, for example, can change incentives and reduce policy results drastically, as Easterly (2001) has argued. Although they are difficult to measure and quantify, there are certainly some outward signs of recent improvement.

For example, figure 11 suggests a correlation between (1) better policy and institutions and (2) economic performance since 2000 for all African countries, as well as low-income countries, excluding oil exporters. The high growth rates in oil- and resource-rich countries also confirm that the management of mineral resources has improved and windfalls are not wasted to the same extent as in the past. Moreover, there are now 19 African countries adopting the Extractive Industries Transparency Initiative

(EITI), which has the goal of verification and full publication of company and government revenues from oil, gas, and mining, and 6 countries have issued one or more EITI reports.

Nonetheless, these improvements have not yet been reflected consistently in many governance indicators since data started becoming available. Figure 19 compares the governance indicators of 1996—the first year of the series—and 2006. Actually, all indicators worsened. But a closer look shows that resource-rich countries—oil-rich countries in particular—were among the main causes of the worsening in governance and also that these indicators were particularly low there during growth acceleration. These results highlight the importance of the political economy issues associated with mineral- and oil-rich countries in Africa as found in the recent empirical literature (see, for example, Kaufmann, Kraay, and Zoido 1999; Dufrénot, Sanon, and Diop 2006; Ndulu et al. 2007; Seldadyo, Nugroho, and de Haan 2007).

IV. Key Areas of Actions to Sustain Growth

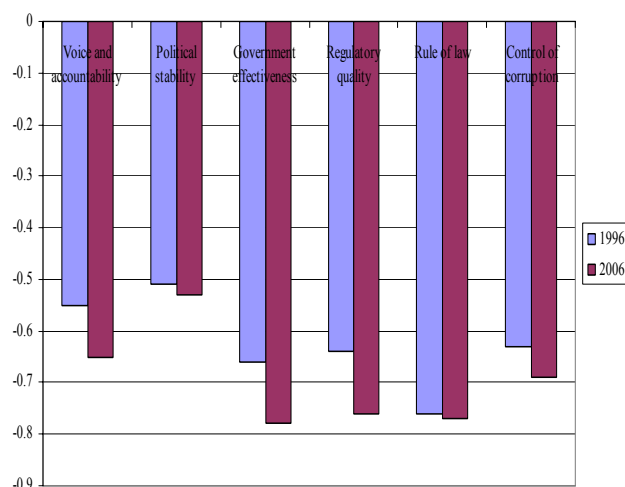
The avoidance of economic collapses will continue to depend on good policy, leadership, and aid. To sustain an accelerating growth, however, the region will have to tackle several barriers and constraints to greater productivity and investment. Addressing these barriers will require both continuing reforms and greater external assistance.

Firm studies such as Eifert, Gelb, and Ramachandran (2005) highlight one of the barriers to greater productivity. Research shows that efficient African enterprises can compete with Chinese and Indian firms in factory floor costs (figure 20). They become less competitive, though, because of higher indirect business costs, including infrastructure (figure 21). In China, indirect costs are about 8 percent of total costs, but in African countries they are 18–35 percent.

Building the African private sector will be crucial both for growth and for fostering a national consensus for growth-oriented policies. Improving the investment climate and enhancing the capacity of African entrepreneurs to invest and engage in business are central to this effort.

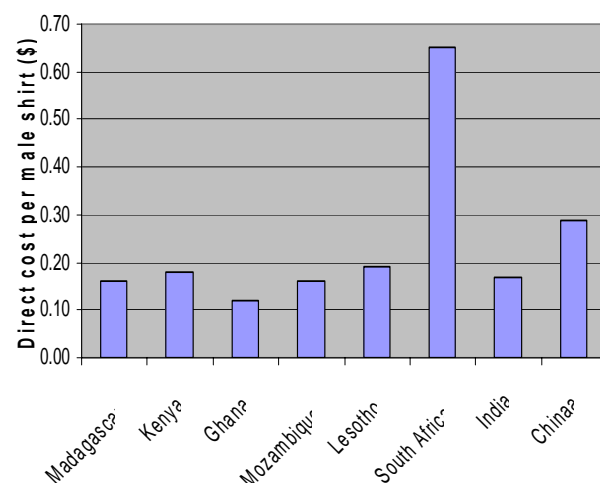
Africa remains a high-cost, high-risk place to do business. Overall, the cost of doing business in Africa is 20–40 percent above that for other developing regions, including the costs associated with bureaucracy, corruption, risk, and essential business services (figure 22). During 2006/07, the average rank of African countries was 136 in the Doing Business indicators (figure 23), but four middle-income countries rank in the top third: Mauritius, 32; South Africa, 35; Namibia 43; and Botswana, 51. Value-chain analysis by Subramanian and Matthijs (2007) also indicated several choke points in the supply chain for African firms: high cost of import logistics and time, low speed to market delivery, high cost of export logistics, and high incidence of rejects.

Figure 19: Governance indicators scores (-2.5 to +2.5) 1996 and 2005



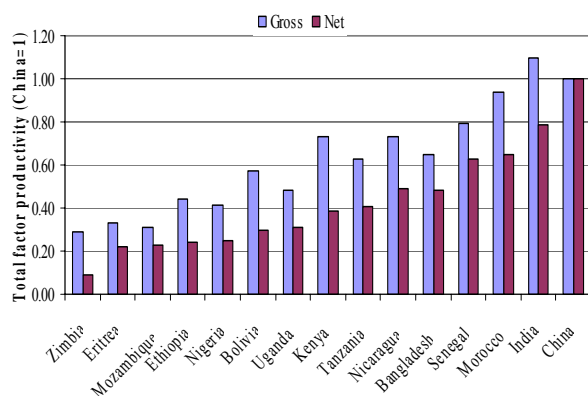
Source: Arbache and Page (2007a). Data from the World Bank various years i.

Figure 20: Factor floor costs in Sub-Saharan Africa compare well with China and India



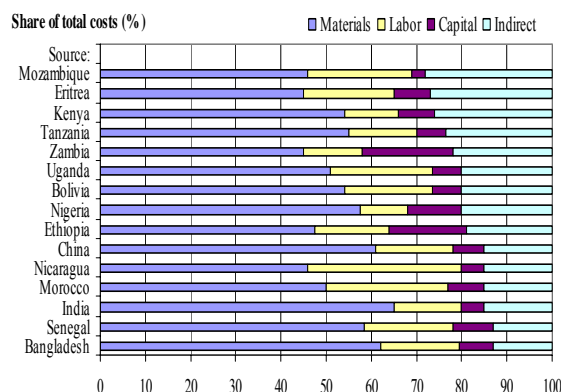
Source: Cadot and Nasir (2001).

Figure 21: Nett productivity is lower than "factory floor" (gross) productivity due to high costs of doing business



Source: Eifert, Gelb, and Ramachandran (2005).

Figure 22: African firms are sharply disadvantaged by higher indirect costs



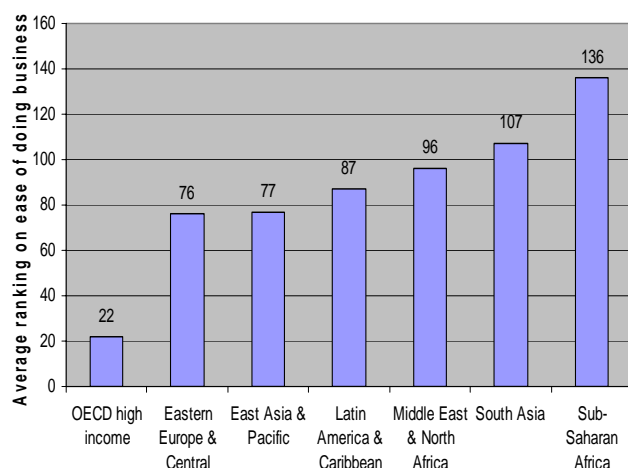
Source: Eifert, Gelb, and Ramachandran (2005).

The picture is somewhat brighter for additional reforms, albeit still uneven. Forty-six Sub-Saharan countries introduced at least one business environment reform in 2006/07, and Ghana and Kenya were among the top 10 reformers (Tanzania was also on the list in 2005/06). Kenya rose from 82 to 72, and Ghana from 109 to 87. But all others had ranks of 90 or higher. Nonetheless, several countries saw improvements: Mozambique went from 140 to 134, Madagascar from 160 to 149, and Burkina Faso from

161 to 165. In 2005/06, the region came in third behind Eastern Europe and Central Asia and Organisation for Economic Co-operation and Development countries with regard to countries that made at least one positive reform.

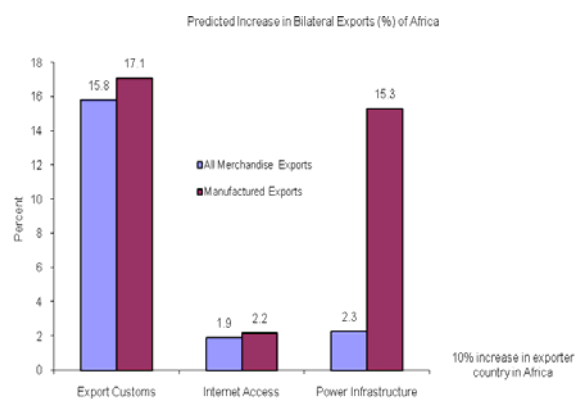
Improving the performance of Africa's financial systems is also high on the agenda for enterprise development. Firms in Africa identify financing constraints as even more severe than lack of infrastructure in limiting their business development.

Figure 23: Africa is the least business friendly in 2007



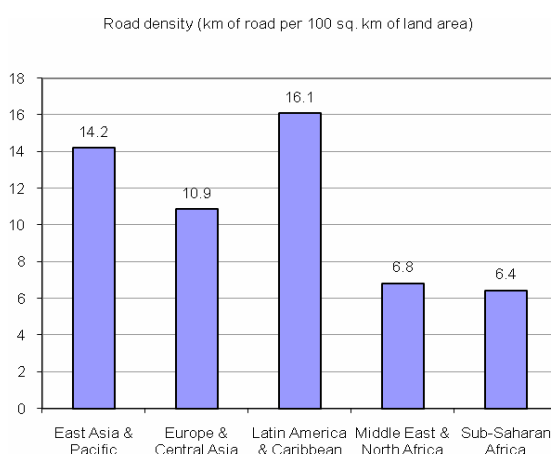
Source: World Bank Doing Business 2008.

Figure 24: Alleviating domestic constraints could increase exports in African manufactured exports



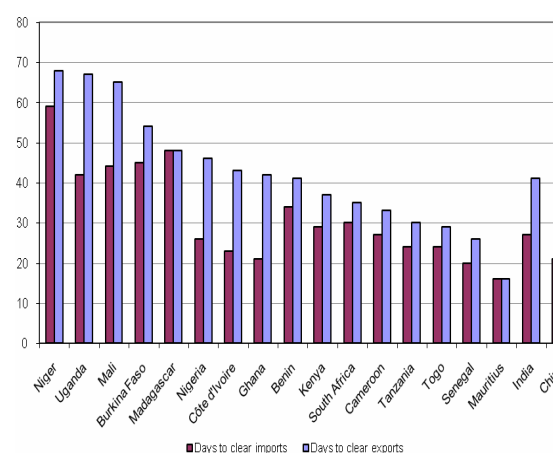
Source: Broadman et al. (2007)

Figure 25: Lack of infrastructure is a key bottleneck



Source: World Bank various years g.

Figure 26: The time to clear goods at ports is several days in many countries in Africa



Source: World Bank various years c.

Closing the infrastructure gap. An export push requires an infrastructure push in Africa, because many of the bottlenecks pertain to lack of infrastructure (figure 24 and 25). Sub-Saharan Africa lags at least 20 percentage points behind the average for International Development Association countries on almost all major infrastructure measures.³⁶ In addition, quality of service is low, supplies are unreliable, and disruptions are frequent and unpredictable (figure 26)—all pushing up production costs, a critical impediment for investors (table 15). There are also large inequities in access to household infrastructure services, with coverage rates in rural areas lagging those in urban areas. The region's unmet infrastructure needs are estimated at \$22 billion a year (5 percent of GDP), plus another \$17 billion for operations and maintenance.

Table 15: Impact of unreliable infrastructure services on the productive sector

Service problem	Sub-Saharan Africa	Developing countries
<i>Electricity</i>		
Delay in obtaining electricity connection (days)	79.9	27.5
Electrical outages (days per year)	90.9	28.7
Value of lost output due to electrical outages (percent of turnover)	6.1	4.4
Firms maintaining own generation equipment (percent of total)	47.5	31.8
<i>Telecommunications</i>		
Delay in obtaining telephone line (days)	96.6	43.0
Telephone outages (days per year)	28.1	9.1

Note: Data for Sub-Saharan Africa are for 6 countries; data for developing countries are for 55 countries.

Source: World Bank Investment Climate Assessments.

Recent progress is encouraging. Except roads, indicators of infrastructure access rose between the 1990s and 2000s (table 16). The Africa Partnership Forum reported steady improvements in effectively using existing infrastructure and in increasing public investments. Countries are also undertaking regulatory and policy reforms, especially for water, telecommunications, and transport (Africa Partnership Forum 2006b). Twenty of the largest African countries have or are formulating reform agendas for water and sanitation.

³⁶ An important exception is the penetration of fixed-line and mobile telephones, where Sub-Saharan Africa leads low-income countries by as much as 13 percent. The largest gaps are for rural roads (29 percentage points) and electricity (21 percentage points).

Table 16: Improvements in African infrastructure access

Service	1990s	2000s	Percent change
Telephone (per 1,000 people)	21	90	328.6
Improved water (percent of households)	55	65	18.1
Improved sanitation (percent of households)	31	37	19.3
Grid electricity (percent of households)	16	23	43.8

Source: World Bank 2006a.

Compared with other regions, Africa has been slow to mobilize the private sector for the provision and financing of infrastructure. The Infrastructure Consortium reports that private sector interest has gradually spread. There is an upward trend in private sector provision and management of infrastructure, which stood at \$6 billion in 2006, up from \$4 billion in 2004. Most private flows (84 percent) go to telecommunications and energy. Concessions have now been awarded to operate and rehabilitate many African ports and railways and some power distribution enterprises, but financial commitments by the concessionaire companies are often small. The small commitments reflect both the value of the management improvements that the concessionaire is expected to bring and the limited scale and profitability of the enterprises taken over. An important facilitator in some cases has been the insurance instruments developed over the past 15 years by such bodies as the U.S. Overseas Private Investment Corporation and the Multilateral Investment Guarantee Agency and by the World Bank's Partial Risk Guarantee offerings.

There has been significant progress in information and communication technology. Access to communications services has increased dramatically over the past three years, with the proportion of the population (excluding South Africa) living under the mobile telephone footprint rising from 3 percent in 1999 to 50 percent in 2006. This increase has been matched by an equally rapid increase in the use of communications services. By the end of 2006, there were 123 million mobile subscribers. Average penetration rates in the region doubled between 2004 and 2006 to reach 16 percent.

Integrating the region's economies. The small size of African economies and the fact that many countries are landlocked call for regional approaches to common problems: infrastructure in trade corridors; common institutional and legal frameworks (customs administration, competition policy, regulation of common property resources, such as fisheries); and transborder solutions to regional health issues.

African leaders have become more aware of the benefits of regional approaches, especially in matters related to trade and infrastructure. The New Partnership for Africa's Development has adopted regional integration as one of its core objectives, and the African Union is leading efforts to rationalize regional economic communities. Most countries in Africa are party to multiple treaties or conventions addressing joint development and management of shared water resources (including navigation and fisheries), hydropower, trade corridors, irrigation, and flood control. Progress has been most notable in regional infrastructure, particularly regional power pools (in West Africa and southern Africa) and in launching customs unions (in West Africa, East Africa, and southern Africa). Progress on regional infrastructure is slowed by the technical complexity of multicountry projects and the time required for decisions by multiple

governments. There is less progress in creating regional approaches to education and in systematically addressing regional health issues.

Making agriculture more productive. Sustained growth that reduces rural poverty will require that more countries achieve 5 percent annual growth in agricultural value added. Although growth in agricultural value added has been strong since 2000, averaging 4.6 percent in 2004, too little of it has come from higher productivity or yields.³⁷ Although land productivity is increasing in 38 of 46 countries, only 6 have a rate of increase of 5 percent or more.³⁸ Labor productivity is increasing in 29 countries, with 10 achieving increases of 3 percent a year or higher.³⁹

Productivity growth will require an expansion of irrigated areas, as well as better performance of rain-fed agriculture. But less than 4 percent of cultivated land is irrigated. Because of the long lead time before investments are completed and operational, this proportion changed little in recent years. Improvements in management of soil fertility have been slow, as has been the adoption of better seeds. Spending for agricultural research and technology remains low, although it is starting to increase along with overall spending on agricultural programs in the region (Africa Partnership Forum 2006a). On a positive note, there has been an increase in the use of water management techniques (water harvesting, reduced tillage).

Using natural resource rents well Resource-based rents are widespread and growing because of new discoveries and favorable prices. During the 1990s, 65 percent of all FDI was concentrated in oil, gas, and mining. Between 2000 and 2010, \$200 billion in oil revenue will accrue to African governments. The 2004 oil windfall alone on average resulted in a 26 percent increase in government revenue in oil-exporting countries.

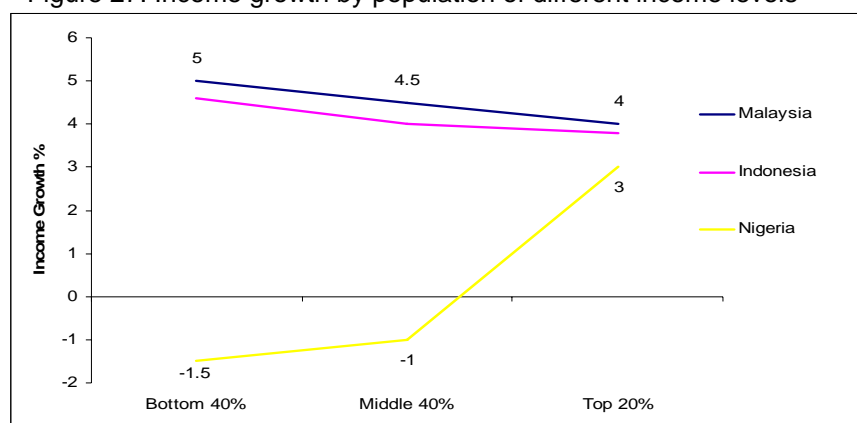
However, in Africa, mineral-dependent countries tend to do worse in social indicators than non-mineral countries at the same income level, including having higher poverty rates, greater income inequality, less spending on health care, higher prevalence of child malnutrition, and lower literacy and school enrollments. But mineral-exporting economies can achieve shared growth. Indonesia, and Malaysia have all used natural resource wealth to provide a basis for a more diversified economy in which the poor have been able to participate and contribute to the process of growth (figure 27).

³⁷ Growth in Angola, Burkina Faso, Cape Verde, the Republic of Congo, Eritrea, Ethiopia, Ghana, Mauritius, Mozambique, Nigeria, and Tanzania has been through an expansion of cropped area.

³⁸ This rate is the five-year moving average based on 2001–05.

³⁹ This rate is the five-year moving average based on 2000–04.

Figure 27: Income growth by population of different income levels



Source: World Bank.

Elements of a strategy for mineral revenue management include the following:

- Promote transparency in accounting for revenues by adopting the EITI.
- Establish fiscal rules, including setting savings rules and maintaining fiscal discipline in decentralized fiscal systems.
- Strengthen public financial management and the Medium Term Expenditure Framework.
- Monitor and evaluate outcomes.

See also the papers by Devlin and Lewin (2008) and Budina and van Wijnbergen (2008) for further discussion on fiscal management of oil revenue and the case of Nigeria.

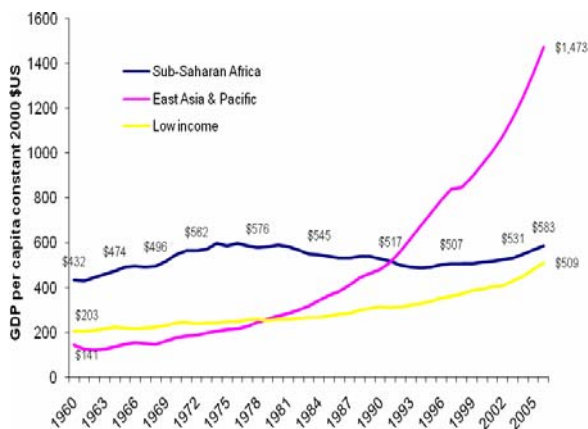
Increasing regional and global support. Developing and implementing regional strategies for increasing connectivity to the world and within Africa are crucial. Cross-country infrastructure projects are particularly important, but so too are institutional reforms, such as common customs procedures, that lower transactions costs. Complementary action by the global development community to reduce barriers to trade and to scale up aid to enhance the region's capacity to trade is also required.

V. Sharing the Benefits of Growth

Growth alone will not be enough to reach the Millennium Development Goals (MDGs) for Africa. At the same time that Africa's governments are pursuing a new growth strategy—and with the same vigor—they will also need to focus on delivering more and better services for human development.

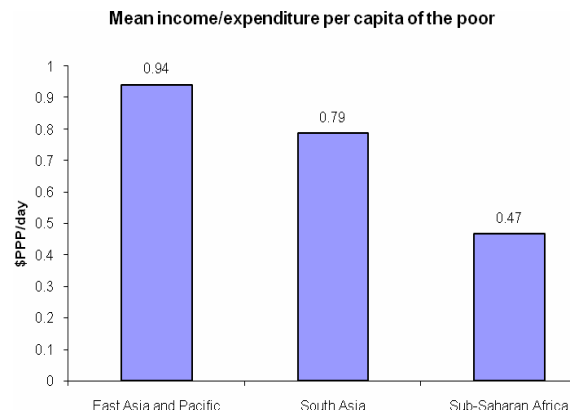
Many MDGs will not be met. Despite the recent good performance, Africa's GDP per capita is still 50 percent of the level of East Asia (figure 28), and the growth rate is far short of the 7 percent needed if poverty is to be halved by 2015. The mean income/expenditure of the poor, those earning less than one PPP dollar a day, is much lower in Africa than in East Asia or South Asia (figure 29). Africa is far behind all other regions in terms of the UN human development index (figure 30). It will also remain behind on most MDGs (figure 31); if current trends continue, it will not meet the 2015 targets. In 1990, 47 percent of Africans lived in poverty. In 2004, 41 percent did, and with present trends, 37 percent will in 2015.

Figure 28: Per capita GDP of SSA, East Asia and Low income group



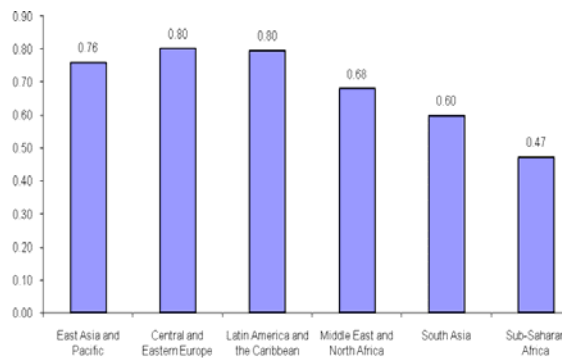
Source: World Bank various years d, various years g.

Figure 29: Average expenditure of the poor



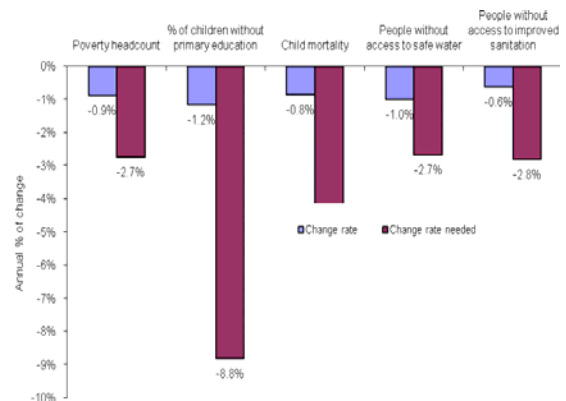
Source: World Bank various years f.

Figure 30: The Human Development Index



Source: UNDP 2006.

Figure 31: The gap between the MDG Goals and projected levels given current trends



Source: World Bank 2007b.

Although Sub-Saharan Africa is one of two regions not expected to reach most of the MDGs by 2015 (the other is South Asia), there is substantial variation among countries in both the level of attainment of the goals and the pace of progress. Mauritius has met four goals. Botswana has met three and will likely meet one more. And South Africa has met three. Among other countries, 9 will meet two goals, and 13 will meet at least one. But despite better progress—especially in education, malaria, and HIV/AIDS—23 African countries are unlikely to meet any of the MDGs. Scaling up the efforts on MDGs presents several challenges in low-income country and a recent paper by Lofgren and Diaz-Bonilla (2008) examines the trade-offs and scenarios in the case of Ethiopia.

Sharing the benefits of public services will be key. Africa has the lowest and most unequal access to essential services. In the 1960s and into the 1970s, many African countries widened access to essential social services and saw significant improvements in many social indicators. However, this progress did not prove sustainable. Africa has the lowest access to all essential services. Service delivery is costly for African governments because of long distances and sparsely populated areas.

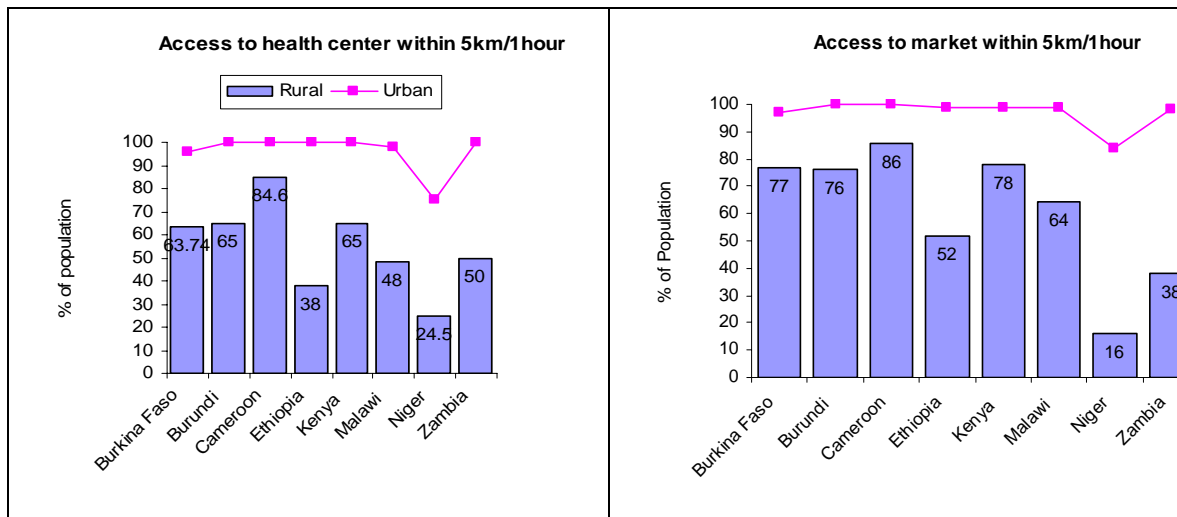
The rural populations have extremely limited access to services of decent quality, including education, health care, safe drinking water, paved roads, and telecommunications. They also lack access to factors of production, such as means of transportation, fertilizer, and improved seeds.

Women in Africa provide more than half the region's labor but lack equal access to education and factors of production. Gender differentials in the areas of labor force participation and labor productivity are constraints to economic growth. A study in Kenya, for example, concluded that giving women farmers the same level of agricultural inputs and education as men could increase their yields by more than 20 percent.

Service delivery must reach the poor, rural populations, and women. African rural populations and the poor have a distinct disadvantage in their access to services (figure 32). To build and sustain service delivery, African countries will need to do the following:

- Improve social sector policies.
- Strengthen financial management and costing.
- Decentralize service delivery, capacity building, and training.
- Integrate sectors into multisectoral budgetary programming to underpin the implementation of the national poverty reduction strategy.

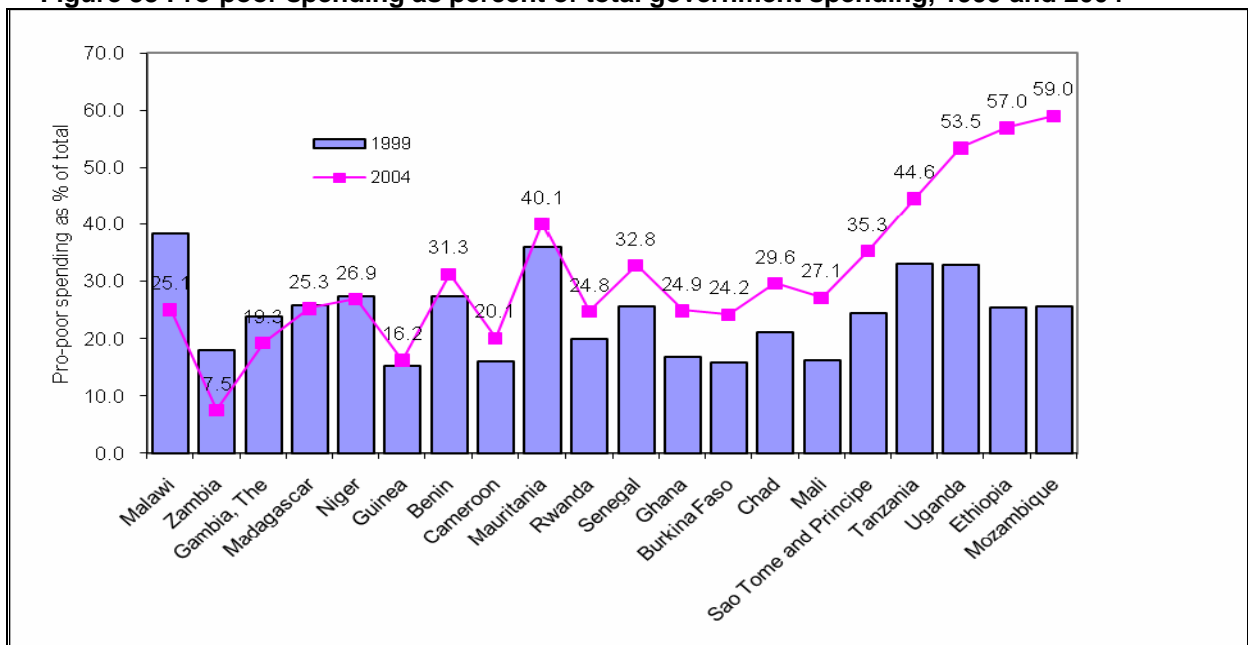
Figure 32 Rural-urban gaps in access to services



Source: World Bank Africa Region.

Since 1999, when the Poverty Reduction Strategy Paper (PRSP) became the key policy framework for development partners, many African governments have consciously started to invest more in pro-poor service delivery, especially in the areas of health, education, HIV/AIDS, rural development (roads), agriculture, and water (figure 33).

Figure 33 Pro-poor spending as percent of total government spending, 1999 and 2004



Data sources: Country PRSPs.

VI. So, Is Africa at a turning point?

Based on the records, the verdict is guarded. There is indeed an acceleration of growth in Sub-Saharan Africa, but its sustainability is fragile. African countries in general are increasingly able to avoid mistakes and economic collapses, but increasing and sustaining growth are a difficult challenge. In the short to medium term, much depends on the continuation of favorable terms of trade, aid, and debt relief, as well as good policy. In the medium to long term, it is essential to raise the economic fundamentals, which are still lagging. Particularly needed are higher exports, more private sector growth, greater productivity of investment, higher foreign investment and remittances from migrant workers, greater regional efforts at tackling the infrastructure gaps, and improved agriculture. These economic fundamentals can be raised through continuing reforms and improved governance. In the long term, there is no substitute for improving human development and sharing the benefits of growth.

Predictions of Africa's imminent recovery or demise have proved wrong on numerous occasions in the past 40 years. Some of its economies have been badly managed and have declined, whereas others have prospered. But the energy, imagination, and entrepreneurship of its people have overcome both limited opportunities and bad policies to place the region at a position in this new century where better governments and better policies can make a difference. Shared growth can become a reality in Africa.

References

- AfDB and OECD (African Development Bank and Organisation for Economic Co-operation and Development). 2007. *African Economic Outlook*. Paris: OECD.
- AFRCE (Office of the Chief Economist, Africa Region). Various years. "Biannual Economic Briefs." World Bank, Washington, DC.
- Africa Partnership Forum. 2006a "Progress Report: Agriculture." Moscow.———. 2006b. "Progress Report: Infrastructure." Moscow.
- Andriamihaja, Noro and Giovanni Vecchi. 2008. "Evaluation of the Welfare Impact of Higher Energy Prices in Madagascar." In *Africa at a Turning Point? Growth, Aid, and External Shocks*, ed. Delfin S. Go and John Page. Africa Development Essays Series, The World Bank. (forthcoming).
- Arbache, Jorge Saba, and John Page. 2008. "The Long-Term Pattern of Growth in Sub-Saharan Africa." In *Africa at a Turning Point? Growth, Aid, and External Shocks*, ed. Delfin S. Go and John Page. Africa Development Essays Series, The World

- Bank. (forthcoming).
- Arbache, Jorge Saba, and John Page. 2007a. "Is the Africa's Recent Growth Robust?" World Bank, Washington, DC.
- . 2007b. "More Growth or Fewer Collapses? A New Look at Long Run Growth in Sub-Saharan Africa." Policy Research Working Paper 4384, World Bank, Washington, DC.
- Bacon, Robert, and Masami Kojima. 2006. "Coping with Higher Oil Prices." Report of the Energy Sector Management Assistance Programme, World Bank, Washington, DC.
- Berthélemy, Jean-Claude, and Ludvig Söderling. 2001. "The Role of Capital Accumulation, Adjustment, and Structural Change for Economic Take-off: Evidence from African Growth Episodes." *World Development* 29 (2):332–43.
- Bosworth, Barry, and Susan M. Collins. 2003. "The Empirics of Growth: An Update." *Brookings Papers on Economic Activity* 2: 113–206.
- Broadman, Harry G., with Gozde Isik, Sonia Plaza, Xiao Ye, and Yutaka Yoshino. 2007. *Africa's Silk Road: China and India's New Economic Frontier*. Washington, DC: World Bank.
- Budina, Nina and Sweder van Wijnbergen. 2008. "Managing Oil Revenue Volatility in Nigeria: The Role of Fiscal Policy." In *Africa at a Turning Point? Growth, Aid, and External Shocks*, ed. Delfin S. Go and John Page. Africa Development Essays Series, The World Bank. (forthcoming).
- Cadot, Olivier and John Nasir. 2001. "Incentives and Obstacles to Growth: Lessons from Manufacturing Case Studies in Madagascar." Regional Program on Enterprise Development, Discussion Paper No. 117. Washington, DC: The World Bank.
- Chuhan-Pole and Brendan Fitzpatrick. 2008. "More and Better Aid: How are Donors Doing?" In *Africa at a Turning Point? Growth, Aid, and External Shocks*, ed. Delfin S. Go and John Page. Africa Development Essays Series, The World Bank. (forthcoming).
- Collier, Paul. 2007. *The Bottom Billion*. Oxford, U.K.: Oxford University Press.
- Collier, Paul, and Jan Dehn. 2001. "Aid, Shocks, and Growth." Policy Research Working Paper 2688, World Bank, Washington, DC.
- Collier, Paul, and Benedikt Goderis. 2007. "Commodity Prices, Growth, and the Natural Resource Curse: Reconciling a Conundrum." Department of Economics, University of Oxford.

- Collier, P. and J.W. Gunning (1999), Explaining African Economic Performance, *Journal of Economic Literature*, 37, 64-111.
- Collier, Paul, and Stephen A. O'Connell. 2006. "Opportunities and Choices." Draft chapter 2 of the synthesis volume of the African Economic Research Consortium's Explaining African Economic Growth project. Nairobi, African Economic Research Consortium.
- Deaton, Angus, and Ronald I. Miller. 1995. "International Commodity Prices, Macroeconomic Performance, and Politics in Sub-Saharan Africa." Princeton Studies in International Finance 79, Princeton University, Princeton, NJ.
- Devarajan, Shantayanan, Delfin S. Go, John Page, Sherman Robinson, and Karen Thierfelder. 2008. "The Macroeconomic Dynamics of Scaling-Up Foreign Aid." In *Africa at a Turning Point? Growth, Aid, and External Shocks*, ed. Delfin S. Go and John Page. Africa Development Essays Series, The World Bank. (forthcoming).
- Devarajan, Shantayanan, William Easterly, and Howard Pack. 2003. "Low Investment Is Not the Constraint on African Development." *Economic Development and Cultural Change* 51 (3): 547-71.
- Devlin, Julia, Michael Lewin, and Thilakaratna Ranaweera. 2008. "Harnessing Oil Windfalls for Growth in the Africa Region." In *Africa at a Turning Point? Growth, Aid, and External Shocks*, ed. Delfin S. Go and John Page. Africa Development Essays Series, The World Bank. (forthcoming).
- Dixit, Avinash. 2007. "Recipes for Development Success." *World Bank Research Observer* 22 (2): 131-57.
- Dufrénot, Gilles, Gilles Sanon, and Abdoulaye Diop. 2006. "Is Per-Capita Growth in Africa Hampered by Poor Governance and Weak Institutions? Examining the Case of the ECOWAS Countries." West Africa Economic and Monetary Union.
- Easterly, William. 1998. "The Ghost of Financing Gap: Testing the Growth Model in the International Financing Institutions." IMF Seminar Series 1998-2, International Monetary Fund, Washington, DC.
- . 2001. *The Elusive Quest for Growth*. Cambridge, MA: MIT Press.
- Essama-Nssah, B., Delfin S. Go, Marna Kearney, Vijdan Korman, Sherman Robinson, and Karen Thierfelder. 2008. "Economywide and Distributional Impact of an Oil Price Shock on the South African Economy." In *Africa at a Turning Point? Growth, Aid, and External Shocks*, ed. Delfin S. Go and John Page. Africa Development Essays Series, The World Bank. (forthcoming).

- EIU (Economist Intelligence Unit). 2007. *Sub-Saharan Africa: Regional Overview*. London: EIU.
- Eifert, Benn, Alan H. Gelb, and Vijaya Ramachandran. 2005. "Business Environment and Comparative Advantage in Africa: Evidence from the Investment Climate Data." Working Paper 56, Center for Global Development, Washington, DC.
- Gelb, Alan, Ali A.G. Ali, Tesfaye Dinka, Ibrahim Elbadwi, Charles Saludo, and Gene Tidrick. 2000. *Can Africa Claim the 21st Century?* Washington, DC: World Bank.
- Go, Delfin S., Vijdan Korman, John Page, and Xiao Ye. 2008. "Assessing the Macroeconomic Framework for Scaling Up Foreign Aid." In *Africa at a Turning Point? Growth, Aid, and External Shocks*, ed. Delfin S. Go and John Page. Africa Development Essays Series, The World Bank. (forthcoming).
- Hausmann, R., L. Pritchett, and D. Rodrik (2005), Growth Accelerations, *Journal of Economic Growth*, 10, 303-329.
- Hnatkovska and Loayza 2004. "Volatility and Growth." Policy Research Working Paper 3184, World Bank, Washington, DC.
- IMF (International Monetary Fund). 2007a. "Sub-Saharan Africa Regional Economic Outlook: Fall 2007." SM/07/319, IMF, Washington, DC.
- . 2007b. *World Economic Outlook: Spillovers and Cycles in the Global Economy*. Washington, DC: IMF.
- . Various years. *World Economic Outlook*. Washington, DC: IMF.
- Lofgren, Hans and Carolina Diaz-Bonilla. 2008. "Foreign Aid, Taxes, and Government Productivity: Alternative Scenarios for Ethiopia's Millennium Development Goal Strategy." In *Africa at a Turning Point? Growth, Aid, and External Shocks*, ed. Delfin S. Go and John Page. Africa Development Essays Series, The World Bank. (forthcoming).
- Kaufmann, Daniel, Aart Kraay, and Pablo Zoido. 1999. "Governance Matters." Policy Research Working Paper 2196, World Bank, Washington, DC.
- Ndulu, Benno J., Lopamudra Chakroborti, Lebohang Lijane, Vijaya Ramachandran, and Jerome Wolgin. 2007. *Challenges of Africa Growth: Opportunities, Constraints, and Strategic Directions*. Washington, DC: World Bank.

- O'Connell, S.A., and B.J. Ndulu (2000), *Africa's Growth Experience: A Focus on Sources of Growth*, Working Paper Series, African Economic Research Consortium.
- OECD-DAC (Organization for Economic Co-operation and Development – Development Assistance Committee). Various years. Database on official development assistance. Paris.
- Raddatz, Claudio. 2008. "Have External Shocks Become More Important for Output Fluctuations in African Countries?" In *Africa at a Turning Point? Growth, Aid, and External Shocks*, ed. Delfin S. Go and John Page. Africa Development Essays Series, The World Bank. (forthcoming).
- Ramey, G., and V. A. Ramey. 1995. "Cross-Country Evidence on the Link Between Volatility and Growth." *American Economic Review* 85: 1138–151.
- Ratha, Dilip, Sanket Mohapatra, and Sonia Plaza. 2008. "Beyond Aid: New Sources and Innovative Mechanisms for Financing Development in Sub-Saharan Africa." In *Africa at a Turning Point? Growth, Aid, and External Shocks*, ed. Delfin S. Go and John Page. Africa Development Essays Series, The World Bank. (forthcoming).
- Seldadyo, Harry, Emmanuel Pandu Nugroho, and Jakob de Haan. 2007. "Governance and Growth Revisited." *Kyklos* 60 (2): 279–90.
- Subramanian, Uma, and Matthias Matthijs. 2007. "Can Sub-Saharan Africa Leap into Global Network Trade?" Policy Research Working Paper 4112, World Bank, Washington, DC.
- UNDP (United Nations Development Programme). 2006. *Human Development Report 2006—Beyond Scarcity: Power, Poverty, and the Global Water Crisis*. New York: UNDP.
- World Bank. 2007a. *Global Economic Prospects 2007: Managing the Next Wave of Globalization*. Washington, DC: World Bank.
- . 2007b. *Global Monitoring Report 2007: Millennium Development Goals and Confronting the Challenges of Gender Equality and Fragile States*. Washington, DC: World Bank.
- . 2007c. "Operational Approaches and Financing in Fragile States." IDA 15, International Development Agency, World Bank, Washington, DC.
- . 2007d. "The World Bank Group's Africa Action Plan: Progress in Implementation." Report M2007-0112, World Bank, Washington, DC.

- . Various years a. *Africa Development Indicators*. Washington, DC: World Bank.
- . Various years b. Commodity Price database. Development Economics Prospect Group (DECPG), World Bank, Washington, DC.
- . Various years c. Doing Business database. World Bank, Washington, DC.
<http://www.doingbusiness.org/>.
- . Various years d. Global Development Finance database. World Bank, Washington, DC. <http://publications.worldbank.org/GDF/>.
- . Various years e. Investment Climate Assessments. World Bank, Washington, DC. http://www.worldbank.org/privatesector/ic/ic_ica.htm and <http://www.worldbank.org/rped>.
- . Various years f. PovcalNet database. World Bank, Washington, DC.
- . Various years g. *World Development Indicators*. Washington, DC: World Bank.
- . Various years h. *World Trade Indicators*. Washington, DC: World Bank.
- . Various years i. World-Wide Governance Indicators Project database. Washington, DC: World Bank.
<http://info.worldbank.org/governance/wgi2007/home.htm>.