



MORTEN JERVEN

Economic Growth and
Measurement Reconsidered
in Botswana, Kenya, Tanzania,
and Zambia, 1965–1995

OXFORD

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RECONSIDERED IN BOTSWANA, KENYA,
TANZANIA, AND ZAMBIA, 1965-1995

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Introduction

How have African economies performed since independence? The literature on aggregate growth has focused on explaining a chronic failure of growth in Africa.¹ This argument is possible only when one focuses on average economic growth. However, this perception is not accurate. According to the available statistics, most African economies experienced rapid growth throughout the 1960s and into the 1970s. There was a turning point in the mid-1970s, after which most economies experienced slow growth and even retrogression into the 1990s.

Thus, the right question to ask is this: Why did some African economies perform better than others at different times? Under what conditions could African economies grow and under what circumstances did they retrogress? Associating economic changes with changes in economic policies and other factors raises issues about how economic performance is measured in postcolonial Africa. That African economies perform poorly is a well-known “stylized fact,”² and it goes hand in hand with the observation that the quality of the data on growth for African economies is also poor. The latter fact is much cited but much less studied. African economic performance has been poorly measured; thus the evidence of growth is misleading. This book reviews the literature on economic growth episodes and finds little difference in economic performance between “good” performers and those who have been described as “bad” performers. Thus, the importance of what many analysts see as good policies has been overstated. Conversely, the literature understates the importance of external market conditions.

Because failure of economic growth has been the focus in the empirical growth literature, attention has been diverted from explaining the actual process of economic growth as it has occurred and detecting economic change. This book takes as its starting point the empirical studies on African growth as presented in Collier and Gunning (1999a and 1999b) and critically reviewed in Jerven (2011a). Cross-country growth regressions have identified an “African” pattern in a global sample of averaged GDP growth rates. The interpretation of this pattern, embodied in a large, negative, and significant African “dummy,” was that African economies have grown inexplicably slowly or that characteristics of African economies have not been fully captured in the cross-country growth regressions. In response, a body of literature has emerged that attempts to account for the economic stagnation of African economies in the

postcolonial era. A rich variety of explanations has been suggested, ranging from poor initial conditions to low institutional quality and growth-inhibiting policies.

This book reconsiders three aspects of the dominant conclusions of and methodology used in the empirical growth literature. First, it observes that the literature has focused on explaining an *average* shortfall of economic growth in Africa. This has diverted attention from important questions about the process of growth on the African continent. The overarching question has been Why has Africa grown slowly? when a more productive question would be How did African economies grow? While it is true that, on average, African economies have grown slower than economies elsewhere on the planet, this stylized fact obscures the reality that, in the aggregate, African economies were not lagging significantly behind in terms of economic growth before the late 1970s. Thus, I argue that the average shortfall analysis is not the appropriate way to describe the African growth experience. I examine to what extent the models informed by this stylized fact have reached conclusions with explanatory potential beyond accounting for the imagined event of a chronic failure of growth in Africa. I find that the extent of the diversity of growth experiences in African economies is better approached at the country level.

Assertions that there was a quantifiably important difference in economic growth in one period as compared to another or in one country as compared to another raise the question of how accurately economic performance in Africa has been measured. The quality of the evidence for African growth is widely considered to be poor, but there is a lack of empirical research that establishes the extent of its weakness. This is the second respect in which this book offers a reconsideration of African growth. I show here that how growth episodes are interpreted is closely linked to the quality of the growth evidence. The empirical growth literature relies on averaged growth rates over three decades. This configuration of the evidence is not very dependent on the quality of the data. However, when scholars seek to associate changes in economic policy with changes in economic performance over time or associate differences in economic policy and economic performance between countries, their conclusions depend on the reliability of the evidence.

The third element of reconsideration in this book relates to the method of investigation. Sub-Saharan Africa and the postcolonial period have so far been studied most intensively under the rubrics of “development economics” or “development studies.” These studies tend to use a methodology that focuses on the present or on a short span of time. In contrast, economic history has the fundamental advantage of a stronger emphasis on achieving an accurate description and analysis of an economy’s experience over time. The notion that African economies have failed to grow developed in the wake of the two oil price shocks, one in 1973–74 and the other in 1979–80, and has become more prominent in the literature as African economies have become

heavily indebted under structural adjustment policies. The contemporary literature on African growth is heavily influenced by this vantage point. This has resulted in what I call a “subtraction approach,” in which the relative lack of economic growth is explained by negative characteristics of poor countries. That is, scholars and analysts observe that an African economy lacks certain elements or advantages of more prosperous economies and determine that the reason the African economy is not flourishing is because it lacks the advantages of the more prosperous economy. A ranking of countries according to average rate of economic growth shows very similar trajectories to a ranking of countries by absolute income levels. Thus, the task of explaining recent slow economic growth has often been confused with the task of explaining the reasons for the long-term condition of underdevelopment. I contend that although the dependent variables the literature identifies can fit with the stylized fact of persistent stagnation, they do not explain changes in economic performance. Thus, this approach is not always a useful guide to interpreting the past. Evaluations of the economic policies pursued by independent African economies suffer from this weakness. They tend to equate the entire postcolonial period with economic failure and judge African economic policies and policy makers severely. The stylized fact that African economies have consistently failed to grow has had a decisive impact on the writing of the economic history of independent Africa. This book revises this view.

State intervention in most African economies has certainly left a lot to be desired in terms of achieving economic development outcomes, but this should not be automatically equated with “growth-inhibiting policies” or explained as an inevitable outcome of “African” conditions. A methodologically sound historical account avoids using the effect to explain the cause. But sound methodology has proved particularly challenging in economic histories of postcolonial Africa because the effect—Africa’s failure to grow economically—has loomed large. The typology of “good” versus “bad” policies derives from the prevailing development policy paradigm. “Bad” policies are hard to define precisely, and it is not enough to identify them as less-than-perfect decisions. To expect foresight about economic change and transcendence in policy advice seems to be asking too much of African policy makers in the 1960s and 1970s. That information is less than perfect is true of both state and market policies. That decisions are constrained by the information available to the decision-makers is one of the central limitations that make economic policy less than ideal. It is fair to point out this deficiency, but more precision should be exercised in practical and relative comparisons of the African economic development experience. This book finds that in several instances there is reasonable doubt about a direct causal link between “good” and “bad” economic policies and the economic growth record.

To address these questions empirically the book considers economic growth in four case-study countries (Botswana, Kenya, Tanzania, and Zambia) in

East-Central Africa from 1965 to 1995. Chapter 1 surveys the literature on African economies since independence. Chapter 2 reviews the state of knowledge on the quality of the African growth evidence, concluding that the basic gaps in the data and mismeasurements will affect the conclusions we draw from the evidence. I substantiate this claim using empirical evidence from my four case-study countries. Annual GDP growth rates for the four case-study countries as reported by the World Development Indicators, the Penn World Tables, the Maddison dataset, and official national accounts data vary so much that it is impossible to make definitive comparisons of the growth experience of these countries. In Chapter 3, I examine the evolution of the national accounting systems in Botswana, Kenya, Tanzania, and Zambia, investigating how the growth evidence is assembled and how this assembly process changed over time. I also describe the underlying basic statistical data for the estimates and changes in methodologies. This chapter clarifies to what extent the available growth evidence can be used to explain how these economies grew from 1965 to 1995.

Chapter 4 introduces the literature on policy and economic growth in Botswana, Kenya, Tanzania, and Zambia and discusses some of the most basic explanations that the literature offers for poor economic growth in those countries. In order to evaluate these claims, given the uncertainty surrounding the growth evidence, Chapters 5, 6, 7, and 8 consult the primary sources for growth data: national accounts. These chapters investigate the development in national accounting methodologies in the four countries. The basic statistical data and methods of measurement and estimation vary, and this has decisive impacts on the growth evidence and consequently on the validity of growth comparisons. These chapters discuss the implications of creating constant growth series based on the national accounts data in each of the four case-study countries. They disaggregate economic growth by sector and differentiate the rates and sources of growth for the four countries. Botswana, Kenya, Tanzania, and Zambia are an interesting set to compare because they are clearly associated with certain negative and positive typologies in the literature. The consensus in the literature has traced the success of Botswana to growth-promoting policies, while the dismal experience of Zambia has been attributed to economic mismanagement. Kenya's relative good growth performance is widely thought to be underpinned by its commitment to capitalist development, while its counterpart Tanzania is seen as suffering from the results of a failed socialist development experiment. However, my analysis of national statistics finds that in Botswana, economic growth was surprisingly low (with the exception of the mining sector). Conversely, economic growth in Zambia (except for mining) was surprisingly fast. Meanwhile, the growth experiences of Kenya and Tanzania were surprisingly similar.

The concluding chapter reconsiders these differences and similarities in the growth episodes and the interpretations of economic policies in the four

countries. If one accepts that growth revived in Africa in the early 1990s, as the national statistics suggest, then the history of African economic growth needs to be reconsidered. It is no longer valid to view one decade of decline as representative of African growth. The book also emphasizes that because of severe measurement problems it is necessary to base evaluations of economic performance on careful country studies that take into consideration changes over time in both economic growth and the measurement of economic growth.

NOTES

1. The literature, which I refer to interchangeably as the aggregate growth literature, the empirical growth literature, and the regression literature, is that of a subdiscipline in economics, specifically empirical studies of economic growth that use cross-country growth regressions in which the dependent variable is the average rate of growth of GDP per capita (as summarized in Durlauf et al. 2005, 599). Within this literature, innovations have included adding different independent variables or interactions of such variables to the initial baseline estimate in order to capture or explain differences in country growth in a global sample. The dependent variable was growth rate of per capita GDP taken from datasets such as the Penn World Tables, Maddison, and World Development Indicators.
2. A stylized fact is a simplified presentation of an empirical finding that is used in a causal explanation. The central point made here and in Chapter 1 is that the growth literature was informed by the wrong stylized fact. Instead of chronic failure, the pattern of growth has been growth and then decline.

African Economic Growth Reconsidered

This chapter reviews a body of research that seeks to explain African growth performance. It first reviews the aggregate evidence of African growth and presents alternative interpretations of the African growth experience. It examines the main conclusions researchers have reached, how those conclusions were supported by explanatory variables, and, finally, whether they cohere with the evidence.

In 1991, R. J. Barro published “Economic Growth in a Cross Section of Countries,” an article that explored the causes of economic growth in a sample of countries from around the world. Barro’s publication spurred a great deal of research that used the same methodology as Barro—cross-country growth regressions in which the dependent variable was the average growth rate of per capita GDP (Durlauf, Johnson, and Temple 2005, 599). In this literature (which I will henceforth refer to as the regression literature), authors innovated by adding different independent variables or interactions of independent variables to the initial baseline estimates. One of the central findings in Barro’s article was a large and significant African dummy variable. Barro’s interpretation of the dummy was that the analysis had not yet fully captured the characteristics of a “typical country” on the African continent (Barro 1991, 437). This finding prompted a research agenda that sought to eliminate the African dummy and thus explain the shortfall in African growth. Various solutions were proposed and conclusions reached in the following years. Nearly a decade later, *The Economist* took Barro’s interpretation literally. It asked, “Does Africa have some inherent character flaw that keeps it backward and incapable of development?” (*The Economist* 2000). Collier and Gunning are more resigned; they recognize that, despite many efforts, the African dummy has proved elusive and has not been eliminated over a decade of research. In an authoritative synthesis article, they concluded simply that African economies have grown “inexplicably slowly” (Collier and Gunning 1999a, 66).

More recently, while there has been a shift toward explaining growth over longer periods (Acemoglu, Johnson, and Robinson 2001, 2002, 2005; Austin 2007; Bates, Coatsworth, and Williamson 2007; Easterly and Levine 2003;

Engerman and Sokoloff 1997; Nunn 2007), there has been a slump in the number of published articles on Africa's postcolonial growth performance, indicating that a limit to invention has been reached. The conclusions in the regression literature on Africa have been very influential, partly because the results were to some extent congruent with the policy agenda set by the Bretton Woods institutions. Those same conclusions have also been successfully transmitted to a nonacademic audience through recent publications by major contributors to the regression literature: Paul Collier (*The Bottom Billion*, 2007), William Easterly (*The White Man's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good*, 2007), and Jeffrey Sachs (*The End of Poverty: Economic Possibilities for Our Time*, 2005). The findings of this literature are treated as established facts. For example, *The Political Economy of Economic Growth in Africa, 1960–2000* (Ndulu et al. 2008a, 2008b), a recent and exhaustive two-volume overview of growth literature on Africa, is premised on this literature. The second volume of this set uses the conclusions from the aggregate regressions in twenty-six country studies to guide the search for causes of economic growth that would complement the aggregate story (Ndulu et al. 2008a, 9). That volume presents the widely accepted account of postcolonial economic performance. This chapter outlines how this account was built incrementally and argues that certain perspectives on African economic growth were missed in that process.

The questions on the research agenda of growth economists since the 1960s arose from the methodology that was used, which determined how the growth evidence was handled. The empirical growth literature originated in a quest to explain “secular” or “underlying” economic growth. The model was developed to test growth theory empirically and sought to explain differences in the rate of growth of steady state economies. The original intention of the model is a separate issue from what researchers claim the model explains in the regression literature. A model has an associated narrative, in the sense that the story it tells or seeks to explain is part of what makes it credible (Morgan 1997). Therefore, both the model and its narrative should be evaluated. The literature I review in this chapter seeks to explain African economic performance in the postcolonial period by using GDP per capita as the dependent variable in the average rate of growth. In a global sample, African economies demonstrate a negative rate of growth that has yet to be explained. It requires a leap of faith to go from such a cross-sectional observation to the conclusion that this observation is valid over time. This chapter will examine how the regression model and the use of the growth evidence has influenced the conclusions economists have reached on African growth.

The issue at stake here is economic performance. How did African economies perform and why did they perform that way? Although this point of departure is relatively uncontroversial, the debate becomes complicated as soon as the first step is taken. The mainstream literature accepts measured

growth in GDP as evidence of economic performance. Some scholars are reluctant to agree that this measure constitutes economic development per se and further object that the data on GDP growth in Africa are inaccurate and unreliable. Many economists ignore these caveats and this chapter also side-steps these issues, but I will return to them in the following chapters. Another valid question is whether it makes sense to analyze African economies as a coherent unit. This will be illustrated by my case-study analyses of Botswana, Kenya, Tanzania, and Zambia later in this book.

Collier and Gunning summarize the research agenda in the economic growth literature as follows: “It is clear that Africa has suffered a chronic failure of economic growth. The problem for analysis is to determine its causes” (Collier and Gunning 1999b, 4). The overarching question has been *why* Africa has grown slowly. However, an equally important question is *how* African economies grew.

EXPLAINING LACK OF GROWTH IN AFRICA

Table 1.1 shows the quest for the African dummy as it progressed over a decade, as economists searched for the right explanatory variable that that would remove the “stubborn African dummy” (Temple 1998, 324). The dummy was significant for each of the studies on this table with the exception of the Sachs and Warner regression, which used a tropical dummy rather than an African one.

The list in the table is by no means exhaustive. Durlauf, Johnson, and Temple (2005, Appendix 2) report that in cross-country growth regressions,

Table 1.1. The quest for the African dummy: A summary

Regression	Value of the African dummy	Central variable
Barro 1991	-0.0129 (0.0030) ¹	—
Barro and Lee 1993	-0.0116 (0.051) ¹	Black market premium
Mauro 1995	-0.017 [-4.26] to 0.021 [-5.21] ²	Corruption
Sachs and Warner 1997	0.02 [0.05] ²	Openness
Easterly and Levine 1997	-0.013 [-2.46] ²	Ethnicity
Burnside and Dollar 1997	-0.0135 & -0.0161 (0.76) ¹	Aid
Temple 1998	-0.0102 [1.74] to -0.0238 [4.38] ²	Social capital
Collier and Gunning 1999	-0.0052 [0.98] ²	—

¹ Standard error in parentheses.

² T-scores in brackets.

researchers have found 145 explanatory variables that are statistically significant and can therefore be used to explain the rate of growth. Some of these variables have been used to test similar growth hypotheses but differ from the growth regression models in the measures they use. Durlauf and colleagues identify forty-three different “theories” of growth that have purportedly been “proven” in the literature. They call these findings a “growth regression industry” (639).

A natural starting point is the authoritative survey of the regression literature on African growth by P. Collier and J. W. Gunning (1999a), “Explaining African Economic Performance,” which summarized the most significant factors in regressions on African growth.¹ Collier and Gunning grouped these factors into six categories: lack of social capital,² lack of openness to trade, deficient public services, risk associated with geography, lack of financial depth, and high levels of dependence on aid. Their implicit argument was that these factors all stem from a lack of social capital (Jerven 2010e). In their view, the regression literature presents cumulative evidence that lack of openness to trade and low levels of social capital have “large, damaging effects on the growth rate” (1999a, 74).

Because the literature has focused on the average growth in GDP per capita, the question of the timing of growth has not been examined. There has been no questioning of whether African economies actually experienced chronic failures of growth. In fact, there *were* episodes of growth, but where and when these occurred has received little attention. It is also obvious that the usefulness of “Africa” as a category is limited (Ferguson 2006). Although the view that it is relevant as an explanatory category has been strengthened by the quest for the African dummy, there is probably as much variation in growth within Africa as there is between Africa and the rest of the world. Beyond the obvious point that each country’s experiences are unique, the unexplained aggregate pattern of growth remains unaddressed. The story of an economic growth that was halted and reversed by an exogenous shock has gotten lost in this research agenda.

PATTERNS OF AGGREGATE GROWTH IN AFRICA, 1960–2000

The theory of an African dummy variable originated in observations of a difference between the average growth rate in the world as a whole and in Africa. Yet there are many ways of presenting the economic growth record of the post-colonial period in Africa.

Figure 1.1 shows one way of comparing growth in sub-Saharan Africa with growth in the rest of the world from 1960 to 2000. It is evident that there is

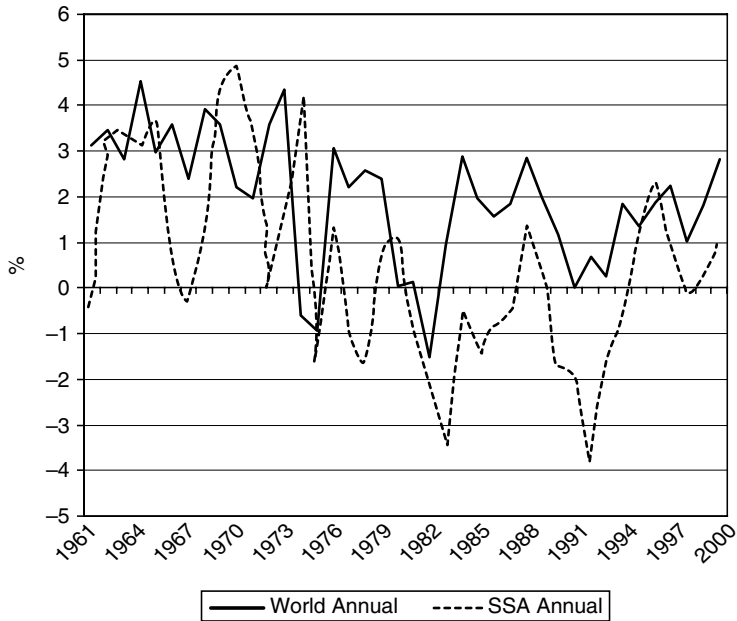


Fig. 1.1. Economic growth: Sub-Saharan Africa versus the world, 1960–2000, annual growth rates

Source: World Bank 2007. Data: GDP per capita (constant 2000 US\$) annual growth %.

a large year-to-year variation in growth and that that variation is related to a higher trend in the first half of the period. It is also apparent that since the late 1970s GDP per capita growth in sub-Saharan Africa has often been negative.

In contrast, Figure 1.2 shows the average growth in GDP per capita over the same period as a conceptual approximation of the growth evidence that has informed the regression literature. The average shortfall in growth world-wide over these decades is about 1.5 percent. The average rate of growth in sub-Saharan Africa is 0.5 percent, compared to a 2 percent average rate for the world. In Barro's cross-country regression, which offered a global sample of average growth rates for the period 1960–85, the African dummy was found to be 1.1 percent (Barro 1991). The regression literature takes it as given that this average shortfall in growth is the defining characteristic of African growth performance. Collier and Gunning observe this analytical weakness: “One limitation of the growth regression literature is that to date it has focused upon explaining long-term average African slow growth” (Collier and Gunning 1999a, 79).

Figure 1.3 plots indices of GDP per capita (1960 = 1). The main lesson to take from the indices is that the gap between sub-Saharan Africa and the rest of the world is very small in the first part of the period; it is only after 1975 that

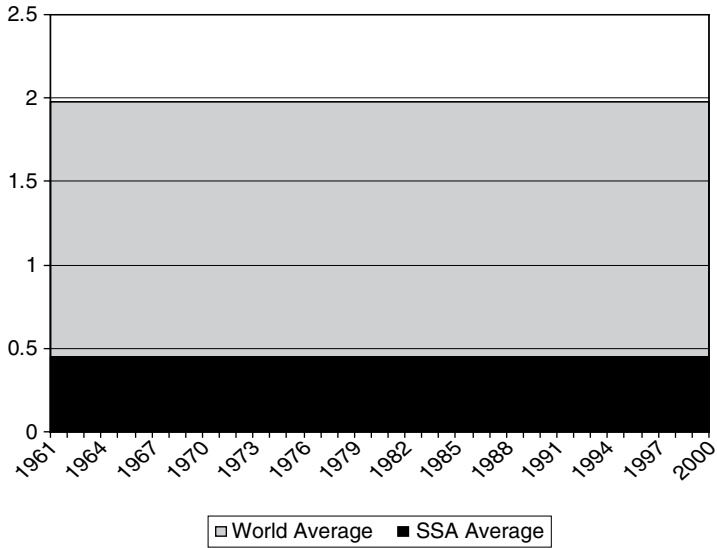


Fig. 1.2. Economic growth: Sub-Saharan Africa versus the world, 1960–2000, average growth

Source: World Bank 2007. Data: GDP per capita (constant 2000 US\$) Annual Growth %.

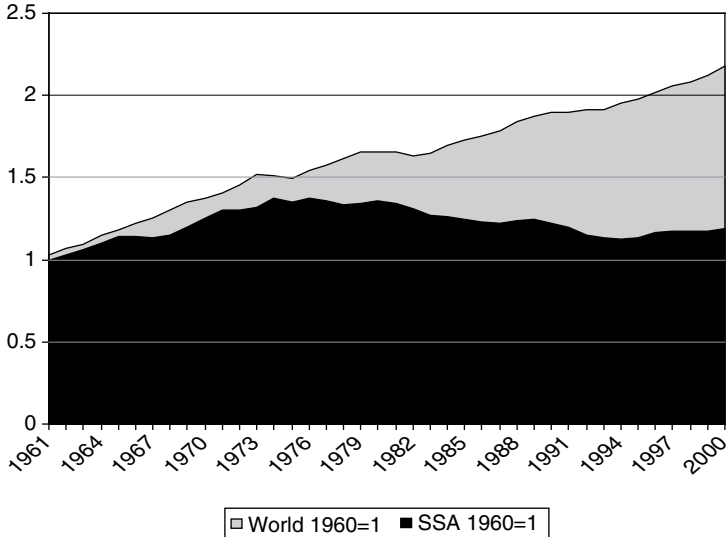


Fig. 1.3. Economic growth: Africa versus the world, 1960–2000, GDP per capita index

the difference between them is larger than 10 percent. After that, however, the indices diverge significantly.

As we see from the contrasting pictures in Figures 1.2 and 1.3, if one adopts a perspective that is not limited by focusing on an average shortfall in growth, the aggregate growth evidence opens up for other interpretations of the timing of the dummy. When did the negative residual accumulate? It also shifts the focus away from why there is a gap in growth in Africa vis-à-vis the rest of the world and toward explaining African growth itself. If one judges that the growth pattern does not cohere with the static approximation presented in Figure 1.2, then the regression model becomes unsatisfactory. When the imagined event—a persistent negative rate of growth—differs from the real event to such an extent, different explanatory variables are called for.

In fact, the African growth experience is not one of persistent stagnation. In 1960, African GDP per capita was about one-sixth of world GDP per capita. This remained true until 1977, after which the gap widened. In 2000, the African GDP per capita was less than one-tenth of world GDP per capita. The shortfall in African growth is thus a more recent phenomenon. Indeed, viewed in terms of total GDP, the African economies grew more rapidly than the rest of the world in the period before 1977, since the rate of population growth in Africa in the period 1961–2000 was 1 percent higher than that of the rest of the world.³ Tables 1.2 and 1.3 contrast the relative performance of Africa and other regions, using total GDP indices from 1960 to 1975 compared to those from 1975 to 1990.

In reality, therefore, the African growth pattern looks considerably different from the picture the regression literature presents. The notion that African economies failed to grow developed in the wake of the oil price shocks of

Table 1.2. Total GDP indices by regions, 1960–75

1960=100	World	South Asia	East Asia	OECD	Latin America	Africa
1965	130	122	117	131	127	130
1970	171	150	164	170	168	166
1975	204	170	224	200	228	208

Table 1.3. Total GDP indices by regions, 1975–90

1975=100	World	South Asia	East Asia	OECD	Latin America	Africa
1980	121	119	138	119	130	114
1985	137	156	195	135	133	120
1990	164	209	268	160	146	136