

THE QUEST FOR THE AFRICAN DUMMY: EXPLAINING AFRICAN POST-COLONIAL ECONOMIC PERFORMANCE REVISITED

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Abstract: Cross-sectional studies of growth in post-colonial Africa have overwhelmingly focussed on explaining the failure of growth in Africa. This prompting stylised fact has its qualifications and when these are taken into consideration the explanations of African economic growth appear incoherent. The notion of a chronic African growth failure has diverted attention from the process of economic growth and left important questions unaddressed. The quest for the African dummy has delivered transferable conclusions with a strong impact on the writing of African economic history. This critical survey of the literature argues that African economic performance needs to be evaluated from a different perspective. Copyright © 2009 John Wiley & Sons, Ltd.

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1 INTRODUCTION

This is a critical survey of the attempts within the empirical growth literature to explain African economic performance in the post-colonial period. Barro (1991) provided the seminal article with a paper exploring causes of economic growth in a global sample of countries.¹ The article spurred a great amount of research. These papers remained with the same methodology: cross country growth regressions in which the dependent variable was the average growth rate of *per capita* GDP (Durlauf *et al.*, 2005: p. 599). Within this literature, henceforth called the regression literature, innovation was found in adding different independent variables, or interactions of them, to the initial baseline estimation. One of the central findings in that seminal paper was a large and significant African dummy variable. Barro's interpretation of the dummy was that the analysis had not yet fully

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¹Wheeler (1984) could be considered an early forerunner in this debate.

captured the characteristics of a 'typical country' on the African continent (Barro, 1991: p. 437).² This finding prompted a research agenda aimed at eliminating the African dummy, and thus explaining the African growth shortfall. It is this sub-spectre of papers, called the quest for the African dummy, which is critically reviewed from an economic history perspective in this paper.

The seminal Barro paper (1991) combined with the availability of the Penn World Tables, 'an important statistical event' (Stern, 1989: p. 600) made the basis for what Durlauf *et al.* (2005: p. 599) described as the 'growth regression industry.' This survey does not seek to diminish the scholarly effort and academic output which has contributed to the study of economic growth and development. Nor is it an attempt to dismiss the gains from economists' work on Africa which 'has been enormously valuable for the analysis of post-colonial economic history' (Austin, 2007: p. 12). However, the general growth regression literature has been described as disappointing. An earlier assessment concluded that 'current state of the understanding about causes of economic growth is fairly poor' and that 'we are in a weak position to explain why some countries have experienced economic growth and others not' (Kenny and Williams, 2001: p. 15). Nevertheless, the method offers an admirable opportunity to organise statistical material, produce testable propositions and thus further the comparison of growth experiences. Precisely because of those qualities the literature has had a large impact in academia and on policy makers and public opinion. Its conclusions have to some extent been coherent with the policy agenda as set by the Bretton Woods Institutions³ and the findings have been effectively communicated through journal articles, as well as through best sellers written by P. Collier, W. Easterly and J. Sachs some of the central contributors to this literature⁴, and finally through the recent publication of *The Political Economy of Economic Growth in Africa 1960–2000* (Ndulu *et al.*, 2008a, b). That publication sums up the by now widely accepted account of post-colonial economic performance.

The findings of this regression literature are increasingly treated as established evidence. The quest for the African dummy has thus seemingly ended. The answers to why Africa grew so slowly are supposedly found and the conclusions from more than a decade of running regressions on African growth are apparently deemed to be ready for textbook publications. More recently, there has been a shift towards explaining growth over longer periods,⁵ and there has been a slump in the publishing of articles on the post-colonial African growth performance, indicating that a limit to invention has been reached. Some of the limitations of the literature have been acknowledged. Collier and Gunning (1999a: p. 79) in a synthesis article pointed out that 'one limitation of the growth regression literature is that to date it has focussed upon explaining long-term average African slow growth.' Meanwhile, Temple (1998: p. 343) has carefully noted that 'it should perhaps go without saying that, although cross-section econometrics can make a useful contribution, it can only take us so far in understanding the African experience.' Nevertheless, the literal interpretation of the results have often been less modest and this literature has been *the*

²The Barro interpretation was taken literally in the Economist in 2000 where it was asked whether 'Does Africa have some inherent character flaw that keeps it backward and incapable of development?' (*Economist* May 13–19, 2000) Quoted in Arrighi (2002).

³As shown here, the initial papers highlighted policy mistakes, while in the latter years 'institutions' came to the foreground, with a parallel development embodied in the move from the 'Washington Consensus' to the 'Post-Washington Consensus'. For an exploration of this link see Stein (2008: pp. 76–84).

⁴Collier (2007), Easterly (2001a, 2006) and Sachs (2005)

⁵As marked by the work of Acemoglu *et al.* (2005; 2002; 2001); Austin (2007); Bates *et al.* (2007); Easterly and Levine (2003); Engerman and Sokoloff (1997) and Nunn (2007).

deliverer of the explanation of African economic performance in the post-colonial Africa, making its messages worthy of a critical review.

2 THE AFRICAN ECONOMIC GROWTH RECORD

The quest for the African dummy was an outcome of the specific methodology used, which again determined the handling of the growth evidence. Empirical growth models were developed to test growth theory empirically and to explain differences in the steady state growth rate. This initial intent is a separate issue from what the models have been claimed to provide evidence for in the regression literature. A model has a narrative associated with it and both parts should be evaluated. The papers under review explicitly aim to explain African economic performance in the post-colonial period. For that purpose the average rate of growth in GDP *per capita* was used as the dependent variable. In a global sample, controlling for the normally accepted growth variables, this left what may be termed a negative growth residual for African economies unexplained or a significant negative African dummy.

The parameters for the discussion, in terms of type of evidence and the sample of countries, are embodied in the African dummy. The existence of such a dummy is a result of a specific configuration of the growth evidence. The literal interpretation of the dummy is that African economies have a persistently slower steady-state growth rate than other economies. The literature has then gone ahead and ventured different ideas of why that is, and proposed different variables that capture this negative growth residual *vis-à-vis* the rest of the world. The research agenda was summed up as '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: p. 4). The overarching question has been why has Africa grown slowly, instead of asking how African economies grew.

The African dummy derives from observing a difference between the growth rates in the World as a whole and in Africa. There are many possible ways of presenting the economic growth record of the post-colonial period. Some of them will be explored here.

Figure 1 above displays one way of comparing growth in Africa with the rest of the world between 1960 and 2000. The first two curves plot annual GDP *per capita* growth in the World and Africa. It is evident that there is a large year-to-year variation in growth, and that the variation is around a higher trend in the first half of the period compared to the second half of the period. It is also apparent that the African GDP *per capita* growth is often negative from the late 1970s onwards.

In contrast Figure 2 shows the average growth in GDP *per capita* over the period, as a conceptual approximation to the growth evidence that has informed the regression literature. The average growth shortfall over the period is about 1.5 per cent, with an average African growth rate of 0.5 per cent compared 2 per cent world average. In the seminal cross country regression with global sample of average growth rates 1960–1985, the African Dummy was found to be 1.1 per cent (Barro, 1991).

Figure 3 plots indices of GDP *per capita* (1960 = 1). The main lesson to take from the indices is that the gap between the two is very small in the first part of the period, and it is only after 1975 that the difference between them is larger than 10 per cent. After that however, the indices diverge dramatically. If one adopts a perspective not limited by focussing on an average shortfall in growth, the aggregate growth evidence opens up for

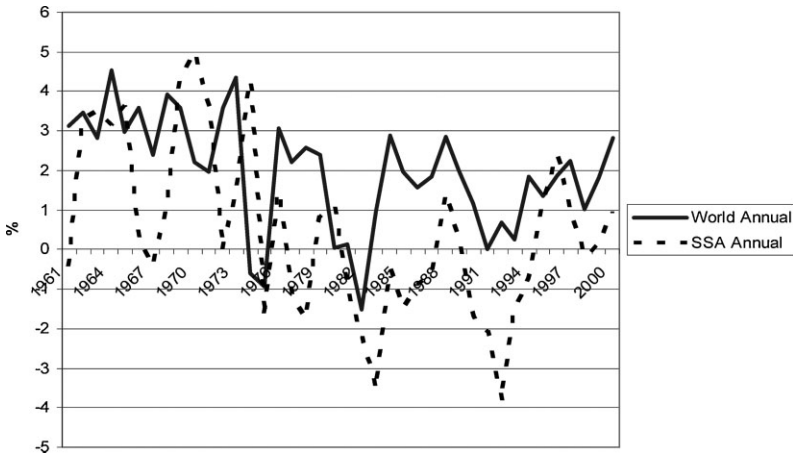


Figure 1. Economic growth—Africa versus the World 1960–2000, annual growth rates. Source: World Development Indicators (2007) Data: GDP *per capita* (constant 2000 US\$) annual growth per cent

other interpretations regarding the timing of the dummy. When did the negative residual accumulate? Again, it also shifts the focus from why there is gap in growth in Africa *vis-à-vis* the World, towards explaining African growth itself. If one judges that the growth pattern, seen in a dynamic way, does not cohere with the static approximation it would leave the regression model unsatisfactory. This would be the case where the ‘imagined event’—a persistent negative growth residual—does not cohere with the ‘real event’ to such an extent that it calls for different explanatory variables.

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 the World GDP *per capita*. The African growth shortfall is therefore a more recent phenomenon. Before 1977, in terms of growth rates African economies were not significantly lagging behind. Indeed, viewed in total GDP terms, the African economies

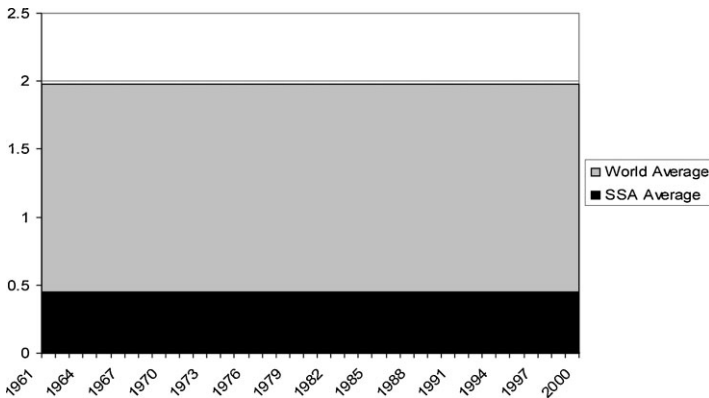


Figure 2. Economic growth—Africa versus the World 1960–2000, average growth. Source: World Development Indicators (2007) Data: GDP *per capita* (constant 2000 US\$) annual growth per cent

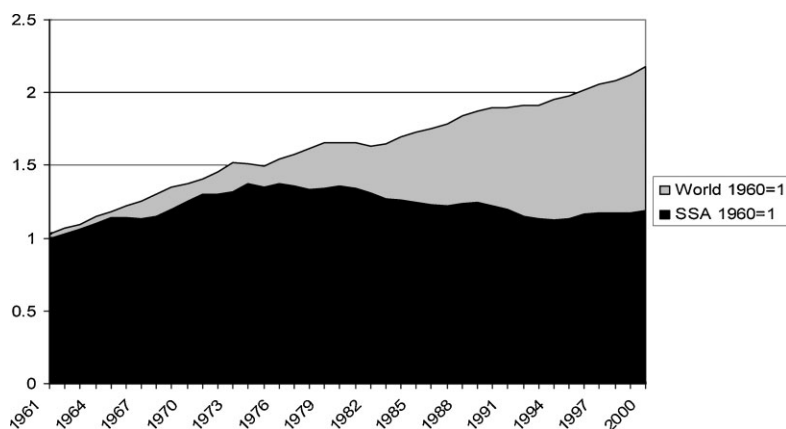


Figure 3. Economic growth—Africa versus the World 1960–2000, GDP *per capita* index. Source: World Development Indicators (2007) Data: GDP *per capita* (constant 2000 US\$) annual growth per cent

grew quicker than the rest of the world in this period, since the population growth in Africa 1961–2000 was 1 per cent higher than in the rest of the World.⁶ The Tables 1 and 2 below contrast the relative performance of Africa and other regions, using total GDP indices across 1960–1975 compared to 1975–1990.

These GDP indices confirm that over the first 15 years there was no Africa dummy. African economies performed better than the world average, the OECD economies, and the South Asian economies, while almost keeping pace with the East Asian and Latin

Table 1. Total GDP indices by regions 1960–1975

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 2. Total GDP Indices by Regions 1975–1990

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

Source: World Development Indicators (WDI, 2002) Data: Total GDP (constant 2000 US\$) Annual Growth %.

⁶All data taken from World Development Indicators, this conclusion is not an artefact of my use of the WDI data. Ndulu and O'Connell (1999) finds the same pattern using Penn World Tables. Maddison (1995) supports the same conclusion. Neither is this finding an artefact of aggregation, it is supported by individual country experiences, as is shown by Arrighi (2002) using data assembled by Berthelemy and Soderling (2001).

American economies. It is only in the latter period, between 1975 and 1990, that the African economies started lagging behind.

3 EXPLAINING LACK OF GROWTH IN AFRICA

This paper now moves to consider the independent variables used in the regressions, review their conceptual soundness and test how well they stand as causal factors of growth in Africa. Has the quest for the African Dummy yielded any results that can provide a coherent explanation of the notion of the rapid growth in the 1960s and early 1970s, and the subsequent retrogression in the late 1970s and the 1980s?

Table 3 shows the quest for the African dummy, as it progressed over a decade, searching for the right explanatory variable that would remove the ‘stubborn African dummy’ (Temple, 1998: p. 324). The dummy remained significant with the exception of the Sachs and Warner regression, where the African dummy was superseded by the inclusion of a tropical dummy.

The list in the table is by no means exhaustive. Durlauf *et al.* (2005: Appendix 2) report that in cross-country growth regressions, 145 explanatory variables have been found statistically significant, and therefore with an explanatory effect on the rate of growth. Of these 145 variables some entertain similar growth hypotheses, but differ in the measures used. Durlauf *et al.* (2005: p. 639) identifies 43 conceptually different ‘theories’ of growth as being ‘proven’ in the literature.

A natural starting point is the authoritative survey of the regression literature on African growth, ‘Explaining African Economic Performance’, by Collier and Gunning (1999a).⁷ That paper summarised the most significant factors in regressions on African growth under six headings: lack of social capital, lack of openness to trade, deficient public services, geography and risk, lack of financial depth and high aid dependence. At face value, this list

Table 3. The quest for the African dummy—a summary

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

^aStandard Error in parentheses.

^bT-scores in brackets.

⁷That synthesis article was published in 1999, and one would perhaps object that the study is fairly dated. However, as indicated in the previous section, there have not been major significant new findings in the literature since then. This contention is supported by Durlauf *et al.* (2005), who refer to Collier and Gunning (1999) and Easterly and Levine (1997) as the authoritative examinations of African growth. Furthermore, an additional review of the regression literature on African growth focussed on the same papers reviewed here (Azam *et al.*, 2002).

of the significant factors illustrates that by attempting to explain a lack of growth, the regression literature has found variables that give a distinct flavour of a 'subtraction approach'. The subtraction approach can be described as taking the characteristics of a developed country on one side, and comparing it with an underdeveloped country on the other side. The differences between them are taken to explain underdevelopment. This is well illustrated by the list of factors in the paper, and the frequent use of 'lack of ...' makes it explicit. Linked with the subtraction approach is the revival of the notion of the vicious circle of underdevelopment, where underdevelopment is taken to explain itself. There appears to be a confusion in the literature as to whether one is explaining being relatively poor or growing relatively slowly. If one accepts a linear understanding of economic growth the next logical step from the stylised fact of a 'chronic growth failure' is, and has been, to concentrate research on explaining the persistence of low incomes.

However this approach does not cohere with the actual growth record. African economies have displayed both growth and retrogression; they have not been captured in a low-level equilibrium where poverty has reproduced itself. Therefore, the factors launched and the circular reasoning in which they are embedded is not immediately convincing. It is already known before reading the regression literature that Africa has performed relatively worse in GDP *per capita* terms over the post-colonial period as a whole. The African economies are poorer. Knowing that we would also assume that they rank lower on education, health and infrastructural indicators. It is also reasonable to assume that these poor countries receive more aid and have less developed financial markets. This is confirmed by the regression literature. What it does not tell us, and what would be the key to understanding economic performance, is why the African economies grow and why they regress.

The regression literature has overwhelmingly put the blame for poor economic performance on African policy makers. The literature does, to some extent, want to explain these 'bad' policies with social arrangements that are specific to Africa. This is where social capital comes in, which is supposed to capture the African exceptionalism of poor performance. The implicit argument in Collier and Gunning's synthesis of the regression literature is that a lack of social capital is Africa's 'original sin', from which all growth retarding factors can be derived. A low level of 'social capital' has 'large, damaging effects on the growth rate' (Collier and Gunning, 1999a: p. 74). It causes 'bad' policies such as restrictive trade policy and deficient public services, aggravates unfortunate natural endowments, has lack of financial depth as a bi-product and makes aid inefficient.

More specifically, as Azam *et al.* (2002: p. 171) put it 'the choice of bad policies. . . . is traced to the lack of social capital and deficient political institutions.' Similarly, Temple summed up the consensus in the literature as 'observable variables capturing initial conditions can account for around three-quarters of the variation in developing country growth rates. These variables affect growth mainly by determining policy outcomes' (Temple, 1998: p. 341). In plain language, the regression literature initially found that certain policy variables such as overvalued currencies, corruption and general institutional quality were correlated with low average growth rates. In trying to assign a causal link, and avoiding endogeneity, the literature has increasingly sought to explain these policy outcomes with respect to initial conditions. The variables used to measure to extent of the lack of social capital in Africa could be divided into three different categories, measures of ethnic fragmentation, institutional quality and finally a social development index.

The most influential application of 'social capital' to explain the failure of growth in Africa relies on regression work by Easterly and Levine (1997) and the variable ETHNIC measuring the probability that two randomly selected individuals in a country belong to

different linguistic groups. It was claimed that this variable ‘accounts for about 28 per cent of the growth differential between the countries of Africa and East Asia’, because it explains why ‘countries select growth-retarding policy-packages’ (Easterly and Levine, 1997: pp. 1207–1208). The argument that ethnicity can explain policies is loosely linked to work by Bates (1981, 1983). There is however, no regression evidence explicitly supporting the Bates argument. It is based on narrow constituencies for which ethnicity is a poor proxy. Bates (1981, 1983) primarily aimed at explaining the differing agricultural pricing policies within Africa. He argued that the policy outcomes were determined by whether the ruling elite are rural or urban based, resulting in corresponding policy bias. This is not correctly measured by linguistic fragmentation.

The ethnicity variable is further weakened by its crude formulation. There is very good reason to believe that political instability does not increase proportionally with linguistic fragmentation. Rather, two or three equally large groups have proved more detrimental than many small groups. Incidentally, Easterly and Levine show this when attempting to prove that their ethnicity variable works: they compare the two extremes on the ethnic fragmentation measure, Japan and Tanzania. They find that the indirect and direct effect of ETHNIC ‘accounts for about 4.1 percentage points of the growth difference—which equals the actual growth difference.’ (Easterly and Levine, 1997: p. 1237). While these numbers add up, it must be noted that ethnicity has not been ascribed a growth-retarding effect by any major scholarly works on the economy of Tanzania. The basic claim is that the lack of social capital causes ‘bad’ policies. The linguistic fragmentation has a weak ‘instrumental’ explanatory potential in this respect. It only displays a robust impact on the numbers of telephones *per capita* (Azam *et al.*, 2002: p. 204)—a variable to which one would be careful about ascribing too much growth explanatory potential.

‘Lack of social capital’ as defined as poor institutional quality is based on different ‘subjective evidence’ i.e. impressionistic rankings of various measures of institutional efficiency based on interviews. These descriptive data are given in Table 4. There is a critical problem of reverse causality associated with the use the institutional quality data. They are all observations from the 1980s and 1990s i.e. in the latter half of the period

Table 4. Evidence used in the empirical growth literature for ‘Lack of Social Capital’

	SSA	Other LDCs
Corruption	4.97	6.03
Bureaucracy	1.38	1.72
Enforceability	1.95	2.09
Civil War	1.27	0.72
Fractionalisation	67.6	32.7
Social development	1.10	−0.43
Inequality	31.0	31.0

Notes: Corruption, data from International Country Risk Guide for 1982; low score indicates high corruption. Quality of bureaucracy, source as corruption, high scores indicate better quality; range is from 0–6. Enforceability of contracts, data from Business Environmental Risk Intelligence for 1972; low scores indicate weak enforceability; range is 0–4. The index of fractionalisation is on the range 0–100 with completely homogenous societies scored as zero. Adelman-Morris Index of ‘social development’ as of the early 1960s is constructed on the effective range 1.86 (least) to −1.91 (most) over 74 countries which they classified as developing at the time. Inequality, the income share of the third and fourth quintiles. *Sources:* Corruption and fractionalisation from Mauro (1995); civil war (months per year) from Singer and Small (1994); A–M index and inequality from Temple (1998) This table is reproduced from Collier and Gunning, 1999a (Table 2: Socio-Political Indicators: Differences between Sub-Saharan Africa and other LDCs p.67).

analysed. Consequently, these are likely to be effects of the growth failure of the late 1970s and early 1980s, and not a cause of growth during the whole period. The data are also far from comprehensive. Knack and Keefer (1995) use only two African countries, South Africa and Nigeria. The data on corruption and bureaucratic inefficiency from Mauro (1995) includes only ten African countries, among which where the notoriously corrupt and not necessarily representative Nigeria, Zaire and Cameroon. The interviews were conducted in 1981–1983 at the height of political and economic turmoil in Sub-Saharan Africa. These variables are therefore highly likely to be endogenous and overstated. This bias is strengthened by the time and place they are taken from, and the very fact that they are subjective.

The possible exception to this in the table above is the social development index which was developed by Adelman and Morris (1967). This index was used by Temple (1998), Temple and Johnson (1998) and as we have seen, it is reported in Collier and Gunning (1999a) who uses it as a direct measure of social capital. The index has the advantage of being dated in the beginning of the period (the measures are collected from the period 1957–1962) as opposed to the more recent surveys of subjective evidence on institutional quality. Therefore the scores on this index could not have been caused by later processes of economic development in those countries. The factors included in the index as used by Temple and Johnson (1998) and by Temple (1998) is given below Tables 5.⁸

Temple (1998: p. 324) is pleased by the fact that when he groups the countries in the sample in three groups ‘the African countries nearly all fall into the first group—that associated with the most traditional societies. Thus, this variable does seem to offer some hope of removing the stubborn Africa dummy.’ In that context it is worth mentioning that the only countries that are not African and classified in the least socially developed group are Afghanistan, Laos, Nepal, South Vietnam and Yemen. In this respect it could be argued that one is just redefining the puzzle elsewhere, creating a dummy by another name.

The index is heavily influenced by the idea that societies are to be found on a continuous linear line of development from ‘traditional’ to ‘modern’. Revisionist scholarship has

Table 5. Socioeconomic components of the Adelman–Morris index

	Factor loading
Size of the traditional agricultural sector	–0.89
Extent of dualism	0.84
Extent of urbanisation	0.84
Character of basic social organisation	0.83
Importance of indigenous middle class	0.82
Extent of social mobility	0.86
Extent of literacy	0.86
Extent of mass communications	0.88
Crude fertility rate	–0.63
Degree of modernisation of outlook	0.75

⁸In the original Adelman and Morris Index ethnicity was included as a variable as well. However, since the papers referred here used linguistic fragmentation as a separate independent variable, the ethnicity part of the index was excluded.

emphasised that this is not the case, and that there are many paths to modernity, rejecting the idea of a unilinear model of development⁹. The measures listed in the table are composites derived from various other measures. Some of the values given to countries were based on official available statistics. When data were unavailable the countries were ranked according to the researcher's judgment. For example, a value would be given for Tanganyika (mainland Tanzania) on the variable 'Degree of modernisation of outlook' or another 'purely judgemental indicator' (Adelman and Morris, 1967: p. 12) based on a general feeling about that country. That value would then be sent for consultation to other 'experts'. If those disagreed the value would be adjusted upwards or downwards accordingly. Botswana, the African growth success is not included in this index. Botswana grew rapidly throughout the post-colonial period, and is often used as the example that ethnicity and democracy matters, as the country has only main language and has remained relatively democratic throughout the period. It is extremely unlikely that Botswana would have scored differently than other African economies on the A-M index in 1957.

More importantly the index does not cohere with the theoretical underpinnings of social capital. Social capital is supposed to be distinct from normal capital in that it is created by strictly social processes, which do not have economic causes, but might have economic effects. If the measure of social capital used in a regression in essence were a different expression of accumulated capital i.e. relative wealth, one would end up with a situation of having the same measure on both sides of the equation. The factors in the index are characteristics of a higher degree of economic poverty, and a lower level of economic development. It contains indicators like health, education and economic structure. The data behind the index are results of accumulation of human and physical capital, and economic processes such as the degree of structural change and urbanisation. As convincingly argued by Fine (2001), Harriss (2002) and Stein (2008) the adaptation of social capital to economic growth analysis has been a choice of convenience rather than being firmly grounded in theory and empirics. The use of 'social capital' in the regression literature on African growth confirms these objections. The term is not properly measured according to its definition, nor is the use of the measures theoretically sound.

The variables that capture policy outcomes suffer from a different shortcoming. Either their average value (such as the black market premium) is inflated by the economic shocks of the late 1970s and early 1980s,¹⁰ or the observations like the institutional quality measures are made after these economic shocks. It is highly misleading to take these post-shock phenomena, that essentially are effects of the growth failure and to use them as causal factors to explain economic performance over the whole period. This usage of effects and outcomes of economic turbulence in the 1980s and direct measures of these economic shocks is a fallacy of explaining the imagined event of persistent slow growth in Africa.

Collier and Gunning illustrate this fallacy clearly when arguing the case that Africa suffers from high aid dependence and that this has caused slow growth. Collier and Gunning (1999a: p. 74) report that in 1994 the share of aid to GNP in Africa was almost five times higher than in other low income countries.¹¹ WDI (2002) records aid dependency

⁹For a suggestion of an East Asian path of development see Sugihara (2003), for a consideration of an African path of development see Austin (2008).

¹⁰Although some African currencies were systematically overvalued (this does not apply to the CFA countries for instance) its extreme values inflating the measure were shock and not policy outcomes. This has been noted in the growth literature earlier: 'If shock variables are omitted, estimates of the effect of the black market premium on growth will falsely attribute externally induced adversity to policy' (Easterly et al., 1993: p. 474).

¹¹The source of the data for this ratio in the paper is not given.

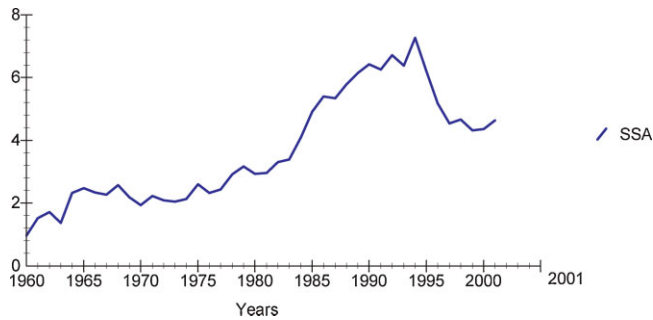


Figure 4. Financial Aid as percentage of GNI for Africa 1960-2000. Source: WDI 2002

ratios as a percentage to GNI, which includes all official development assistance, official aid, technical cooperation and all loans with at least 25 per cent grant element. The percentages are plotted in Figure 4. It is revealing that in picking the year 1994, Collier and Gunning used the absolute peak observation. Relatively high aid dependence is indeed a symptom of the growth experience of the 1980s. Its extreme value is a recent phenomenon and an outcome of the growth failure and the ensuing structural adjustment lending from 1979 onwards and cannot be considered a causal factor in explaining growth performance since 1960.

A similar misplaced pessimism relates to infrastructure and human capital. Collier and Gunning note that 'the public service which has received most attention in growth regressions has been education' and it is conceded that concerning education and its link to growth 'issues are unresolved' (Collier and Gunning, 1999a: p. 71). Enrolment and literacy levels have increased rapidly even when growth has not been high. This is confirmed, using data from WDI (2002), by a correlation coefficient of -0.985 between GDP growth and literacy rates for the period 1970–2000 (annual data for SSA). This almost perfect negative correlation could imply that literacy has a negative impact on growth rates. However, it reflects that in African economies there has been impressive improvement in human capital since independence and that this trend has continued despite the slowdown in growth since the mid 1970s. This contradictory evidence can however be accommodated in a growth regression. If one regresses a relative human capital stock deficit on an average growth shortfall, the result will come out as human capital having a significant negative effect on growth. By this method, human capital is found to account for 1.2 per cent of Africa's annual growth shortfall relative to Asia (Bleaney and Nishiyama, 2002).¹² But did one now just fit a regression, or was something actually explained?

While there might be a certain threshold of human capital beyond which African economies would start to benefit from human capital based growth, it remains an unproved hypothesis whether it has been the chief constraint on growth in the 1980s.¹³ What is certain is that significant progress has been made since independence (Sender, 1999), also through times of constrained finances, and external demands of austerity. 'Deficient public services' does not capture the demand or the time aspect of public service delivery in

¹²Bleaney and Nishiyama 2002 finds this after having made a synthesis of the regression models of Barro (1997), Sachs and Warner (1997) and Easterly and Levine (1997). Their human capital variable is a composite of Life expectancy and Male Schooling

¹³It has also been argued that the problem with African education has been poor quality, and there has been an overemphasis on tertiary education (Schultz 1999).

African economies. Large improvements were made after independence, despite the initial conditions. Some of these improvements continued through the 1980s despite the growth failure. Bennel (2002: p. 1186) argues that Africa has been extraordinary in this respect and reminds us that in Europe and North America education was expanding together with rapid growth of in the formal sector, while in Africa formal education has been promoted without a demand for such educated labour, and in the midst of economic crisis and contraction.

In terms of human development Africa has not been a chronic failure. Due to policy reforms associated with structural adjustment this positive trend in human capital did slow down, and was in some cases momentarily reversed. An evolutionary and a reciprocal comparative perspective on public service delivery is similarly missed with respect to infrastructure. As examples of relative indicators of deficiency in public service provision causing slow growth, Collier and Gunning report that the rural road density in Africa was 55 km per square km as compared to 800 in India and that '[f]reight rates by rail are on average around double those in Asia' (1999a: p. 71).¹⁴ Before accepting these rankings of infrastructure efficiency and attributing them to irrational policy making based on low social capital, one would need to take account of some other relative indicators. That road density and similarly the prevalence of railways are outcomes of population density seem commonsense. Again, the number of users is a critical determinant in the pricing equation and therefore also of the optimal level of infrastructure provision. Consequently, those data need to be put in a context appreciating differing physical endowments and factor ratios.

Africa has five times larger landmass and about half the population as compared to South Asia. In 1961 the population density was 12 times higher in South Asia with 120 people per square km as compared to 10 in Africa. In 2000 the population density was still 10 times higher in South Asia.¹⁵ These data corresponds with the relative data quoted on infrastructure, and a similar arithmetic based on physical conditions applies to transport by rail. Interestingly when one compares automobiles, there were 21 vehicles per 1000 people in Africa, while only 2 per 1000 people in South Asia in 1980. Thus here the relationship is reversed. The rationality of choice of transport and technology depends on the physical environment and should be considered before asserting that irrational policies or institutions have hampered economic progress. For some areas, railway is the rational choice, for others, automobiles. It should furthermore be noted that there was a substantial increase in infrastructural investments in the early part of the period. Thus public services are linked to economic growth. When growth and therefore public revenue dried up in the 1980s this type of investments was suspended. Because of this more recent shortfall in investment infrastructure has deteriorated.

Endowments or initial conditions in a narrow sense is not a good predictor of economic performance or as Hopkins (1973:13–14) put it, 'Comparing the natural resources and climates of different parts of the world in order to draw conclusions about whether they stimulated or retarded the economic progress of particular societies is a tempting but unprofitable exercise—rather trying to decide if life is more difficult for penguins in the Antarctic or camels in the Sahara.' The lesson is that issues such as choice of technology and investments in physical and human capital need to be evaluated in the light of the specific endowments and local conditions, before asserting that irrational policies or institutions have hampered economic progress. When internal factors are used in analysis across countries the comparison must reciprocal. The faults arising from the failure to do so

¹⁴Collier and Gunning provides no reference for these data

¹⁵283 people per square km in South Asia as compared to 28 in Sub-Saharan Africa. Data from WDI (2002)

are shown in the preceding sections.¹⁶ Education, technology, infrastructure, institutional provisions can only be considered as growth retarding or enhancing in their own physical context and with respect to the relative development level.

4 TOWARDS ALTERNATIVE EXPLANATIONS OF AFRICAN GROWTH

The cross-sectional explanation of African growth suffers from several incoherencies. Keeping the record of growth presented earlier in mind the proposition that African initial conditions directly determined persistent slow growth does not make sense. At best, such variables can be seen as contingent. It seems that unfortunate initial conditions were overcome. How or whether they at all came into play at a later stage could be part of a historical explanation. However, the cross-sectional story does not accommodate for such explanations. A static representation of the African growth shortfall has become dominant and it has been tempting to interpret the dummy as that Africa had a 'character flaw' that made it incapable of economic development; meanwhile the growth record tells a different story. An account of growth in Africa taking the qualitative and quantitative changes into consideration, and explaining African growth as it happened, not as an averaged negative residual, might reach completely different conclusions from those on offer in the regression literature. This review suggests that to take a step further in understanding the African growth experience, economic change must be investigated and the average growth perspective suspended.

Between independence and the first oil shock many countries experienced widespread economic growth. This growth was caused in part by direct and indirect state intervention to achieve industrial growth and was accompanied by agricultural growth. Demand and consequently prices for most African export crops were in this period buoyant as markets across the world were expanding. The increase development expenditure was financed partly by a transfer of surplus from the agriculture or mining sectors and was supported by some reliance on foreign investment and financial aid. The relative importance of these sources of funds for industrialisation varied from country to country. In 1974 the price of food and petroleum imports soared. From 1979 exports prices for most agricultural crops were falling and access to credit in international financial markets was temporarily scarce and expensive. Finance that would bridge the increasing balance of payment problems was made conditional on policy reform by the Bretton Wood institutions and Structural Adjustment Programmes was implemented in most African countries. There is much controversy as regards the relative theoretical merits of the policies contained in the 'Washington Consensus' package versus the previous 'Developmentalism' paradigm. Nevertheless, there seems to be three inescapable conclusions. First, the reform process was a lengthy, drawn out process. This prolonged negotiation and halted implementation of Structural Adjustment Programmes was not the best conceivable outcome, but that is not to say that a swift adjustment as envisaged by the IMF and the World Bank would have resulted in sustained economic growth. Second, industrial growth was in all countries discontinued, and in most places reversed. Development expenditure was also cut significantly with negative effects on infrastructural and human development. Finally, the third definite outcome of the process was severe indebtedness for the countries involved.

¹⁶The virtues of 'reciprocal comparison' are well laid out in Pomeranz (2000) and Austin (2008). For a version of the argument of endowments and choice of technology relating to rice production in Asia, see Bray (1986).

The notion of the African growth failure came about in the wake of the 1973–1974 and 1979–1981 oil price shocks, and increased in currency as African economies became heavily indebted under structural adjustment, and due to the required food aid related to the droughts that have plagued the continent in the latter part of the period. In trying to solve the puzzle of a lack of economic growth in Africa the regression literature is a child of its own time and the contemporary literature on African growth is heavily influenced by this vantage point. The evaluation of economic policy pursued by independent African economies has suffered in particular. The whole post-colonial period has been equated with economic failure and the judgment on African economic policies and policy makers has been accordingly severe. The stylised fact of a chronic African growth failure has had a decisive impact on the writing of the economic history of independent Africa.

While it is certain that state intervention in most African economies has left a lot to be desired in terms of achieved economic development outcomes, this should not be automatically equated with the consistent choice of ‘growth-inhibiting policies’, nor explained as an inevitable outcome of ‘African’ conditions. A methodologically sound historical account avoids using the effect to explain the causes. In the economic history of post-colonial Africa this has proved particularly challenging, as the effect; the African growth failure, has loomed large. The typology of ‘good policy’ versus ‘bad policies’ takes impetus from the prevailing development policy paradigm. ‘Bad policies’ are hard to define precisely, and it is not sufficient to identify them as less than perfect decisions. To expect foresight of economic change and transcendence of contemporary policy advice seems to be asking too much of African policy makers in the 1960s and 1970s. That information is less than perfect is common to both state and market decisions. 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 caution should be exercised in a practical and relative comparison of the economic development experience. This article finds that in several instances there is reasonable doubt concerning the direct causal link between the typologies of ‘good’ and ‘bad’ economic policies and the economic growth record. In the early contributions to the growth literature these ‘bad’ policies appears causes of slow economic growth. Later on these ‘bad’ policies were explained as outcomes of the ‘poor’ initial conditions. These observations of ‘bad’ policies can equally well be explained as outcomes of the economic shocks. As financial resources grew short following the economic shocks and institutional quality deteriorated. Public servants salaries were cut short by inflation providing incentives for corruption. The time horizon for political leaders shortened and incentives as well as opportunities for destructive rent-seeking increased. The black market premiums reflect a shortage of foreign currency, and that policy makers made restrictions on access to imports and foreign currency in response to the balance of payment crisis. Meanwhile development expenditure and public service delivery was compromised by a lack of revenue, and many of the impressive gains made since independence were reversed.

It could be seen as a paradox that policy is given such a prominent role in the orthodox explanation. If one considers the growth pattern presented earlier, the African economies grew rapidly when ‘bad’ polices were initially implemented. The first structural adjustment package was agreed upon with Senegal in 1979 (Van de Walle, 2001). Since then most African economies have been implementing or moving towards ‘good’ policies as prescribed by the orthodox scholars, and economic performance has been poor. As mentioned there is considerable debate on whether these polices were fully implemented. Nevertheless, the reforms that were manifestly implemented specifically targeted the prominent variables in the regression literature. There was a general move towards

liberalisation. Price controls, restrictions on international trade and fixed exchanged rates were abandoned. There were privatisations, financial reforms and a general decrease in state intervention and expenditure.

The economic failure and decline was an event that took place during the post-colonial period, but it did not coincide with the whole period. The two should not be equated. Dispensing with the average growth outcome perspective and thereby allowing for periods of growth changes how the post-colonial growth record is both narrated and explained. Initial conditions such as ethnic fragmentation and measures of social capital cannot have had a direct role in the failure of economic growth in the late 1970s. The growth failure was a combination of external economic shocks and a less than perfect policy response, both from international donors and national economic policy makers. Policy typologies such as the distinction 'closed' versus 'open' or the related 'bad' or 'good' policies are not found to correlate consistently with the episodes of economic growth. The regression literature on African economic growth has inflated the economic failure to apply to the whole period, and then falsely attributed an economic policy and institutional arrangements that could manifestly co-exist with sustained economic progress as a cause for the economic failure. That this period of economic growth was not sustained does not mean there were no lasting effects. Gains were made in infrastructure development and human capital that have not been fully reversed in the manner of the GDP *per capita* measure.

Another important consequence of the quest for the African dummy is that being 'African' has been strengthened as a potentially explanatory variable. It seems to have been forgotten that it could plausibly be argued that there is more to explain in terms of differences in both economic performance and growth characteristics within Africa, than there is between Africa and the rest of the world. However, the central argument pursued here, which is supported by both the aggregate evidence and country studies as presented by Arrighi (2002) is that, both in terms total African GDP and in terms of country level growth episodes, there was a large number of countries that experienced sustained growth before 1974, and that subsequently very few economies experienced growth in the latter half of the period.

This does not imply that it is appropriate to treat Africa as if it was a collection of homogenous experiences. All African economies had the fluctuation and contraction of the world market in common, but different economies had different exposure to the world market and different policies to manage the interaction with it. With the exceptions for petroleum exporting countries the post 1973 world market development was bad news. The dependence on the world market for primary commodity exports led to a convergence in negative economic performance in the 1980s with a handful of exceptions. This convergence in economic performance paved the way for a convergence in policy performance as African economies embarked on relatively homogenous Structural Adjustment Programmes.

The heterogeneity of African economies seems more pressing when it comes to political economy and policy priorities before Structural Adjustment. The differences in political economy might help explain why certain economies prioritised exports of cash crops while others did not, as Bates (1981) has shown by, for example, juxtaposing countries like Kenya with Tanzania, where the latter was described as having a bias against agricultural exports. This helps explain some policy choices, which cannot be picked up by simple ethnicity variables or other quantitative parameters. More importantly, both economies ran into problems in the 1980s for different and similar reasons, which again led to a policy convergence in the 1990s. These changes, nuances and trajectories cannot be satisfactorily explained nor paid attention to in a cross-country regression. The regression literature often makes reference to anecdotal evidence that should support and confirm the use of certain

variables in the model specification. It is testament to the diversity of country experiences and characteristics within Africa that it is always easy to find a country that rejects claim of general validity of the causal relationships that are on offer.

It requires a leap of faith to go from cross-sectional observations to reach the verdict that such observations are valid through time and space. Before taking such a leap of faith it is worth reminding ourselves of two things. First, the failure to fully recognise the importance of external factors misled supporters of Structural Adjustment to expect a swift turn to growth in African economies. Second, the failure to recognise constraints and characteristics specific to both the individual economies or/and to Sub-Saharan Africa resulted in reforms that were poorly designed and implemented. Without taking time and spatial specifics into consideration, the African growth literature continues to draw a misleading veil over the African growth processes.

5 CONCLUSION

In a paper observing that most developing countries' growth experience has been characterised by instability rather than stable trend growth, it was warned that the 'exploding economic growth literature' was 'unlikely to be useful' (Pritchett, 1998). In another statement that could be taken to be addressing the cross-country growth regressions applying an African dummy, Pritchett (1998: p. 3–4) wrote that the 'use of "panel" data, particularly with "fixed effects" to investigate long run growth effects is almost certainly pointless.' The quest for the African dummy has been solely focussed on explaining African economic performance as slow average growth. As a result, the investigation has been misguided, and the value of the findings is accordingly limited. Growth rates were not only 'volatile', but a pattern of growth can be discerned. Episodes of growth and retrogression are missed and therefore not explained by the regression literature.

The optimal design of institutions or policies is not an absolute, but changes in response with regard to development level and physical constraints, and efficient institutions are in part a result of, and not an initial condition for economic development.¹⁷ The regression literature on African growth has not convincingly solved this 'endogeneity' problem. It is plausible to argue that by explaining the African growth failure by subjective institutional indexes taken from the mid 1980s one is essentially explaining the outcome with an effect. To disentangle this muddle of initial conditions, income levels, growth rates, causes and effects it is necessary to bring time and change into the equation.

Important quantitative and qualitative changes took place in Africa over the period. The pattern consisted of growth followed by retrogression, not a permanent stagnation. This observation raises the issue of timing and missed events in the performance narrative. The quest for the African dummy has let two decades of structural adjustment go past unnoticed, and falsely attributed situational observations from the 1980s to the whole period, while ignoring the simultaneous policy changes. The average perspective has thus meant that some of the issues that are problematic for a policy explanation have been circumvented. This has been an outcome of the model used for analysis. On models Morgan writes: 'Modelling involves a style of scientific thinking in which the argument is

¹⁷Acknowledging this point is completely in conflict with such exercises most famously done by Kaufman *et al.* (1999), where institutional quality is an indicator taking values ranging from -2.5 to 2.5. Here a one-size-fits-all perspective finds its highest level. Meanwhile a brief summary of successful development experiences in the 20th century would inform us that there are no such thing as one size fits them all.

structured by the model, but in which the application is achieved via a narrative prompted by an external fact, an imagined event or question to be answered' (Morgan, 1997: p. 361). The explanation of African economic performance has been structured by a model that is only made applicable by imagining the event of persistent slow growth in Africa.

Moreover, since a ranking of countries according to average economic rate of growth is very similar to a ranking by absolute income levels, the task of explaining slow recent economic growth has been confused with explaining the long-term condition of underdevelopment. Here the resulting method of investigation has been called a 'subtraction approach' where the characteristics of a developed country are compared with the characteristics of an underdeveloped country. The differences between them have been taken to explain slow growth. To observe a difference between two countries based on a 'subtraction approach' is a potentially useful start, but not a useful conclusion. One has to ask why this difference exists and how it came about. That correlation does not imply causation is a truism, yet one feels that this basic acknowledgement sometimes needs to be restated when confronted with the regression work on African growth. Correlation and circular reasoning do not make us wiser; what is needed is a stricter explanatory framework of cause and effect. It has been argued here that while the dependent variables suggested in the literature can fit with the stylised fact of persistent stagnation, they fall short of explaining a change in economic performance.

Despite policy mistakes and less than ideal initial conditions African economies did experience progress and widespread economic growth following independence. For some economies this ended in 1974, when development in prices of petroleum and raw materials went contrary to expectations. Other economies were given temporarily relief from the external adverse conditions through the price booms in other crops until 1979, when growth failed in most African economies. In African Economic Outlook 2008 it was declared that 'for four consecutive years Africa has experienced record growth' largely because the continent was benefiting from high international prices on raw materials across the board (OECD, 2008). If it is accepted that growth revived in Africa in the 1990s, then viewing a decade of decline as representative for African growth characteristics looks untenable, and the history of African economic growth must be revisited.

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