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Growth and poverty reduction in Africa in the last two decades

Evidence from an AERC growth-poverty project and beyond

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Abstract

SubSaharan Africa has seen a return to good economic growth performance in the last 15 years, and especially in the last 5-10 years; as has been quite widely recognised, several factors have been important here, not just good performance of commodities. The World Bank's global poverty statistics show a good reduction over the past 3 years, and two other studies have suggested that progress in poverty reduction associated with this growth has been impressive, but there has been no careful assessment of what household survey evidence says. This paper represents a first move in that direction. Focusing on carefully conducted studies of 11 countries undertaken by leading African researchers, guided by specialist international resource persons in the field, this paper synthesises what can be said about changes in monetary poverty using this evidence. In addition the paper examines evidence on non-monetary outcomes from Demographic and Health Surveys, which were conducted more than once in all countries. We find that poverty in both monetary and non-monetary terms has fallen in most countries, though to different extents in different countries. Some countries have been successful in many dimensions over an extended period, while in others the pattern is either much less positive or more mixed. Growth is probably only one factor behind the changes, and especially in relation to non-monetary poverty.

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Introduction

Steven Radelet's book *Emerging Africa* highlights the recovery to sustained growth since the mid-1990s in 17 African economies, combined with (and linked to) impressive progress in other fields including democracy, improved governance and the end of conflict. He identifies another six threshold countries which have also experienced positive change over this period. Together this amounts to more than half of the countries in Sub-Saharan Africa and substantially more than half the population. Impressive recent growth performance in Africa has also been noted by *The Economist* who wrote in December 2011

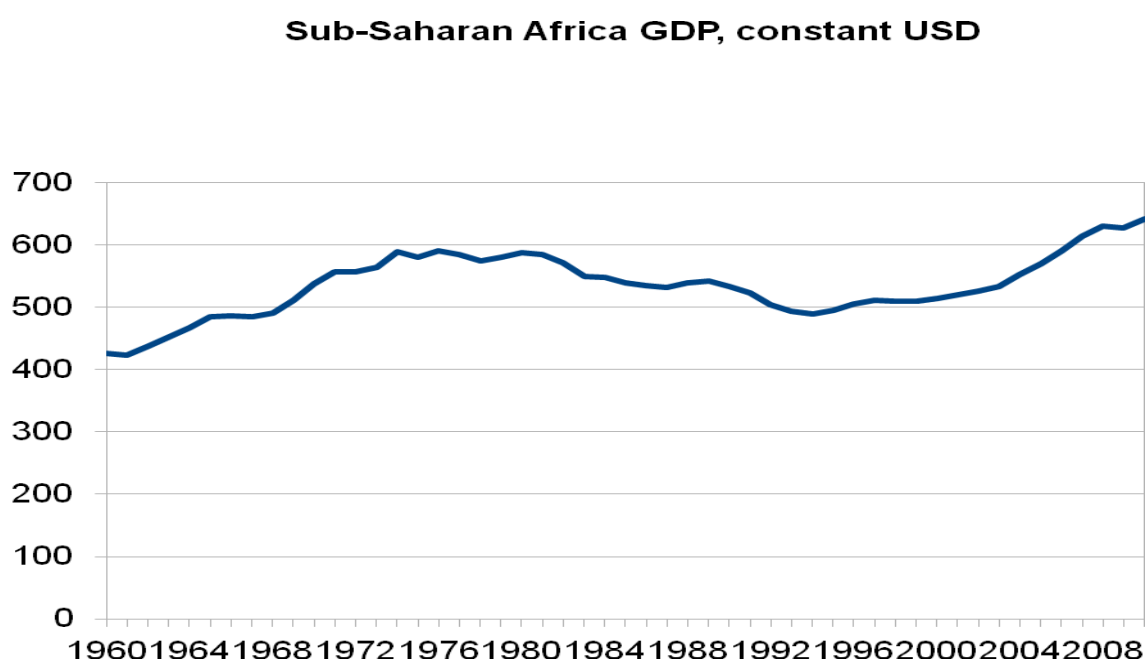
“Over the past decade the simple unweighted average of countries’ growth rates was virtually identical in Africa and Asia”

and

“*The Economist* finds that over the ten years to 2010, six of the world’s ten fastest-growing economies were in sub-Saharan Africa”

It's analysis also showed African GDP growth overtaking Asian GDP growth late in the last decade, and its forecasts suggested that 7 of the fastest 10 growing economies in the 2010-15 period will be in Sub-Saharan Africa.

Figure 1: Sub-Saharan African economic performance from 1960 to date



Without doubt there has been an impressive recovery of growth in Sub-Saharan Africa since the early to mid-1990s, which is highlighted in Figure 1. The history of largely negative per capita growth in Sub-Saharan Africa from the early 1970s to early 1990s is well known and much discussed. But from the early to mid-1990s on there is a significant reversal: aggregate per capita GDP rose by 31% between 1994 and 2010, an average of 1.7% a year. And that average figure includes a number of countries, some large countries such as the Democratic Republic of Congo, which declined significantly over this period; many countries grew significantly faster than this over this period. And the chart also indicates significantly faster growth over the last 7 years, when the average growth rate was 2.5% per annum.

What underlay this impressive growth recovery? This issue has been widely discussed. Many have argued that commodities account for the main part of this recovery, given that many African countries are resource rich; oil for instance is an important part of the impressive growth performance in some cases of good performance (e.g. Angola), but this applies only to a relatively small minority of cases. Others which are not oil producers or even resource rich have also performed well in recent years (e.g. Ethiopia). There has often been impressive growth in other sectors: frequently wholesale and retail trade, sometimes agriculture and sometimes manufacturing. And even in resource rich countries, non-resource based sectors have often shown impressive progress.

Many other factors are important and are emphasised by Radelet among others. The main factors Radelet identifies are progress towards democracy and government accountability in many countries, better macroeconomic management, substantially reduced debt and changing relations with the International Financial Institutions, new technology which among other things aids accountability, and a new generation of political and business leaders. Other important, often related, factors are the end of many previous conflicts, a better business environment, more foreign inflows, evolving trade relations, urbanisation and reduced population growth rates in many countries. Most of these are structural and potentially sustainable changes, many unrelated to commodity prices.

This is very positive news for SubSaharan Africa. There is though currently much less systematic evidence of the impact of this hopefully sustained growth on poverty reduction, which is the focus of this paper. The situation in terms of the availability of data to judge progress in poverty reduction has substantially improved over the last 20 years, but analysis of change in poverty still requires an in-depth country study applying best practice techniques; for a multi-country study this is needed across many countries. This is enabled for this paper by the papers conducted by a recently completed AERC collaborative research project, in which highly reputed African researchers, closely guided by leading international resource persons, applied consistent methodology to look at growth-poverty linkages in Africa, among other things reporting on poverty change over time. This involved case studies of 11 countries using national poverty lines which were consistently estimated within countries over time. The poverty data is not comparable across countries, but the focus here is on change within countries over time. Collectively these countries represent just under half of the population of SubSaharan Africa.

It is important to complement this analysis of monetary poverty with a parallel analysis of trends in non-monetary poverty indicators. This is based this on indicators from Demographic and Health Surveys (DHS) data for the same countries, data sets which are generally comparable over time within countries (and even between countries). These are data sets which have been collected more than once in all of these countries over the past 15-20 years.

It is important to look here at both monetary and various non-monetary measures of poverty. All are important welfare outcomes in their own right. The indicators are often available for different years, reflecting the years in which the surveys were conducted. Further, monetary outcomes can often fluctuate from one year to another, reflecting for example climatic conditions which affect agricultural harvests; several non-monetary measures may fluctuate less over time, changing more gradually but often in more sustained ways.

The World Bank recently published analysis of global extreme poverty based on internationally comparable poverty lines showed that the proportion of the SubSaharan African population living below \$1.25 a day fell from 52.3% in 2005 to 47.5% in 2008. This represents impressive progress in a period of 3 years; and poverty fell by 11.9 percentage points between 1993 and 2008 and this compares to a level of extreme poverty of 59.4% in 1993.

This though is the first paper which seeks to examine and synthesise evidence across a wide range of household surveys. There are though two other recent papers have been written on poverty change in

SubSaharan Africa. One by Sala-i-Martin and Pinhovskiy (2010) uses national accounts data from the Penn World Tables along with inequality data from the WIDER World Income Inequality Database (WIID) to produce annual estimates of poverty, which is argued to be falling rapidly. A second by Young (2010) uses DHS data from across African countries; he observes impressive progress in indicators from the DHS surveys which he argues to be inconsistent with the pattern of change of GDP available from the Penn World Tables. Both argue that poverty has been falling rapidly in Africa, Sala-i-Martin and Pinhovskiy in particular arguing that this is widespread across Africa.

But to what extent is this pattern consistent with that revealed by household survey evidence, almost certainly the most reliable source of poverty data in Africa? This paper argues that, based on these 11 significant country cases, household survey evidence does indeed show that there has been significant progress in poverty reduction in SubSaharan Africa in recent years. However this has been much greater in some countries than others. Growth has been a very important part of that story, although countries' abilities to translate growth into poverty reduction vary because of different patterns of change in inequality which in turn reflect policy factors and others. Growth though is a less important driver of changes in non-monetary measures of poverty, which often show different patterns to that shown by monetary poverty.

To begin with this paper sets the context in section 2 by reviewing the evidence of growth in the 25 biggest African countries in more depth, including the 11 which are the subject of more in depth poverty analysis. Section 3 then briefly discusses the existing studies of poverty change in Africa by Sala-i-Martin and Pinhovskiy (2010) and Young (2010). Section 4 introduces the AERC collaborative project and summarises changes in monetary poverty and inequality from the results of the country studies; it also discusses factors underlying the progress or lack of progress in poverty reduction. Section 5 then presents DHS evidence on non-monetary indicators for the same countries. In concluding, section 6 then returns to economic growth, discussing how important a factor this was for poverty reduction; it also discusses some significant research questions which further analysis could build on.

2. Economic Growth in SubSaharan Africa over the last 15 years

In this section we first briefly focus on growth performance since 1995 in 25 of the 26 largest countries in SubSaharan Africa, which collectively account for 92.8% of the population; the omitted country is Somalia, the 25th largest, for which growth data is unavailable. These include the 11 countries include in the AERC growth-poverty linkage project, but at this stage we focus on the full range of countries to build a comprehensive picture of the recent growth record.

Table 1, based on data from the latest edition of World Development Indicators, summarises average growth for constant price GDP in local currency units for each country for the whole period, and for different subperiods. What this shows first is a very positive record of growth performance over the period; 21 out of the 25 countries show positive growth of per capita GDP over the period, a much better record than any time over the previous 25 years.

These figures highlight significant variations over countries and over time. While per capita growth for SubSaharan Africa was 1.9% over the 15 year period, it was in fact barely greater than zero in the 1995-2000 period (having been negative over the previous 5 years). Growth was significantly faster in 2000-2010 decade and particularly in the last five years. There are also significant variations across countries. Nine countries grew at an per capita rate in excess of 3% over the 1995-2010 period, an increased of GDP of more than 50% over the period. Three countries had per capita growth rates above 4%, enough to increase per capita GDP by more than 80% over this 15 year period. Among these fast growing countries Angola is an important oil producer, but Ethiopia is not. Other fast growing countries which were not particularly resource rich include Rwanda, Tanzania and Uganda. Figure 1 highlights the local currency per capita GDP values, scaled such that 1995=100, of 11 of the 25

countries that increased their per capita GDP by more than 50% between 1995 and 2010. The pattern here for most countries is of consistently positive growth over the period, with acceleration in more recent years in several cases.

Table 1: Average growth rates for the 25 largest African countries in the last 15 years

	1995- 2010	1995- 2000	2000- 2010	2005- 2010
Angola	6.2%	3.4%	7.5%	8.4%
Benin	1.5%	2.2%	1.1%	1.7%
Burkina Faso	3.0%	3.8%	2.7%	2.3%
Cameroon	1.4%	2.3%	1.0%	0.6%
Chad	3.1%	-0.7%	5.1%	-2.2%
Congo DR	-0.9%	-6.2%	1.8%	2.6%
Cote d'Ivoire	-0.2%	0.7%	-0.6%	0.4%
Ethiopia	4.5%	1.7%	5.9%	8.0%
Ghana	2.8%	1.8%	3.2%	4.0%
Guinea	1.4%	2.2%	1.0%	0.2%
Kenya	0.8%	-0.5%	1.4%	1.9%
Madagascar	-0.1%	0.6%	-0.4%	0.0%
Malawi	1.6%	1.3%	1.7%	4.2%
Mali	2.3%	2.3%	2.3%	1.5%
Mozambique	5.1%	4.6%	5.3%	4.8%
Nigeria	2.8%	0.7%	3.8%	4.1%
Niger	0.4%	-0.7%	0.9%	1.4%
Rwanda	3.9%	2.3%	4.7%	4.4%
Senegal	1.3%	1.5%	1.3%	0.7%
South Africa	1.6%	0.4%	2.2%	2.0%
Sudan	3.8%	3.8%	3.8%	4.6%
Tanzania	3.2%	1.6%	4.0%	3.8%
Uganda	3.6%	2.9%	4.0%	4.6%
Zambia	2.1%	0.1%	3.1%	3.9%
Zimbabwe	-3.1%	0.4%	-4.7%	-1.6%
Population averaged growth	1.9%	0.1%	2.4%	2.9%

Source: Computed from World Development Indicators 2011.

Over this period per capita GDP fell in only four countries, and only in two (Democratic Republic of Congo and Zimbabwe) was the reduction substantial. Figure 2 highlights the recent growth trajectory for these four declining countries, again scaled such that 1995=100. This shows that Zimbabwe is a case of persistent decline, while Democratic Republic of Congo shows evidence of modest growth in the last decade. Côte d'Ivoire showed reasonable growth performance in the late 1990s, but decline throughout most of the 2000s.

Figure 1: Growth performance of 11 countries increasing their per capita GDP by more than 50%, 1995-2010 (local currency units, 1995=100)

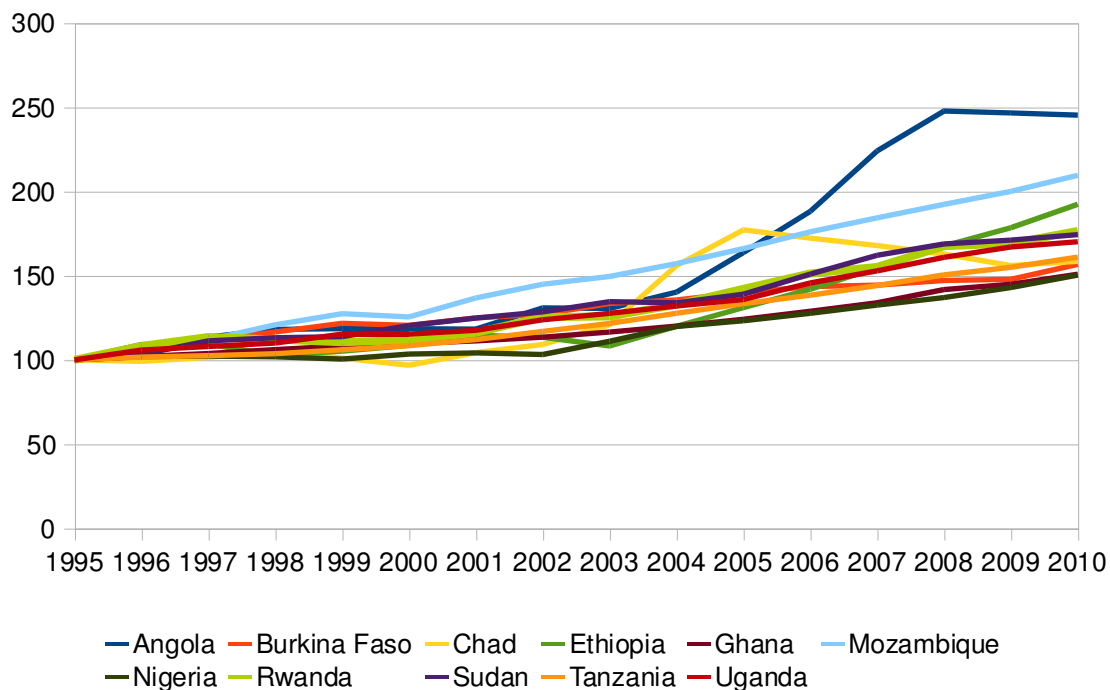
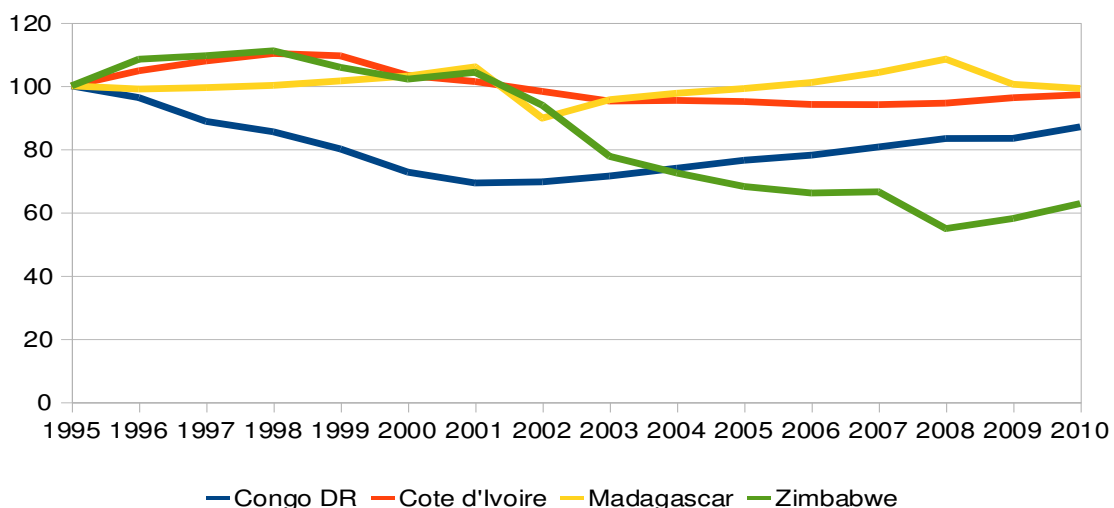


Figure 2: Growth performance of four countries declining in per capita GDP, 1995-2010 (local currency values, 1995=100)



The factors potentially underlying this impressive growth recovery have been discussed briefly in the previous section. While commodities have been an important part of the story, there is strong reason to believe that this growth reflects a much wider range of economic, political and social factors, and that is much more broadly based. The prospects for its sustainability are therefore much more positive. Growth has continued even following the 2007 financial crisis, which nonetheless did impact on

Africa.

Growth in the last five years has been atypically high by historical standards, but 21 of the 25 countries have seen sustained positive average per capita growth at least 15 years, and only two have experienced sharp declines (DR Congo and Zimbabwe). There has been an impressive recovery of growth in SubSaharan Africa. But how much of this has translated into improvements in the living conditions of ordinary Africans? How much has it contributed to poverty reduction, in particular given the factors which may have contributed to this growth?

3. Existing studies of recent poverty change in Africa

As noted in the introduction, two recent studies have been conducted, by Sala-i-Martin and Pinhovskiy (2010) and Young (2010), have argued that SubSaharan Africa has experienced impressive poverty reduction in recent years, although neither study has drawn on the wealth of household survey now available for Africa. We briefly here present a review of these studies, forming the basis for the subsequent analysis which draws on household survey evidence.

The most publicised study has been that undertaken by Sala-i-Martin and Pinhovskiy (2010) and published as an NBER working paper. The title of their paper summarises their story - "African poverty has been falling – much faster than you think". They argue that recent growth in Africa has been accompanied by falling inequality and has been associated with rapid poverty reduction; they reckon that Africa will be in a position to meet the first Millennium Development Goal by about 2017, just two years late. They argue too that the poverty reduction has been widespread, occurring in countries that are resource rich as well as those that are not, countries that are landlocked as well as coastal, countries substantially affected by the slave trade as well as those that were not etc.

Their study is one of a number of studies which uses national accounts data as a basis for estimating poverty, in conjunction with data on distribution, an approach Sala-i-Martin himself played a lead role in developing (Sala-i-Martin, 2006) though several others have contributed (Bhalla, 2003; Karshenas, 2003, among others). It is a common pattern in many countries that data on consumption available from the national accounts is not consistent with that available from household surveys; in different cases household surveys may give higher or lower estimates of consumption than the national accounts, and often significantly different (higher or lower) growth rates. The underlying consumption concepts and coverage are different, so it is important that this is adjusted for before making the comparison (this adjustment is not always made). But even once the concepts are similar, significant differences remain; the question then is which estimate is more reliable. Bhalla, Sala-i-Martin and others argue that the national accounts estimates are more accurate; on this basis they seek to estimate poverty using the national accounts to establish the average level of income or consumption and its change over time (so enabling annual observations) and household survey data (available periodically) to provide the estimate of inequality. This is sufficient information to produce estimates of poverty, which can now be estimated on an annual basis. Working on this basis Bhalla argued in 2003 that the first MDG had been met years before.

There has been a robust critique of this approach by those defending the traditional household survey approach, and this issue particularly came to a head around a contentious debate in India about trends in poverty there where national accounts and surveys seemed to be suggesting different messages (Deaton and Dreze, 2002; Deaton and Kozel, 2005; Ravallion, 2000). Ravallion argues strongly against anchoring poverty data to the national accounts and Deaton also robustly defends the household survey approach as being preferable. In the specific context of Africa, the quality of survey data has improved significantly over recent years, with countries also learning from each other, multilateral and bilateral agencies and international experts, while in many countries the quality of national accounts data, which have been much less the focus of attention, must be open to serious question.

Returning to Sala-i-Martin and Pinhovskiy (2010) they used GDP data (note, not consumption) in purchasing power parity (PPP) dollar terms from the Penn World Tables as the basis for their poverty estimates, and combined this with estimates of inequality from the World Income Inequality Database (WIID) compiled by WIDER. They use this to produce annual estimates of poverty at a country level and for Africa as a whole, and to do so in dollar a day terms. In terms of distribution, they argue that the WIID data shows that inequality has been falling in Africa. But the basis for this conclusion based on this source must be open to serious question. The WIID database is a catalogue of different estimates of inequality and a useful research resource, but it provides very little if any information on the underlying methods and on comparability. Appendix Table 1 reports data available in WIID for one country, Ghana, and shows a dramatic range of estimates of Gini coefficients available for the same or adjacent years; by selective choice of figures this data could justify any trend on inequality. The point is that this is simply not a plausible data source for this purpose.

Using this information and various imputation techniques, Sala-i-Martin and Pinhovskiy (2010) present their calculations of dollar a day poverty change in Africa; figures 3 and 4 from their paper report their preferred estimates of changes in overall poverty and inequality respectively. Poverty is estimated to have fallen from about 43% in 1990 to around 32% in 2007, which if projected forward is not far off the rate needed to meet MDG1. Figure 4 shows falling inequality; this in conjunction with strong growth performance translates into impressive poverty reduction.

Figure 3: Estimated trends in African Poverty According to Sala-i-Martin and Pinhovskiy (2010)



Figure 4: The evolution of inequality in Africa according to Sala-i-Martin and Pinhovskiy (2010)



They also present estimates for change changes in poverty in the four largest SubSaharan African countries. Taking the examples of Ethiopia and Nigeria the plots they show of GDP and poverty show how strongly the poverty reduction trends are the mirror image of the changes in GDP. The charts show an apparent massive reduction in poverty in Ethiopia from more than 80% in the mid-1980s to less than 30% in 2007, and in Nigeria from around 52% in the late 1980s to about 26% in 2007. These estimates, from countries representing 28% of the SubSaharan African population, do not appear to be consistent with the more modest (though still impressive) pattern of poverty reduction at the aggregate level. Further, the GDP data in these charts do not seem to be available in the Penn World Tables data set; these charts raise a number of serious questions about not just the method but also its application.

Sala-i-Martin and Pinhovskiy (2010) argue that the pattern of impressive poverty reduction applies across a wide range of African countries. But sufficient doubts have been raised here about the underlying method to raise serious questions about the reliability of their results: the justification for preferring national accounts data over survey data; the use of GDP rather than suitable adjusted consumption; the highly non-transparent use of the unreliable WIID data set; the consistency of country level evidence with the aggregate. Carefully conducted analysis relying on household survey data is likely to give a much more reliable pattern of poverty change.

Young (2010) adopts a very different approach which is based on survey data, in this case that collected by the DHS surveys which have now been conducted more than once in a majority of African countries. He refers to the “African Growth Miracle”; according to the DHS data many welfare indicators, including ownership of durable goods, housing quality, education, mortality and female leisure time have all been dramatically increasing over the last two decades, at around 3 per cent per annum. He then suggests there is a gross inconsistency between DHS evidence and Penn World Tables. Based on a series of carefully conducted panel cross country econometric models, including of demand equations based on DHS data on asset ownership and estimates of returns to education, he argues that the consumption variables he derived are strongly related to real income, as measured by years of education. The DHS data appear internally consistent, and imply a much higher rate of growth than that implies by Penn World Tables; he argues that the latter are underestimating growth progress substantially. Young's findings though have been strongly challenged in a recent study by Hartgen et al (2011).

The DHS data are an extremely valuable source of information on living conditions in Africa, and have the advantage of being largely comparable across countries and over time. This data will be revisited

later in this paper, where it will be suggested that how positive the pattern of change is perceived to be depends somewhat on the indicator selected.

The paper now turns to country level evidence on poverty drawing on household survey evidence, almost certainly the most reliable way of measuring poverty, as long as the surveys concerned are indeed comparable. Because the focus of the paper is on country level progress, this discussion will be conducted in terms of national poverty lines and in local currency, not in terms of dollar a day denominated poverty measures, which introduce the major complexity of identifying valid PPP exchange rates, an issue which is increasingly open to question following the 2008 rebasing exercise. To the extent that this is related to growth, this is considered in local currency values in real terms, so it is not necessary to rely on Penn World Tables, as used by both Sala-i-Martin-Pinhovskiy and Young.

The AERC collaborative Growth-Poverty Nexus Project, which was conducted between 2008 and 2011, provides the opportunity by providing carefully conducted thorough country level studies of changes in poverty, which apply best practice in assessing changes of poverty. We have explicitly chosen not to use the data compiled and reported by PovcalNet; it is preferable here not to focus on dollar denominated poverty measures given the exchange rate difficulty; but more importantly there are serious questions about the comparability of the different survey data reported there, for which little documentation is provided. The poverty analysis here is based on a country's own surveys, analysed always in local currency values. This is the evidence base on which the discussion of monetary poverty in this paper will be based on, and it will be supplemented by examining evidence from DHS surveys.

4. Lessons on changes in poverty from the AERC Growth-Poverty Nexus Project

In 2008 AERC began a collaborative research project looking at the linkages between growth and poverty reduction in Africa. This followed an earlier multi-donor project on Operationalising Pro-Poor Growth conducted over 2003-05, which had included six African case studies¹. The African growth acceleration of the 2000s had not really been reflected in these studies, and it was important to draw on a wider evidence base across Africa. The project first involved framework papers which focused on: growth-poverty-inequality linkages; globalisation; the labour market; informality; agriculture; social protection; and spatial patterns of growth. Following this 13 country case studies were conducted: Benin, Burkina Faso, Cameroon (2), Chad, Ethiopia, Ghana, Guinea, Kenya, Malawi, Nigeria (2), Senegal. A number of these country studies picked up one of the themes from the framework papers, though not all did; almost all of them presented the evolution of consistently-measured monetary poverty in their countries over years with comparable data, the exception being Chad where there were not two comparable household income/consumption surveys available. In this section of the paper we summarise the poverty – and inequality – messages emerging from the study; in the following section we look at explanations for the observed outcomes.

All of these countries experienced positive growth over the 1995-2010 period, at rates which vary from an annual average of 0.8% in Kenya to 4.5% in Ethiopia. Other reasonably fast growing countries included here are Burkina Faso (3.0%), Ghana (2.8%) and Nigeria (2.8%); the remaining countries grew at more modest rates. In addition almost all the poverty data which is reported here concerns periods after the growth recovery of the past 15 years; this is a good basis to assess what has happened to poverty in a number of important African countries in this period of improved growth performance.

Table 2 summarises monetary poverty and inequality, where estimates are currently available, for these ten countries, and for cases where surveys are genuinely believed to be comparable. The incidence of poverty is reported in all cases. All cases here show poverty in the final period to be lower than that in the first period, though when more than two years are available the pattern is not necessarily monotonic e.g. Kenya, Guinea, Burkina Faso. The impressive success story cases here are Ghana and

1 Burkina Faso, Ghana, Senegal, Tunisia, Uganda, Zambia.

Senegal, both of which experienced fast, monotonic poverty reduction over 14 and 11 years respectively. Over this period Ghana almost halved its incidence of poverty and Senegal would also appear to be on track to achieve this. On this evidence these countries seem well placed to achieve MDG1.

Table 2: Data on poverty and inequality from AERC Growth-Poverty Nexus Case Studies

country	year	incidence of poverty	severity of poverty	inequality	urban poverty	rural poverty
Benin	2006	37.4			35	39
	2007	33.3			28	36
	2010	35.2			30	38
Burkina Faso	1994	54.1	12.2	0.54	12.1	64.2
	1998	60.2	15.4	0.5	20.2	71.9
	2003	40.7	7.5	0.5	12.6	48.1
Cameroon	1996	53.3	9	0.406	41.4	59.6
	2001	40.2	7	0.408	22.1	49.9
	2007	39.9	5	0.39	12.2	55
Ethiopia	1995/96	46				
	2004/05	39				
Ghana	1992	51.7	4.7	0.231		
	1999	39.5	3.6	0.255		
	2006	28.5	2.6	0.286		
Guinea	1994/95	63.9	18	0.49	21.2	84.9
	2002/03	49.1	8.1	0.48	23.5	59.9
	2007	53	8.1	0.43	30.5	63
Kenya	1992	46.3			29.3	46.3
	1994	46.8		0.46	28.9	46.8
	1997	52.3		0.43	49.2	52.9
	2005/06	45.9		0.39	33.7	49.1
Malawi	2004	52		0.39		
	2005					53
	2006	45				
	2008	40				
	2009	39				43
Nigeria	1996	65.6			58.2	69.8
	2004	57.8			35.4	64.1
Senegal	1995	61.4	9.1	0.415		65.9
	2001	48.5	6.2	0.434		57.5
	2006	40	6.3	0.353		63.8

In addition to these two most successful countries in terms of poverty reduction, Ethiopia and Nigeria also managed to reduce poverty to reasonable extents. So too did Malawi in recent years, but here it is important to note that the evidence on the trend in poverty post 2005 is based on estimates of

consumption made from poverty predictors from surveys that did not collect consumption data; this evidence is likely to be less robust than other estimates, but it nonetheless suggests reasonable progress since 2000, at least in the assets and characteristics used for these predictions. In the cases where poverty has fluctuated up and down (Burkina Faso, Guinea, Kenya) the overall reduction has been modest in most cases, but both Burkina Faso and Kenya have seen good and reasonable poverty reduction respectively in the most recent time period. Cameroon's poverty reduction between 1996 and 2001 appears to have stopped in the 2000s; the period for Benin is short, but shows slow progress in poverty reduction over these years.

It is important always to remember that surveys tell us about poverty outcomes in the years when surveys are conducted; these years may be affected by special climatic or other factors which makes economic performance in one year particularly good or bad. In other words patterns based on two or three surveys are not necessarily indicative of longer term trends, and need to be carefully interpreted on a country by country basis. Nonetheless, the overall message from these figures is poverty has fallen in almost all cases, though to significantly different extents: two countries have done well, several others have reduced poverty to reasonable extents or in more recent periods, but Cameroon shows disappointing progress in the last decade. While the period covered by these surveys is not the same as that considered by Sala-i-Martin and Pinhovskiy, this is not a uniform picture of widespread poverty reduction; some countries have done significantly better than others.

The same table also presents information on other dimensions of changes in poverty and also inequality, where the data is reported in the country studies. Thus in five cases information is reported in the change in the severity of poverty; this falls in all cases between the first and last year reported here. It falls to the greatest extent in Guinea, from 18% in 1994/5 to 8% in 2007. In Burkina Faso it follows the pattern of the incidence of poverty by first increasing between 1994 and 1998, and then falling by more than the previous increase between 1998 and 2003. Urban-rural disaggregations are available in six cases; rural poverty falls everywhere except for Kenya, but urban poverty in fact increases in Burkina Faso, Guinea and Kenya. In Cameroon and Nigeria by contrast urban poverty falls much faster than rural poverty.

For the six cases where inequality information is available, it in fact falls in six countries, the exception being Ghana. The reductions are larger in Guinea, Kenya and Senegal, and of course contribute to poverty reduction in these countries. Inequality even falls in a commodity rich country such as Guinea, implying that growth which may be partly driven by commodities need not necessarily be associated with increased inequality.

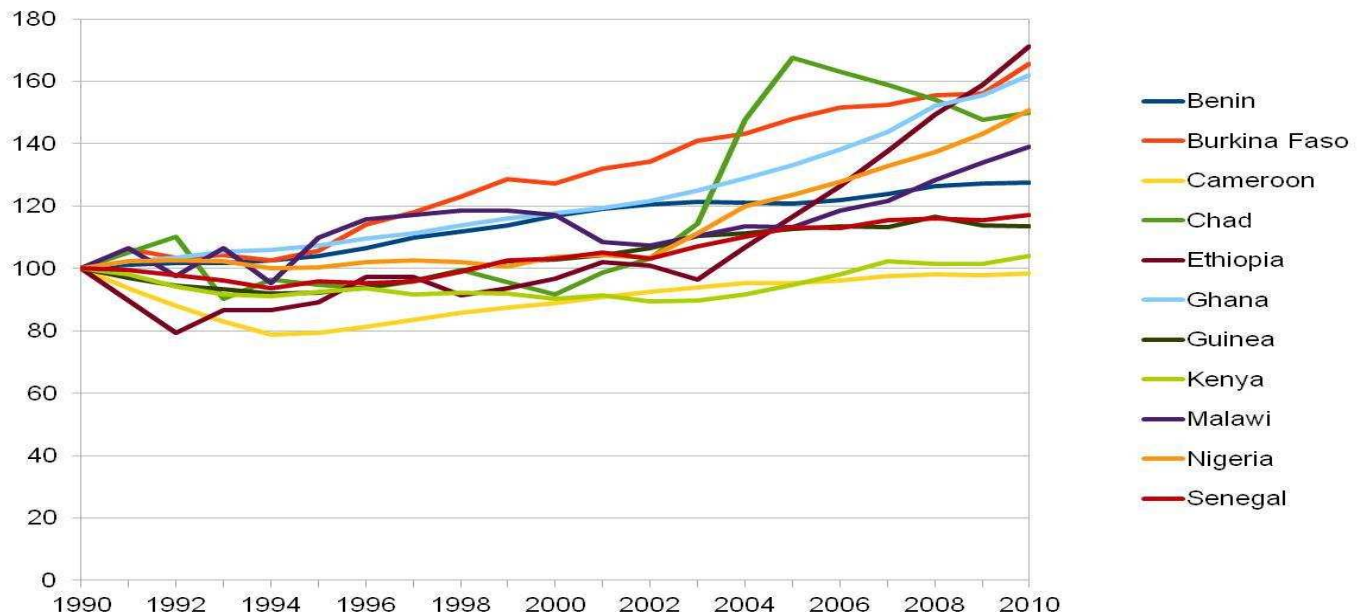
The general pattern that emerges from this analysis is of falling levels of poverty, though only at fast rates in some cases. Urban poverty sometimes rises but rural poverty falls in most cases; and in a majority of instances inequality in fact is seen to fall. The next section will consider in more detail factors which have contributed to greater and lesser poverty reduction in different cases.

We now briefly consider the association between poverty reduction and economic growth. The growth rates of the 11 AERC country case study growth rates are plotted in figure 3. Cameroon shows zero growth in per capita GDP over this twenty year period, and Kenya's per capita GDP in 2010 is scarcely greater than it was 20 years before in 1990. Relatively faster growth was experienced in Ghana over this entire period, in Burkina Faso from about 1995 onwards, and in Ethiopia and Nigeria in the latter half of the period; these periods saw significant poverty reduction in each case. Malawi showed good growth performance over the last five years, a period over which the data suggests poverty fell relatively quickly. By contrast, Senegal grew relatively slowly over the period but seems to have reduced poverty substantially; here falling inequality seems to be the key story.

Over the period for which poverty data is available for Cameroon growth was positive from 1996 to 2001, so some poverty reduction took place, but poverty did not fall between 2001 and 2007 despite

some positive growth over this period. Poverty scarcely changed in Kenya from 1992 to 2006, over which period per capita GDP remained largely unchanged; however some recovery of growth in the mid 2000s may be associated with poverty reduction which happened between 1997 and 2005/06. Benin and Guinea show relatively anaemic growth performance over the period which accompanies very modest progress in poverty reduction.

Figure 3: Constant price GDP in local currency units for AERC country case study countries, 1990=100



It would be expected that changes in monetary poverty should indeed reflect patterns of growth, moderated by what is happening to inequality. The measure of growth considered here is per capita GDP, not the growth in household consumption, but the evidence does generally suggest that in many cases countries with a better growth performance tend to have a better record in terms of poverty reduction. In general the growth recovery has been associated with progress in poverty reduction. The importance of what happens to inequality with growth though is clearly demonstrated by the case of Senegal; inequality appears to have fallen to quite a large extent in Senegal, and this as much as growth performance appears to have been an important driving factor in poverty reduction. If this fall in inequality is a wider phenomenon across Africa then the impact of the growth on poverty reduction will be even greater.

We will shortly consider the trend in non-monetary indicators of poverty. First, we briefly consider based on the AERC country studies the factors that seem to have been important in growth and poverty reduction; an important part of being able to explain growth and poverty reduction and judge its sustainability is the ability to explain the observed outcomes. This can necessarily only be discussed relatively briefly in this paper.

5. Factors driving the poverty changes in the AERC country case studies

The AERC project expected all country studies to report their growth and poverty reduction history (the latter summarised above), requested authors to identify if there were any paradoxes in their growth-poverty relationships, and then come up with an explanation for the observed outcomes. A number of these explanations did relate to topics covered in the thematic papers for the project; in other cases the discussion was more general and not clearly linked to any one thematic paper; in these cases the studies focused more on an analysis of the pro-poorness or otherwise of growth, perhaps along with some regression analysis. One of the Nigerian studies focused explicitly at describing state-level outcomes in non-monetary welfare outcomes.

The three strongest themes emerging from the country studies were the role of agriculture, the operation of labour markets and spatial inequality in development, although other issues were picked up in one or more study. Agriculture remains the dominant economic activity for most poor African countries, and all countries represented here depend heavily on the sector. This was examined in some depth in the studies of Burkina Faso and Malawi. In Burkina Faso (Siri et al, 2011) an analysis was made of the choice of production technique on yields using propensity score matching to conduct an impact evaluation, focusing in particular on mechanisation and improved seeds. Both show significant positive impacts on yield, particularly for the case of improved seeds. The paper did not strongly link this to poverty; but the use of both mechanisation and improved seeds is significantly greater in regions of the country which have higher agricultural potential and are less poor to start with. In Malawi (Muhome-Matita and Chirwa, 2011) a regression based assessment of the impact of access to subsidised fertilisers, a major and high profile policy initiative there, was conducted. Receiving a subsidy has a significant positive impact on agricultural growth, but unfortunately this impact is significantly less for the poor even if in principle the poor (or at any rate those having access to social safety nets) should have more access to the fertiliser subsidies. Both of these studies highlight the risk that technical or other policy solutions targeted at raising agricultural productivity may benefit the poor less. Agriculture of course emerges as an important in almost all country studies. An analysis of sectoral growth in Benin (Mededji et al, 2011) shows unsurprisingly that growth in the agricultural sectors and to some extent food processing has a bigger impact on poverty reduction. But the previous results suggest that a number of policies to promote agricultural growth may disproportionately benefit less poor farmers.

The labour market was a second important theme in the country studies. Many studies disaggregated poverty by the sector in which the household primarily worked; in almost all cases poverty is highest by far among those working in agriculture and lowest among formal sector wage earners in the public or private sector; the non-farm self-employed and informal wage earners tended to lie in between. This is a common and unsurprising finding. Studies in Cameroon (Tabi and Ngantcha, 2011) and Ethiopia (Alemu et al, 2011) analysed the labour market in more depth. In Cameroon the numbers working in the formal sector, especially in the private sector, fell between 2001 and 2007. However, poverty levels, low to start with, fell in this group over the period; it may have been that the poor were more likely to lose their jobs. There was a large increase in the numbers working in informal activities, both agricultural and especially non-agricultural; poverty fell among the non-farm self employed (though less than for formal sector wage earners) and among non-farm wage earners, though not for those in agriculture on their own farms or especially those working for wages in agriculture (a significant poor group in Africa, though insufficiently recognised in existing studies). In Ethiopia the availability of panel data allowed a study of poverty mobility. In urban areas unsurprisingly the unemployed and pensioners are most likely to be poorer, to reduce their consumption or move into poverty; the self employed, as well as private sector workers are more likely to increase their consumption or move out of poverty. In rural areas employment type is not significantly associated with poverty movements, but of course most work in agriculture. In general the authors conclude that the labour market did not play

an effective role in linking growth to poverty reduction, a conclusion which probably also applies to the case of Cameroon.

Many studies disaggregate poverty and its changes over time geographically, and discuss regional differences; this latter is a main focus in studies of Cameroon (Fambon and Tamba, 2011), Ghana (Jatoo et al, 2011) and Nigeria (Ichoku et al, 2011). In each case important geographic differences in poverty reduction are observed. In Cameroon there was significant growth and poverty reduction in the main cities of Douala and Yaoundé; some poorer regions such as in the north showed falling average expenditures and increasing poverty, while other poorer regions such as the north-west and south showed some progress. The overall pattern was not such as to increase inequality; the study though did not discuss why the growth pattern took the form it did, nor whether fast growth in Douala and Yaoundé was associated with concentration of activity there. In both Ghana and Nigeria there is an important long-established poverty differential between the north and south of the country. This is the explicit focus of the Ghana study; in both cases it would be helpful to know to what extent this pattern represents natural advantages of the coastal locations, previous concentration of activities and populations there, demographic factors (average family sizes are higher in the north) or policies. In Ghana, while the north remains far behind the south in development terms, there has been significant progress in the north over the past decade; in Nigeria by contrast there seems to have been much faster poverty reduction in the south. What factors underlie this difference is an important question. In addition Oyekale et al (2011) examine differences between states and regions in Nigeria in non-income measures of wellbeing (chiefly based on an asset index). Again northern states are significantly disadvantaged and this gap has persisted over time, if perhaps with a slight convergence between 1999 and 2008 (different years from those for which the monetary poverty data are available).

Chad and Guinea are resource rich countries, the former having started to extract oil over the past decade, the latter with many minerals including bauxite. Oil is a significant revenue earner for Chad; the paper (Ndang and Nan-Guer, 2011) focuses on the impact on public revenues and on the areas in which the government. Spending on defence has recently overtaken education and health; also the former are the areas where actual spending exceeded planned spending in contrast to the latter. But there have been significant increases in spending on education in particular. It is likely to be too early to see the effects of this, and in any case the most recent data on welfare indicators dates from 2004, just after the extraction of oil began. But clearly it is important to monitor the public spending which oil revenue enables for this very poor country. In Guinea (Kaba et al, 2011) minerals account for around 15% of GDP but the terms on which Guinea is able to sell its bauxite to the world market as well as the presence of major elements of corruption linked to this sector mean that the economy has derived relatively little benefit from the minerals it has. Greater transparency in conventions linked to minerals will help Guinea gain more from its vast wealth of resources, with potentially beneficial implications for poverty reduction.

In Kenya (Kabubo-Mariara et al, 2011) the authors look at the role of institutional factors at the district level in accounting for growth in expenditure at the household and community level. Institutional factors are widely reported as being important determinants of growth at the country level, and there has been some analysis of the link between institutions and inequality at a country level. At the district level proximity to facilities such as markets and district headquarters are important determinants of outcomes in rural areas as are crime levels; a number of institutional factors including market access are also found to be associated with inequality, although gender and security factors seem to make a very small contribution to inequality. In Senegal (Diene, 2011) migration, both international and internal, is identified as a key route out of poverty.

The country case studies clearly identify a number of important drivers of poverty. Agriculture and labour markets play a key role, but policies in relation to both do not seem to have been sufficiently effective in delivering greater poverty reduction. Better institutions and migration do help poverty reduction, but again whether the poor benefit disproportionately from these is open to discussion.

Resources in principle should be a major resource for a country enabling government to increase spending in key areas which can help poverty reduction. How much these resources are first mobilised (e.g. Guinea) and then effectively used by government to support development spending (e.g. Chad, Nigeria) remains very much open to question; Africa still has relatively few examples of countries which have managed their resource wealth well.

To this point the discussion in this paper has focused on the country studies conducted by the AERC growth-poverty project and the evidence they assembled. We now seek to extend the evidence of these studies, which mostly looked at monetary poverty, to look at progress in a number of important non-monetary measures of welfare, in particular looking at health indicators from the Demographic and Health Surveys, which are available at more than one point in time for all countries considered here.

6. Extending the poverty evidence to non-monetary dimensions

While the non-monetary dimensions of poverty may be less directly related to economic growth, growth could also have an important impact, in particular through influencing the resources available to a government or even to individual households. For growth to have a positive impact through on non-monetary outcomes through government spending, growth must translate into increased government revenue, and then that revenue must be effectively spent in the areas (health, education etc) relevant to the outcome; it must also effectively reach the poor. There are many potentially weak links in this chain. In addition many other factors, which may be totally unrelated to growth, may be important such as aid, the actions of non-governmental organisations etc.; again similar issues of effectiveness of delivery and of the reach of the services arise.

For looking at non-monetary outcomes, and in particular health outcomes, the Demographic and Health Surveys (DHS) represent a very valuable resource. These surveys use a more or less common questionnaire across countries and over time within countries; it therefore follows that the indicators they collect in different surveys tend to be comparable, taking account of some changes that are made. Here again we focus on changes within a given country over time, and not on cross country comparisons. Relying on DHS surveys rather than data available from World Development Indicators or Human Development Reports has the advantage of being more sure of the source of the data and its comparability over time; it can also be disaggregated even if we do not exploit this here. For this reason we only use the DHS data here, even if it might not be the most natural source of some indicators (e.g. education).

Five potential outcome indicators derived from DHS data for these 11 countries are presented in Table 3, along with the total fertility rate to which reference will be made later. These are the percentage of mothers who have completed secondary education, the infant mortality rate, the stunting and underweight measures of malnutrition, and the percentage of children fully vaccinated. The periods of time covered here differ from one country to another; some had their first DHS survey in the late 1980s and have a long run of indicators, others were only initially surveyed more recently.

Focusing first on education, the story is of quite rapid increases in all countries, though from a very low base in a number of cases (Benin, Burkina Faso, Chad, Guinea). The most rapid increase (and highest final level) is observed in Ghana, followed by Nigeria and Cameroon; but the rates of increase were more modest in several other cases including Ethiopia, Kenya and Senegal. The levels remain very low in Benin, Chad and Guinea, though do increase over the period. This expansion of education across SubSaharan Africa is well known and is starting to show a big effect at secondary level.

Table 3: Some key non-monetary indicators from Demographic and Health Surveys

	% with secondary education	infant mortality rate	% of children stunted	% of children u'weight	% fully vaccinated	total fertility rate
Benin 1996	9.4	103	25	29.2	55.6	6
Benin 2001	13.9	95	26.9	23.6	47.1	5.6
Benin 2006	16.4	76	35.3	22.5	47.1	5.7
Burkina Faso 1993	6.6	108	28.6	34.8	34.6	6.5
Burkina F 1998-9	5.8	109	30.9	36.3	29.3	6.4
Burkina Faso 2003	8.7	92	33.6	39.2	43.9	5.9
Cameroon 1991	26.5	80	22.9	16.3	40	5.8
Cameroon 1998	33.3	80	29.3	22.2	35.8	4.8
Cameroon 2004	39.1	81	29.7	19.4	48.2	5
Chad 1996-97	3.8	110	34.9	39.1	11.3	6.4
Chad 2004	6.4	115	35.3	37.1	11.3	6.3
Ethiopia 2000	9.1	113	44.9	45.3	14.3	5.5
Ethiopia 2005	11.9	80	41.1	35.5	20.4	5.4
Ghana 1988	7.5	81	29.4	30.3	18.8	6.4
Ghana 1993	10.3	75	25.9	27.3	54.8	5.2
Ghana 1998	52.8	61	20	24.9	62	4.4
Ghana 2003	51.8	65	26.7	23.5	69.4	4.4
Ghana 2008	58.6	54	18.8	18.7	79	4
Guinea 1999	9.4	107	23.2	25.4	32.2	5.5
Guinea 2005	11.1	110	30.3	26.2	37.2	5.7
Kenya 1989	20.4	59			44	6.7
Kenya 1993	24.5	63	31.2	23.3	78.2	5.4
Kenya 1998	29.2	71	30.9	21.5	59.5	4.7
Kenya 2003	29.3	75	30.1	20.1	51.8	4.9
Kenya 2008-09	34.3	59	29.8	19.5	68.3	4.6
Malawi 1992	4.4	136	41.5	27.8	81.8	6.7
Malawi 2000	11.1	112	44	27.8	70.1	6.3
Malawi 2004	15.5	93	44.3	22.5	64.4	6
Malawi 2010	20	73	39.3	18.6	80.9	5.7
Nigeria 1990	18.9	92	36.2	34.6	29	6
Nigeria 1999	36.7	71	45.5	27.3	16.8	4.7
Nigeria 2003	37	109	35.8	29.3	12.9	5.7
Nigeria 2008	44.6	87	35.5	27.8	22.7	5.7
Senegal 1986	9.2	91	23	22	6.6	6.4
Senegal 1992-93	9.9	76	21.7	21.6	49.1	6
Senegal 1997	12.5	69				5.7
Senegal 2005	15.2	71	14	16.3	58.7	5.3
Senegal 2008-09	17.7	61				4.9

The picture is a bit less positive in relation to infant mortality; while in most countries it falls over the period covered by the surveys, it does not fall in Cameroon, Chad and Guinea. Cameroon's level of infant mortality remains high given its income level. In addition, infant mortality in Kenya in 2008-9 is no better than it was in 1989 even though it has fallen in recent years. Something similar applies in Nigeria where the current situation is only slightly better than it was in 1990. Clearly the situation became a lot worse before it started to improve recently. Under five mortality (data not presented here) shows a similar pattern for these three countries.

By contrast Ghana, Malawi, Senegal, Ethiopia and Benin all show impressive progress. There is some association between progress in monetary poverty reduction and improvement in infant mortality rates. Burkina Faso, which did quite well in reducing income poverty over the 1998-2003 period, did rather less well in terms of reducing its infant mortality over the same period.

On balance though the situation in relation to infant mortality is either neutral (little change) or of improvements, but the position is often less positive in relation to other health indicators. The two measures of malnutrition reported in the table only consistently fall in Ghana and Senegal, and to a lesser extent Ethiopia (which also happen to be some of the more successful countries in terms of reducing monetary poverty). Given the slow changing nature of these indicators this represents impressive progress in these cases. By contrast both measures of malnutrition worsen over the corresponding periods in Burkina Faso, Cameroon and Guinea, while little change is observed in Chad over a period of 8 years. Benin, Kenya and Malawi and Nigeria show progress in reducing the incidence of underweight children, though show a worsening position in relation to stunting (or little progress in the case of Nigeria). Some countries which have made some progress in reducing monetary poverty have made less progress with malnutrition. In some cases improvements in mortality may be associated with worsening malnutrition outcomes, in children that would previously have died now survive.

The percentage of children fully vaccinated though generally improves, at least over more recent periods, with the exception of Benin and Chad where respectively it deteriorates or remains unchanged at a very low level. The percentage of children fully vaccinated increases dramatically over this period in Ghana, Senegal and increases to a lesser extent (over shorter periods) in Ethiopia and Guinea. In Burkina Faso, Kenya, Malawi and Nigeria, this indicator had declined in earlier periods, but in each case it has started to increase again recently. In addition, the number of births which take place in a modern facility (data not reported here) show improvements in recent years in almost all countries, though the proportion of mothers giving birth in modern facilities remains very low in Chad and especially in Ethiopia. This shows some progress in terms of delivery of health care, and this often occurs also in countries which did less well in terms of growth or reducing monetary poverty.

The general pattern which comes from both the consideration of trends in monetary and non-monetary indicators is of significant and sustained progress in Ghana and Senegal, and good progress to in Ethiopia; this is generally the case across all the non-monetary indicators considered here. These countries, which have had good growth performance over the period, have made good progress in terms of poverty reduction. Malawi and Nigeria have performed better in recent years, following earlier periods of decline or lack of progress; there is perhaps also the beginning of evidence of progress in poverty reduction in Kenya. In some cases this progress may remain fragile or uncertain e.g. the political situation in Nigeria or the dependence on subsidies in Malawi. But the remaining countries are ones where progress has been less consistent (Benin, Burkina Faso, Guinea) or where there has been very little progress (Cameroon, the wealthiest country here to begin with, and Chad, the poorest to begin with). The extent of progress or not is often quite closely associated with growth performance, though this association is weaker in the cases of Burkina Faso and Kenya. This is not though to claim anything about causality, at least in relation to the non-monetary indicators; what seems to be the case is that successful countries such as Ethiopia, Ghana and Senegal perform well in many areas, not just growth but also delivery of health and education services; countries that have done less

well in growth terms also have done less well in terms of delivering health care to their populations.

Finally, the total fertility rate is also reported in Table 3, not so much as an outcome measure but rather to judge the demographic context of each country, which is also relevant to the observed welfare outcomes. This clearly shows two categories of country in terms of trends in total fertility rate. Ghana, Kenya and Senegal show sharp reductions in fertility rates over the periods covered by the data; and Malawi has also shown a reduction. But in the other countries the total fertility rate has scarcely changed. The total fertility rate is particularly high in Chad and Burkina Faso, but also in Benin, Guinea and Nigeria. High and slowly changing fertility rates may be associated with less progress in reducing both monetary and non-monetary poverty indicators. The two most successful countries in terms of poverty reduction are also two of the cases that reduced fertility the most. Ethiopia, the third successful country in terms of poverty reduction did not reduce fertility much over the period shown in the table, but the fertility rate from the recently published DHS for 2011 was 4.8, a significant reduction from 5.4 in 2005. Kenya though, despite reducing fertility, has delivered much less so far in terms of progress in poverty outcomes; Burkina Faso reduced some aspects of poverty over the 1998 to 2003 period even if fertility only fell to a modest extent. Fertility is potentially an important factor underlying the changes observed here.

7. Conclusions and scope for development

Household survey evidence based on these 11 significant African countries provides a picture of changes in poverty which complements and in some ways challenges findings of other studies on recent poverty reduction in Africa in the context of renewed growth. It is not straightforward though to use the evidence discussed here to draw conclusions about aggregate changes in monetary poverty in SubSaharan Africa; the periods covered differ from country to country, the underlying surveys and the poverty lines are not comparable etc. Nonetheless, the World Bank findings of quite significant poverty reduction over recent years (a reduction of nearly 5 percentage points between 2005 and 2008) may be consistent with the country findings here, especially bearing in mind that other countries like Rwanda and Uganda that appear to have performed quite well in poverty reduction terms were not included here. Much though depends on a clear picture of what has happened in Nigeria (a recent report suggested increased poverty between 2004 and 2010, though this information is not publicly available, and the comparability of the underlying data is not clear).

The findings here though are less supportive of the rapid poverty reduction reported by both Sala-i-Martin and Pinhovskiy and Young. The pattern of change in DHS indicators is not consistently positive (as Young concluded mainly in relation to assets); some indicators such as assets and education show strong progress, but mortality and more particularly malnutrition show a much less consistent pattern of progress. Some countries have indeed done well, but a number of significant countries have indeed done well. Further the DHS evidence is not a sufficient basis to question the reliability of growth estimates. The Sala-i-Martin-Pinhovskiy methodology has been strongly criticised here, but their finding of consistent poverty reduction across a wide range of African countries is absolutely not supported by the more reliable household survey based evidence at the country level.

This paper considered only evidence on 11 of the 25 largest SubSaharan African countries, given that these were based on careful studies applying a consistent methodology. There are though available carefully conducted studies of a number of other SubSaharan African countries which have also applied high standards to ensure comparability of their poverty estimates over time; and of course DHS data are available at more than one point in time for 21 of these 25 countries. This story is currently being extended to a wider group of countries; preliminary results though suggest the same mix of experience: a number of countries have reduced poverty (in monetary or non-monetary terms) significantly while others have made much less progress.

It is important too to bear in mind that much of the poverty evidence presented here is from periods

either before or towards the beginning of the recent increase in growth in many of these countries; more recent poverty data when available may show a more positive picture.

Focusing on the period for which we do have data, most countries considered in this paper have been able to reduce poverty over the periods considered, though there has been a variety of experience. Ghana and Senegal show the most positive picture of having reduced poverty over long periods of time; growth has been a very important driver of the monetary poverty reduction in Ghana while in Senegal falling inequality was also important. Ethiopia reduced monetary poverty by quite a large magnitude over a shorter period, again a period of decent growth performance. In all three cases most non-monetary indicators also improved significantly. While growth may have been a driver of monetary poverty reduction, its link to the non-monetary indicators is likely to be much weaker; what is much more likely is that these countries represented good policy environments in terms of growth and delivery of health and education services. What has happened to fertility (which fell in all cases) is also likely to be an important factor in shaping the observed outcomes.

Other countries seem to have had a mixed record in terms of poverty trends over the periods considered here, but appear to have reduced poverty and improved non-monetary indicators in recent years; this is the case for example for Malawi, Nigeria, and to some extent Kenya. Progress has often been slower than in the previous cases and more time is needed to judge longer term prospects, but in each case there is evidence of significant improvements in recent years.

The case of the remaining countries is more mixed. Cameroon and Chad have performed poorly across the range of available poverty indicators over the periods considered here; whether the situation has improved in Chad since it started to exploit its oil resources cannot be judged on the basis of the indicators available here, though the discussion in the country study suggests that this may not be likely. The other countries, Benin, Burkina Faso and Guinea, are cases of slow or mixed progress in poverty reduction. Monetary poverty fell quite a lot in the 1998-2003 period in Burkina, though this may be partly driven by agricultural conditions in the two years; certainly non-monetary poverty indicators showed a less consistent pattern of progress. A similar comment applies to Benin and Guinea; monetary poverty fell in recent periods, but non-monetary indicators did not always show consistent progress.

Many questions are of course raised by the evidence presented on this study. The first is the need to extend it to a wider range of countries and indicators, including as part of this to look for more recent evidence from the period of the recent growth upturn. The changing pattern of inequality also needs to be considered in more depth; the evidence presented here suggested that inequality fell in more countries than it rose, but this too needs to be considered in more depth. Another important issue is to investigate more the drivers of changes in non-monetary, seeing to what extent these are or are not associated (on whatever timescale) with monetary poverty or with growth; but the role of public spending and aid in influencing these outcomes also needs to be considered in more depth.

In sum though the story of this paper is of positive progress in poverty reduction in Africa over the last decade or so, even if at different rates in different locations. This is perhaps the most positive period of poverty reduction in Africa since independence, and it may be that the picture will be still more positive when more information is available on the most recent time period.

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