

Human Development Research Paper 2010/08 Human Development in Africa

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Abstract

Human development (HD), a process designed to enhance human lives directly, is contrasted with economic development, which entails the expansion of material things intended to fulfill human needs. Human development empowers people to participate in the improvement of their own well-being. The paper looks at the record of HD in Africa over the period 1970-2005, using half-decadal data derived from United Nations sources and national statistical bureaus. It is found that over the period analyzed, the human development index improved in all African countries except in Zambia, where it declined, due to unfavorable terms of trade and to persistent health and governance problems, among challenges. Nonetheless, despite this progress, African countries continue to lag behind other regions of the world in HD. There has been little advance on the economic development front, where growth plummeted in most African countries, impoverishing nearly 50 per cent of the population. Towards the end of the 1990s, however, African economies began to recover due mainly to reforms in governance and distributive systems, and in mechanisms to protect people against downside risks, including disease pandemics, political instabilities, droughts and adverse terms of trade. The paper argues for a continuation of reforms in order to further improve economic and human development outcomes on the continent.

Keywords: Human development, poverty, political and economic governance, Africa.

JEL classification: I30, IO, O10, F13, Y1

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I. INTRODUCTION

Economic Development and Human Development

The term 'economic development' refers to a sustainable process that expands the quantity and variety of goods and services that people use to satisfy material wants, e.g., the need for food, health care and shelter. A widely used summary measure of economic development is the growth in per capita income (World Bank, 1978). In contrast, the term 'human development' (HD) is used to refer to a sustainable process that expands and strengthens people's capabilities, such as abilities to read and write, to avoid premature death, to appear in public without shame, and to enjoy a decent standard of living. The best well known indicator of human development is Human Development Index (UNDP, 1990).

Acquired capabilities enable people to function in leisure or in work activities (Alkire, 2009). Moreover, such 'functioning' may be used to achieve other ends, such as engagement in artistic or scientific endeavors. An important aspect of human capabilities and functionings is that they are intrinsically valuable (Sen, 1999).

The outcome of economic development is a set of things or commodities that can be used to improve people's material well-being, whereas the outcome of human development is a set of people's capabilities, functionings and satisfactions that are part and parcel of human beings (Schultz, 1963). Human development is people-centered, in contrast to economic development which is commodity-centered. However, since commodities are instruments for improving human beings, economic development and human development are correlated. Further, since for a variety of reasons such correlation may be weak , pursuit of both economic development and human development should be the norm in societies.

Going Beyond Conventional Elements of Human Development

In an investigation of additional components of human development, Ranis et al. (2005), start by asking a basic question: 'which aspects of life might reasonably qualify as part of HD'? (p. 1). After reviewing a large literature, and analyzing correlations among aspects of life that reasonably qualify as part of HD, Ranis et al. (2005) propose eleven additional elements of HD. Table 1 presents these

elements, highlighting how they might be measured depending on data availability. Since the components shown in Table 1 are not currently part of HD, they are not captured by HDI. To the extent that the components in table 1 are valid aspects of human life, the trend in HDI might be a misleading indicator of how people's lives are changing over time or space. However, if HDI is strongly correlated with these aspects of life, its time trend or spatial variation would correctly reflect the extent of human development even when the aspects are not captured as part of HD. In that case, changes in HDI across countries would be a reflection of real differences in the quality of lives across populations.

Element Category	Indicators
1. Mental state	Male suicide rate, prisoners
2. Empowerment	Gender empowerment measure
3. Political Freedom	Political and civil liberties, political terror
4. Social Relations	Value of friends, value of family, tolerance of neighbors' divorce rate
5. Community life	Alcohol consumption, natural disasters, tolerance of neighbors
6. Inequalities	Income gini, horizontal inequality, rural/urban inequality, health inequality, gross domestic income
7. Work conditions	Unemployment, employment conditions, informal sector proportion, minimum wage policies
8. Leisure conditions	Cinema attendance
9. Economic stability	GDP cycle, CPI cycle, portfolio investment, terms of trade
10. Political instability	Political violence, refugee flows
11. Environment	Environmental sustainability

Table 1: Potential Additional Elements of Human Development

Source: Ranis et al. (2005), Table 14, p. 25.

Although the elements in Table 1 that are least correlated with HDI are candidates for inclusion in the HD space, they may not make it to that space due to data limitation. Thus data availability dictates aspects of life that can be used to construct HDI. As data on all aspects of human lives become available across countries, the composition of the elements in HD space will change. This composition will also change as key aspects of life become equitably fulfilled in the population. For example, if adult illiteracy were to be eliminated globally, there would be no need to use it to construct HDI. Thus, the composition of the elements used to construct HDI should be expected to

change over time, as additional data become available, and as some basic aspects of life become universally realized.

II. HUMAN DEVELOPMENT PATTERNS AND TRENDS

Consistent with the work of Sen (1982, 1999), there are various measures of HD and these measures need not be correlated among themselves. However, one measure that now enjoys arguably the greatest acclaim is the UNDP Human Development Index (HDI). This section focuses on HD but also on poverty, which in developing countries constitutes a center stage of the policy initiatives, especially those around the Millennium Development Goals (MDGs). Tables 2.1 - 2.4 present data on the half-decadal pattern of the evolution of HDI and its three components from 1970 to 2005 for African countries. Table 2.1 is for the HDI composite (HDIX), which is available for only 35, out of possible 55, countries due to missing data. The remaining tables are for the three components: education (EDX), life expectancy (LIFEX) and income as measured by GDP (GDPX), respectively.

Country	1970	1975	1980	1985	1990	1995	2000	2005	Avg.
Algeria	0.475	0.517	0.569	0.617	0.651	0.674	0.707	0.743	0.619
Angola									
Benin	0.293	0.320	0.348	0.367	0.379	0.413	0.448	0.486	0.382
Botswana	0.432	0.505	0.565	0.619	0.674	0.668	0.649	0.668	0.597
Burkina Faso	0.209	0.233	0.247	0.266	0.281	0.293	0.327	0.363	0.277
Burundi	0.241	0.249	0.266	0.304	0.322	0.330	0.361	0.390	0.308
Cameroon	0.378	0.418	0.460	0.509	0.514	0.502	0.507	0.524	0.477
Cape Verde									
Central African Republic	0.286	0.317	0.344	0.361	0.367	0.369	0.373	0.380	0.350
Chad									
Comoros									
Congo	0.475	0.533	0.580	0.615	0.607	0.583	0.572	0.575	0.568
Congo	0.345	0.360	0.370	0.379	0.378	0.355	0.353	0.379	0.365
Côte d'Ivoire	0.381	0.427	0.456	0.457	0.459	0.454	0.478	0.486	0.450
Djibouti									
Egypt	0.429	0.448	0.494	0.539	0.578	0.616	0.655	0.685	0.555
Equatorial Guinea									
Eritrea									
Ethiopia	0.236	0.254	0.264	0.264	0.292	0.311	0.342	0.392	0.294
Gabon									
Gambia									
Ghana	0.366	0.389	0.414	0.423	0.455	0.483	0.494	0.511	0.442
Guinea									
Guinea-Bissau									
Kenya	0.413	0.461	0.511	0.529	0.550	0.540	0.518	0.534	0.507
Lesotho	0.339	0.364	0.403	0.432	0.493	0.531	0.521	0.506	0.449
Liberia	0.318	0.343	0.372	0.379	0.349	0.320	0.422	0.437	0.367
Libyan Arab Jamahiriya	0.600	0.656	0.727	0.751	0.765	0.794	0.813	0.833	0.742
Madagascar	0.397	0.429	0.451	0.448	0.459	0.483	0.515	0.542	0.465
Malawi	0.280	0.316	0.357	0.373	0.394	0.446	0.474	0.471	0.389
Mali	0.214	0.223	0.246	0.246	0.262	0.283	0.315	0.355	0.268
Mauritania									
Mauritius	0.595	0.618	0.649	0.678	0.712	0.738	0.767	0.790	0.693
Morocco	0.384	0.421	0.463	0.497	0.531	0.559	0.594	0.637	0.511
Mozambique	0.218	0.258	0.284	0.272	0.297	0.318	0.347	0.386	0.297
Namibia									
Niger	0.230	0.223	0.229	0.221	0.229	0.238	0.259	0.326	0.244

Table 2.1 African countries; variable HDIX in levels

Nigeria	0.316	0.371	0.402	0.404	0.426	0.439	0.460	0.497	0.415
Réunion									
Rwanda	0.324	0.328	0.355	0.380	0.319	0.304	0.400	0.462	0.359
Sao Tome and Principe									
Senegal	0.313	0.328	0.347	0.372	0.392	0.409	0.431	0.457	0.381
Seychelles									
Sierra Leone									
Somalia									
South Africa	0.608	0.633	0.662	0.683	0.701	0.699	0.683	0.674	0.668
Sudan	0.334	0.359	0.375	0.391	0.419	0.450	0.483	0.513	0.416
Swaziland	0.424	0.493	0.531	0.571	0.617	0.621	0.590	0.570	0.552
Tanzania	0.339	0.386	0.423	0.432	0.436	0.434	0.450	0.484	0.423
Togo	0.329	0.376	0.422	0.429	0.440	0.458	0.484	0.509	0.431
Tunisia	0.456	0.507	0.555	0.600	0.639	0.681	0.723	0.757	0.615
Uganda	0.362	0.379	0.370	0.377	0.385	0.410	0.453	0.492	0.403
Western Sahara									
Zambia	0.465	0.483	0.484	0.488	0.488	0.452	0.426	0.437	0.465
Zimbabwe									
Africa	0.366	0.398	0.428	0.448	0.465	0.476	0.497	0.522	0.450

Table 2.2 African countries; variable EDX in levels

Country	1970	1975	1980	1985	1990	1995	2000	2005	Avg.
Algeria Angola	0.296	0.366	0.436	0.501	0.563	0.624	0.685	0.739	0.526
Benin	0.135	0.173	0.212	0.233	0.254	0.309	0.364	0.442	0.265
Botswana	0.373	0.444	0.516	0.588	0.660	0.707	0.751	0.772	0.601
Burkina Faso	0.067	0.079	0.093	0.117	0.140	0.148	0.191	0.250	0.136
Burundi	0.165	0.176	0.193	0.269	0.346	0.428	0.511	0.564	0.331
Cameroon	0.350	0.400	0.445	0.489	0.534	0.563	0.593	0.650	0.503
Cape Verde	0.000	000	01110	01102	0.000	0.000	0.070	0.000	0.000
Central African Republic	0.191	0.221	0.268	0.307	0.348	0.389	0.430	0.475	0.329
Chad									
Comoros									
Congo	0.422	0.512	0.602	0.639	0.659	0.660	0.661	0.662	0.602
Congo (DRC)	0.328	0.371	0.415	0.433	0.452	0.501	0.547	0.593	0.455
Côte d'Ivoire	0.241	0.275	0.309	0.331	0.347	0.358	0.449	0.484	0.349
Diibouti									
Egypt	0.353	0.389	0.423	0.468	0.526	0.579	0.630	0.685	0.507
Equatorial Guinea									
Eritrea									
Ethiopia	0.111	0.143	0.175	0.201	0.227	0.266	0.309	0.388	0.227
Gabon									
Gambia									
Ghana	0.319	0.356	0.394	0.428	0.462	0.503	0.543	0.594	0.450
Guinea									
Guinea-Bissau									
Kenya	0.367	0.459	0.550	0.588	0.627	0.648	0.664	0.710	0.577
Lesotho	0.332	0.355	0.378	0.419	0.531	0.630	0.728	0.763	0.517
Liberia	0.143	0.192	0.259	0.326	0.392	0.451	0.514	0.582	0.357
Libyan Arab Jamahiriya	0.393	0.478	0.596	0.683	0.758	0.809	0.853	0.887	0.682
Madagascar	0.422	0.481	0.540	0.548	0.555	0.604	0.652	0.698	0.562
Malawi	0.326	0.365	0.403	0.431	0.474	0.572	0.663	0.668	0.488
Mali	0.090	0.103	0.121	0.135	0.149	0.192	0.242	0.306	0.167
Mauritania									
Mauritius	0.624	0.647	0.671	0.696	0.721	0.754	0.786	0.819	0.715
Morocco	0.229	0.272	0.316	0.350	0.386	0.436	0.488	0.556	0.379
Mozambique	0.189	0.248	0.308	0.330	0.352	0.373	0.392	0.462	0.332
Namibia			· · - ·						
Niger	0.059	0.067	0.074	0.083	0.092	0.110	0.129	0.271	0.111
Nigeria	0.229	0.315	0.400	0.452	0.504	0.545	0.586	0.644	0.459
Réunion	0.007	0.001	0.071	0.407	0.500	0.546	0.504	0.651	0.465
Rwanda	0.297	0.331	0.3/1	0.437	0.503	0.546	0.584	0.651	0.465
Sao Tome and Principe	0 1 0 1	0.000	0.010	0.040	0.004	0.222	0.200	0.400	0.070
Senegal	0.181	0.200	0.219	0.249	0.284	0.322	0.360	0.408	0.278
Seychelles Sieme Leone									
Sterra Leone									
Somana Somana	0 (12	0 (70	0.714	0.742	0.770	0.700	0.015	0.022	0 7 4 9
South Alfica	0.043	0.078	0.714	0.742	0.770	0.790	0.615	0.633	0.748
Suuali Swaziland	0.231	0.292	0.552	0.575	0.419	0.438	0.301	0.339	0.390
Swazilallu Tonzonio	0.470	0.324	0.303	0.029	0.007	0.095	0.723	0.749	0.030
Togo	0.302	0.391	0.400	0.302	0.516	0.340	0.505	0.585	0.465
1050	0.205	0.207	0.570	0.574	0.710	0.775	0.520	0.517	0.407

Tunisia	0.363	0.406	0.448	$\begin{array}{c} 0.510\\ 0.440\end{array}$	0.574	0.641	0.709	0.769	0.552
Uganda	0.315	0.354	0.393		0.487	0.573	0.660	0.687	0.489
Zambia	0.474	0.512	0.549	0.579	0.610	0.609	0.609	0.608	0.569
Zimbabwe	0.549	0.599	0.649	0.708	0.760	0.760	0.773	0.784	0.698
Africa	0.300	0.346	0.395	0.434	0.474	0.516	0.561	0.607	0.454

Table 2.3 African countries; variable LIFEX in levels

Country	1970	1975	1980	1985	1990	1995	2000	2005	Avg.
Algeria	0.466	0.521	0.577	0.645	0.700	0.725	0.751	0.778	0.645
Angola	0.200	0.235	0.259	0.270	0.283	0.295	0.309	0.342	0.274
Benin	0.341	0.388	0.426	0.449	0.481	0.523	0.556	0.586	0.469
Botswana	0.493	0.545	0.591	0.630	0.654	0.579	0.428	0.432	0.544
Burkina Faso	0.275	0.305	0.333	0.355	0.374	0.395	0.423	0.452	0.364
Burundi	0.313	0.331	0.363	0.386	0.356	0.333	0.365	0.403	0.356
Cameroon	0.349	0.386	0.435	0.487	0.501	0.477	0.442	0.427	0.438
Cape Verde	0.525	0.561	0.608	0.650	0.682	0.710	0.733	0.759	0.653
Central African Republic	0.283	0.343	0.390	0.410	0.405	0.386	0.357	0.353	0.366
Chad	0.327	0.356	0.388	0.422	0.437	0.428	0.405	0.391	0 394
Comoros	0.379	0.417	0.449	0.482	0.524	0.573	0.614	0.651	0.511
Congo	0.490	0.539	0.577	0.591	0.524	0.518	0.014	0.471	0.529
Congo (DRC)	0.490	0.335	0.358	0.376	0.380	0.310	0.470	0.377	0.325
Côte d'Ivoire	0.367	0.355	0.550	0.570	0.538	0.530	0.508	0.516	0.350
Diibouti	0.304	0.450	0.376	0.327	0.330	0.350	0.300	0.010	0.410
Egypt	0.304	0.341 0.471	0.576	0.582	0.430	0.430	0.721	0.742	0.507
Egypt Equatorial Guinaa	0.424	0.471	0.520	0.382	0.052	0.000	0.721	0.742	0.397
Equatorial Ounica	0.240	0.271	0.297	0.320	0.302	0.369	0.590	0.405	0.337
Effuea	0.303	0.320	0.316	0.330	0.365	0.455	0.510	0.550	0.399
Calar	0.299	0.520	0.515	0.524	0.500	0.405	0.440	0.479	0.508
Gabon	0.362	0.420	0.491	0.301	0.002	0.005	0.582	0.574	0.525
Gambia	0.259	0.307	0.338	0.404	0.437	0.401	0.482	0.502	0.401
Gnana	0.398	0.430	0.407	0.492	0.557	0.308	0.549	0.520	0.497
Guinea	0.236	0.269	0.309	0.346	0.388	0.428	0.4/1	0.520	0.3/1
Guinea-Bissau	0.203	0.224	0.253	0.291	0.314	0.328	0.347	0.300	0.291
Kenya	0.453	0.499	0.545	0.573	0.581	0.541	0.464	0.458	0.514
Lesotho	0.400	0.431	0.480	0.522	0.572	0.564	0.425	0.331	0.466
	0.324	0.339	0.577	0.373	0.392	0.440	0.491	0.534	0.411
Libyan Arab Jamaniriya	0.439	0.499	0.581	0.657	0./14	0.756	0.788	0.806	0.655
Madagascar	0.314	0.347	0.386	0.404	0.431	0.484	0.525	0.500	0.432
Malawi	0.259	0.296	0.330	0.360	0.405	0.449	0.433	0.434	0.3/1
Mali	0.209	0.228	0.251	0.277	0.300	0.320	0.344	0.373	0.287
Mauritania	0.378	0.414	0.461	0.495	0.511	0.521	0.525	0.524	0.4/9
Mauritius	0.620	0.049	0.680	0./15	0.757	0.752	0.772	0.784	0./15
Morocco	0.443	0.48/	0.545	0.604	0.652	0.693	0.728	0.757	0.614
Mozambique	0.237	0.276	0.297	0.296	0.307	0.348	0.378	0.378	0.315
Namibia	0.459	0.503	0.548	0.585	0.620	0.631	0.563	0.560	0.559
Niger	0.219	0.228	0.240	0.256	0.277	0.309	0.357	0.411	0.287
Nigeria	0.256	0.296	0.329	0.332	0.326	0.328	0.348	0.371	0.323
Réunion	0.623	0.679	0.725	0.766	0.798	0.822	0.838	0.852	0.763
Rwanda	0.323	0.329	0.348	0.363	0.128	0.069	0.302	0.390	0.282
Sao Tome and Principe	0.508	0.542	0.575	0.602	0.622	0.634	0.646	0.665	0.599
Senegal Seychelles	0.294	0.328	0.373	0.418	0.450	0.470	0.485	0.499	0.414
Sierra Leone	0.183	0.232	0.279	0.290	0.250	0.221	0.281	0.356	0.261
Somalia	0.251	0.275	0.298	0.338	0.325	0.329	0.390	0.409	0.327
South Africa	0.464	0.493	0.530	0.575	0.606	0.591	0.513	0.447	0.527
Sudan	0.357	0.383	0.408	0.432	0.459	0.491	0.518	0.538	0.448
Swaziland	0.384	0.434	0.489	0.546	0.592	0.571	0.429	0.333	0.472
Tanzania	0.362	0.395	0.420	0.435	0.431	0.415	0.429	0.478	0.421
Togo	0.405	0.453	0.497	0.528	0.545	0.562	0.579	0.606	0.522
Tunisia	0.478	0.544	0.618	0.677	0.727	0.770	0.793	0.808	0.677
Uganda	0.414	0.432	0.417	0.414	0.382	0.339	0.355	0.421	0.397
Western Sahara	0.284	0.337	0.411	0.485	0.543	0.583	0.627	0.666	0.492
Zambia	0.400	0.434	0.449	0.452	0.435	0.362	0.284	0.298	0.389
Zimbabwe	0.498	0.526	0.566	0.604	0.596	0.469	0.305	0.278	0.480
Africa	0.359	0.397	0.434	0.465	0.482	0.489	0.493	0.508	0.453

Table 2.4 African co	ountries; va	riable GD	PX in	levels
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Algeria 0.665 0.666 0.693 0.705 0.689 0.673 0.686 0.713 0.686 0.713 0.686 0.713 0.686 0.714 0.788 0.512 0.542 0.429 0.412 Botswana 0.430 0.427 0.548 0.640 0.707 0.718 0.786 0.800 0.647 Burkina Faso 0.236 0.231 0.328 0.236 0.228 0.236 0.228 0.236 0.228 0.437 0.448 0.447 0.448 0.447 0.448 0.447 0.442 0.447 0.442 0.447 0.448 0.341 0.322 0.333 0.333 0.333 0.333 0.333 0.344 0.331 0.551 0.540 0.344 0.344 0.341 0.392 0.379 0.369 0.444 0.448 0.391 0.377 0.369 0.448 0.393 0.572 0.578 0.593 0.572 0.578 0.599 0.579 0.578 0.599 0.590	Country	1970	1975	1980	1985	1990	1995	2000	2005	Avg.
Angola 0.596 0.607 0.578 0.578 0.512 0.599 0.572 Benin 0.402 0.400 0.408 0.420 0.400 0.407 0.412 0.408 0.420 0.400 0.408 0.420 0.402 0.400 0.438 0.336 0.366 0.368 0.338 0.333 Burnuni 0.246 0.239 0.244 0.258 0.263 0.228 0.208 0.208 0.204 0.258 Came verde 0.442 0.447 0.410 0.462 0.472 0.495 0.531 0.506 0.467 0.485 0.497 0.485 Chad 0.447 0.410 0.442 0.441 0.312 0.347 0.333 0.311 0.354 Cord 0.417 0.442 0.441 0.412 0.426 0.417 0.406 0.399 0.404 0.404 0.409 0.522 0.578 0.593 0.572 0.578 0.593 0.512 0.548 0.562 0.617 0.407 0.428 0.404 0.404 0.409 0.524 0.4	Algeria	0.665	0.666	0.693	0.705	0.689	0.673	0.686	0.713	0.686
Benin 0.402 0.400 0.402 0.402 0.402 0.402 0.425 0.429 0.412 Botswana 0.430 0.527 0.588 0.640 0.707 0.718 0.768 0.800 0.647 Burkina Faso 0.246 0.239 0.244 0.228 0.263 0.228 0.263 0.228 0.263 0.228 0.263 0.224 0.238 Cameroon 0.434 0.446 0.501 0.551 0.506 0.463 0.437 0.448 0.472 0.492 0.531 0.550 0.476 Central African Republic 0.387 0.373 0.367 0.373 0.367 0.332 0.333 0.311 0.355 0.448 0.391 Comoros 0.396 0.410 0.412 0.426 0.417 0.441 0.432 0.572 0.578 0.593 0.572 Congo 0.512 0.548 0.554 0.571 0.477 0.459 0.540 0.553 0.502	Angola	0.596	0.607	0.566	0.574	0.578	0.512	0.542	0.599	0.572
Botswana 0.430 0.527 0.588 0.640 0.707 0.718 0.768 0.800 0.643 Burkina Faso 0.286 0.315 0.314 0.327 0.328 0.208 0.208 0.208 0.208 0.208 0.208 0.208 0.208 0.204 0.236 Came verde 0.442 0.447 0.410 0.462 0.447 0.410 0.462 0.447 0.410 0.462 0.447 0.410 0.462 0.447 0.410 0.462 0.447 0.410 0.462 0.447 0.410 0.462 0.447 0.440 0.440 0.402 0.369 0.363 0.444 0.341 0.332 0.331 0.333 0.511 0.538 0.537 0.539 0.578 0.599 0.578 0.593 0.572 0.538 0.512 0.491 0.475 0.593 0.572 0.538 0.512 0.491 0.472 0.492 0.502 0.533 0.516 0.578 0.589 0.615	Benin	0.402	0.400	0.408	0.420	0.402	0.407	0.425	0.429	0.412
Burkina Faso 0.286 0.315 0.314 0.327 0.328 0.328 0.326 0.389 0.338 Burundi 0.246 0.239 0.244 0.258 0.263 0.228 0.208 0.204 0.238 Cameroon 0.434 0.468 0.501 0.551 0.506 0.467 0.485 0.497 0.489 Cape Verde 0.442 0.447 0.410 0.462 0.472 0.497 0.531 0.550 0.476 Comarco 0.396 0.410 0.412 0.426 0.417 0.409 0.333 0.311 0.354 Comgo 0.512 0.548 0.562 0.617 0.590 0.573 0.593 0.572 Corgo (DRC) 0.394 0.374 0.533 0.562 0.617 0.590 0.477 0.487 0.550 Corgo (DRC) 0.394 0.547 0.512 0.491 0.477 0.487 0.550 Dipiboui 0.659 0.583 <	Botswana	0.430	0.527	0.588	0.640	0.707	0.718	0.768	0.800	0.647
Burundi 0.246 0.239 0.244 0.258 0.263 0.228 0.204 0.236 Came roon 0.434 0.468 0.501 0.506 0.467 0.485 0.497 0.489 Cape Verde 0.442 0.417 0.410 0.462 0.472 0.495 0.531 0.550 0.476 Chad 0.417 0.419 0.341 0.322 0.333 0.311 0.344 0.329 0.379 0.369 0.363 0.448 0.448 0.311 0.354 Comoros 0.396 0.410 0.412 0.426 0.417 0.405 0.399 0.404 0.409 Congo (DRC) 0.394 0.574 0.553 0.591 0.577 0.477 0.459 0.562 Egypt 0.569 0.454 0.513 0.559 0.617 0.628 0.562 Egypt 0.508 0.482 0.533 0.518 0.544 0.514 0.512 0.4742 0.920 0.603 <td>Burkina Faso</td> <td>0.286</td> <td>0.315</td> <td>0.314</td> <td>0.327</td> <td>0.328</td> <td>0.336</td> <td>0.366</td> <td>0.389</td> <td>0.333</td>	Burkina Faso	0.286	0.315	0.314	0.327	0.328	0.336	0.366	0.389	0.333
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Burundi	0.246	0.239	0.244	0.258	0.263	0.228	0.208	0.204	0.236
Cape Verde 0.442 0.447 0.410 0.462 0.472 0.495 0.531 0.550 0.476 Central African Republic 0.385 0.387 0.373 0.367 0.347 0.332 0.333 0.311 0.354 Chad 0.417 0.419 0.341 0.322 0.339 0.363 0.448 0.351 Comoros 0.396 0.410 0.412 0.426 0.417 0.405 0.399 0.404 0.409 Comgo 0.512 0.548 0.552 0.617 0.559 0.572 0.578 0.593 0.572 Congo (DRC) 0.394 0.547 0.553 0.550 0.578 0.589 0.561 0.548 0.574 0.553 0.509 0.479 0.487 0.562 Eguatorial Guinea 0.497 0.553 0.558 0.578 0.589 0.615 0.628 0.228 Gabon 0.806 0.842 0.533 0.518 0.498 0.524 0.278 </td <td>Cameroon</td> <td>0.434</td> <td>0.468</td> <td>0.501</td> <td>0.551</td> <td>0.506</td> <td>0.467</td> <td>0.485</td> <td>0.497</td> <td>0.489</td>	Cameroon	0.434	0.468	0.501	0.551	0.506	0.467	0.485	0.497	0.489
$ \begin{array}{c} Caper Varba & Carbo & $	Cape Verde	0.442	0.447	0.410	0.462	0.472	0.495	0.531	0.550	0.476
Chad 0.417 0.419 0.341 0.322 0.347 0.323 0.363 0.448 0.391 Comoros 0.396 0.410 0.412 0.426 0.417 0.405 0.399 0.444 0.401 Congo 0.512 0.548 0.562 0.617 0.590 0.572 0.578 0.593 0.572 Congo (DRC) 0.394 0.374 0.337 0.328 0.301 0.209 0.157 0.167 0.284 Opibouti 0.659 0.650 0.584 0.574 0.553 0.509 0.477 0.487 0.562 Equatorial Guinea 0.497 0.593 0.533 0.518 0.498 0.524 0.742 0.920 0.603 Eritrae	Central African Republic	0.385	0.387	0.373	0.367	0.347	0.332	0.333	0.311	0.354
Cinado 0.411 0.412 0.426 0.417 0.405 0.396 0.404 0.404 Compo 0.512 0.548 0.562 0.617 0.405 0.399 0.404 0.409 Congo 0.512 0.548 0.562 0.617 0.572 0.578 0.593 0.572 Congo (DRC) 0.394 0.374 0.337 0.322 0.491 0.475 0.477 0.459 0.506 Djibouti 0.659 0.564 0.573 0.559 0.578 0.599 0.479 0.487 0.562 Equatorial Guinea 0.497 0.593 0.533 0.518 0.498 0.524 0.742 0.920 0.603 Eritropia 0.298 0.298 0.301 0.269 0.283 0.816 0.813 0.816 0.813 0.832 0.316 0.328 0.366 0.337 0.494 0.431 0.433 0.431 0.433 0.433 0.341 0.343 0.341 0.343 <	Chad	0.303	0.419	0.3/1	0.307	0.379	0.352	0.353	0.448	0.304
Congo (DRC) 0.512 0.548 0.562 0.617 0.590 0.572 0.578 0.593 0.664 0.797 Congo (DRC) 0.394 0.374 0.337 0.328 0.301 0.209 0.157 0.167 0.284 Côte d'Ivoire 0.557 0.549 0.547 0.512 0.491 0.475 0.477 0.459 0.506 Djibouti 0.659 0.650 0.584 0.574 0.553 0.509 0.479 0.487 0.562 Egypt 0.508 0.482 0.533 0.565 0.578 0.589 0.615 0.628 0.562 Equatorial Guinea 0.497 0.593 0.518 0.498 0.524 0.742 0.920 0.603 Eritrea Ethiopia 0.298 0.298 0.301 0.269 0.283 0.264 0.278 0.308 0.287 Gabon 0.806 0.840 0.858 0.853 0.836 0.835 0.816 0.813 0.832 Ghana 0.411 0.433 0.410 0.406 0.407 0.392 0.398 0.407 0.408 Guinea 0.349 0.361 0.364 0.359 0.366 0.377 0.392 0.414 0.380 Guinea 0.349 0.361 0.364 0.359 0.368 0.367 0.383 0.393 0.368 Guinea 0.449 0.426 0.438 0.427 0.443 0.431 0.426 0.434 Venya 0.419 0.426 0.438 0.427 0.443 0.431 0.426 0.434 Venya 0.419 0.426 0.438 0.427 0.443 0.431 0.426 0.434 Uby 0.487 0.477 0.479 0.439 0.263 0.069 0.262 0.196 0.334 Liberia 0.487 0.477 0.479 0.439 0.263 0.069 0.262 0.196 0.334 Liberia 0.486 0.487 0.427 0.392 0.390 0.366 0.367 0.388 0.363 0.402 Malawi 0.255 0.288 0.336 0.326 0.337 0.339 0.368 0.363 0.409 Madagascar 0.456 0.457 0.427 0.392 0.390 0.361 0.797 0.807 0.890 Madagascar 0.456 0.457 0.427 0.392 0.390 0.361 0.797 0.807 0.890 Madagascar 0.456 0.457 0.427 0.392 0.390 0.362 0.368 0.363 0.402 Malawi 0.255 0.288 0.336 0.326 0.337 0.339 0.368 0.363 0.402 Malawi 0.459 0.467 0.477 0.463 0.462 0.471 0.466 Mauritius 0.541 0.559 0.590 0.553 0.548 0.567 0.598 0.539 Mauritania 0.463 0.503 0.529 0.536 0.555 0.548 0.567 0.598 0.539 Mauritania 0.463 0.503 0.529 0.536 0.575 0.548 0.567 0.598 0.539 Mauritania 0.463 0.503 0.474 0.423 0.373 0.339 0.346 0.319 0.246 Mauritius 0.541 0.559 0.503 0.474 0.423 0.373 0.399 0.448 0.444 0.447 0.476 0.461 Niger 0.411 0.375 0.371 0.324 0.319 0.246 0.431 0.464 0.451 Seychelles 0.675 0.718 0.733 0.731 0.324 0.319 0.246 0.331 Sordm Africa 0.718 0.727 0.743 0.733 0.728 0.717 0.721 0.742 0.729 Sudan 0.395 0.401 0.386 0.365 0.380 0.400 0.431 0.463 0.403	Comoros	0.306	0.410	0.412	0.372	0.377	0.305	0.300	0.440	0.371
Congo 0.512 0.543 0.522 0.517 0.545 0.545 0.545 0.545 0.545 0.545 0.545 0.545 0.545 0.545 0.545 0.545 0.545 0.545 0.545 0.545 0.545 0.547 0.545 0.547 0.547 0.455 0.547 0.455 0.547 0.455 0.547 0.547 0.555 0.559 0.548 0.555 0.578 0.589 0.615 0.628 0.565 Equatorial Guinea 0.497 0.593 0.533 0.556 0.578 0.589 0.615 0.628 0.565 Editopia 0.298 0.298 0.301 0.269 0.283 0.264 0.278 0.308 0.287 Gabon 0.806 0.840 0.858 0.835 0.836 0.837 0.339 0.368 0.367 0.392 0.414 0.380 Guinea 0.349 0.361 0.366 0.377 0.392 0.414 0.380 Gui	Congo	0.590	0.410	0.412	0.420	0.417	0.403	0.399	0.404	0.409
$ \begin{array}{c} Congo (DKC) & 0.394 & 0.374 & 0.337 & 0.528 & 0.301 & 0.209 & 0.137 & 0.167 & 0.264 \\ Djibouti & 0.659 & 0.650 & 0.584 & 0.574 & 0.553 & 0.509 & 0.479 & 0.487 & 0.562 \\ Egypt & 0.508 & 0.482 & 0.533 & 0.565 & 0.578 & 0.589 & 0.615 & 0.628 & 0.562 \\ Equatorial Guinea & 0.497 & 0.593 & 0.533 & 0.518 & 0.498 & 0.524 & 0.742 & 0.920 & 0.603 \\ Eritrea & & & & & & & & & & & & & & & & & & &$	Congo (DBC)	0.312	0.346	0.302	0.017	0.390	0.372	0.378	0.393	0.372
$ \begin{array}{c ccccc} Color al Volte & 0.337 & 0.349 & 0.347 & 0.312 & 0.473 & 0.473 & 0.473 & 0.473 & 0.473 & 0.439 & 0.500 \\ Color al Volte & 0.508 & 0.482 & 0.533 & 0.565 & 0.578 & 0.589 & 0.615 & 0.628 & 0.562 \\ Equatorial Guinea & 0.497 & 0.593 & 0.533 & 0.518 & 0.498 & 0.524 & 0.742 & 0.920 & 0.603 \\ Eritrea & & & & & & & & & & & & & & & & & & &$	Côte d'Iucine	0.594	0.574	0.557	0.528	0.301	0.209	0.137	0.107	0.204
Djiboun 0.659 0.550 0.384 0.574 0.353 0.509 0.479 0.487 0.562 Egypt 0.508 0.482 0.533 0.518 0.498 0.524 0.742 0.920 0.603 Eritrea		0.557	0.549	0.547	0.512	0.491	0.473	0.477	0.439	0.500
Egypt 0.508 0.482 0.533 0.505 0.578 0.538 0.518 0.524 0.512 0.525 Equatorial Guinea 0.497 0.593 0.533 0.518 0.498 0.524 0.742 0.920 0.603 Eritrea 0.298 0.298 0.288 0.853 0.835 0.815 0.813 0.828 Gabon 0.806 0.840 0.858 0.853 0.835 0.816 0.813 0.832 Gambia 0.411 0.433 0.410 0.406 0.407 0.392 0.398 0.407 0.408 Guinea 0.349 0.361 0.364 0.359 0.368 0.367 0.383 0.393 0.368 Guinea 0.419 0.426 0.438 0.427 0.443 0.431 0.426 0.434 0.431 Lesotho 0.285 0.306 0.351 0.354 0.375 0.400 0.409 0.424 0.363 Liberia	Djiboun	0.659	0.050	0.584	0.574	0.555	0.509	0.479	0.487	0.562
Equatorial Guinea 0.497 0.593 0.533 0.518 0.498 0.524 0.742 0.920 0.603 Eritrea Eritrea 0.298 0.298 0.301 0.269 0.283 0.264 0.278 0.308 0.287 Gabon 0.806 0.840 0.858 0.853 0.836 0.835 0.836 0.835 0.836 0.835 0.386 0.470 0.398 0.407 0.498 Gahna 0.342 0.376 0.382 0.350 0.366 0.377 0.392 0.414 0.438 Guinea 0.349 0.361 0.364 0.359 0.368 0.367 0.383 0.393 0.368 Guinea-Bissau 0.212 0.316 0.279 0.413 0.431 0.426 0.438 Liberia 0.487 0.447 0.439 0.263 0.609 0.424 0.363 Libyan Arab Jamahiriya 0.496 0.992 1.004 0.911 0.823 0.361 0.770<	Egypt	0.508	0.482	0.533	0.565	0.578	0.589	0.615	0.628	0.562
Eritrea Ethiopia 0.298 0.298 0.301 0.269 0.283 0.264 0.278 0.308 0.287 Gabon 0.806 0.840 0.858 0.853 0.836 0.835 0.816 0.813 0.832 Gambia 0.411 0.433 0.410 0.406 0.407 0.392 0.398 0.407 0.408 Ghana 0.382 0.376 0.382 0.350 0.366 0.377 0.392 0.414 0.380 Guinea 0.349 0.361 0.364 0.359 0.368 0.367 0.383 0.393 0.368 Guinea-Bissau 0.212 0.316 0.279 0.313 0.326 0.330 0.310 0.268 0.294 Kenya 0.419 0.426 0.438 0.427 0.443 0.431 0.426 0.434 0.431 Lesotho 0.285 0.306 0.351 0.354 0.375 0.400 0.409 0.424 0.363 Liberia 0.487 0.477 0.479 0.439 0.263 0.069 0.262 0.196 0.334 Libyan Arab Jamahiriya 0.969 0.992 1.004 0.911 0.823 0.816 0.797 0.807 0.890 Madagascar 0.456 0.457 0.427 0.392 0.390 0.362 0.368 0.363 0.402 Malawi 0.255 0.288 0.338 0.329 0.304 0.317 0.326 0.312 0.309 Mali 0.345 0.339 0.366 0.326 0.337 0.339 0.359 0.385 0.349 Mauritania 0.4459 0.467 0.477 0.463 0.462 0.465 0.462 0.471 0.466 Mauritius 0.541 0.559 0.596 0.623 0.676 0.708 0.742 0.798 0.539 Mozambique 0.227 0.249 0.247 0.190 0.231 0.233 0.271 0.319 0.246 Maribia 0.657 0.660 0.654 0.631 0.615 0.629 0.636 0.665 0.643 Niger 0.411 0.375 0.371 0.324 0.319 0.297 0.290 0.295 0.335 Nigeria 0.463 0.503 0.529 0.536 0.555 0.548 0.567 0.598 0.533 Nozambique 0.227 0.249 0.247 0.490 0.443 0.437 0.444 0.447 0.476 0.461 Réunion Rwanda 0.353 0.323 0.346 0.340 0.326 0.297 0.314 0.346 0.331 Sao Tome and Principe 0.443 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.455 0.503 0.474 0	Equatorial Guinea	0.497	0.593	0.533	0.518	0.498	0.524	0.742	0.920	0.603
Ethiopia 0.298 0.298 0.301 0.269 0.283 0.264 0.278 0.308 0.283 Gabon 0.806 0.840 0.858 0.853 0.836 0.835 0.816 0.813 0.832 Gambia 0.411 0.433 0.410 0.406 0.407 0.392 0.398 0.407 0.408 Guinea 0.349 0.361 0.364 0.359 0.366 0.377 0.392 0.414 0.380 Guinea 0.349 0.361 0.279 0.313 0.366 0.337 0.333 0.333 0.336 Guinea 0.212 0.316 0.279 0.313 0.326 0.330 0.310 0.268 0.294 Kenya 0.419 0.426 0.438 0.427 0.443 0.431 0.426 0.434 0.431 Lisonh 0.285 0.306 0.351 0.354 0.375 0.400 0.409 0.424 0.363 Libaria <t< td=""><td>Eritrea</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Eritrea									
Gabon 0.806 0.840 0.858 0.853 0.835 0.815 0.813 0.813 0.832 Gambia 0.411 0.433 0.410 0.406 0.407 0.392 0.398 0.407 0.408 Ghana 0.382 0.376 0.382 0.350 0.366 0.377 0.392 0.414 0.380 Guinea 0.349 0.361 0.364 0.359 0.366 0.367 0.383 0.393 0.368 Guinea-Bissau 0.212 0.316 0.279 0.313 0.326 0.330 0.310 0.268 0.242 0.431 Lesotho 0.285 0.306 0.351 0.354 0.375 0.400 0.409 0.424 0.363 Liberia 0.487 0.4477 0.439 0.263 0.069 0.262 0.196 0.334 Madagascar 0.456 0.457 0.427 0.392 0.362 0.368 0.363 0.400 Malawi 0.255	Ethiopia	0.298	0.298	0.301	0.269	0.283	0.264	0.278	0.308	0.287
Gambia 0.411 0.433 0.410 0.406 0.407 0.392 0.398 0.407 0.408 Ghana 0.382 0.376 0.382 0.350 0.366 0.377 0.392 0.414 0.380 Guinea 0.349 0.361 0.364 0.359 0.368 0.367 0.383 0.393 0.388 Guinea-Bissau 0.212 0.316 0.279 0.313 0.326 0.330 0.310 0.268 0.294 Kenya 0.419 0.426 0.438 0.427 0.443 0.431 0.426 0.434 0.431 Liboria 0.487 0.477 0.479 0.439 0.263 0.069 0.262 0.196 0.334 Liboria 0.456 0.457 0.427 0.392 0.304 0.317 0.368 0.363 0.402 Malawi 0.255 0.288 0.338 0.329 0.304 0.317 0.326 0.312 0.390 Mauritania 0.459 0.467 0.477 0.463 0.462 0.462 0.471	Gabon	0.806	0.840	0.858	0.853	0.836	0.835	0.816	0.813	0.832
Ghana 0.382 0.376 0.382 0.361 0.364 0.359 0.368 0.367 0.383 0.392 0.414 0.380 Guinea 0.349 0.361 0.364 0.359 0.368 0.367 0.383 0.393 0.368 Guinea-Bissau 0.212 0.316 0.279 0.313 0.326 0.330 0.310 0.268 0.294 Kenya 0.419 0.426 0.438 0.427 0.443 0.431 0.426 0.434 0.431 Lesotho 0.285 0.306 0.351 0.354 0.375 0.400 0.409 0.424 0.363 Liberia 0.487 0.477 0.479 0.439 0.362 0.368 0.363 0.402 Madagascar 0.456 0.457 0.427 0.390 0.362 0.368 0.363 0.402 Malawi 0.255 0.288 0.338 0.329 0.304 0.317 0.326 0.312 0.309 Mauritania 0.459 0.467 0.477 0.463 0.462 0.465	Gambia	0.411	0.433	0.410	0.406	0.407	0.392	0.398	0.407	0.408
Guinea 0.349 0.361 0.364 0.359 0.368 0.367 0.383 0.393 0.368 Guinea-Bissau 0.212 0.316 0.279 0.313 0.326 0.330 0.310 0.268 0.294 Kenya 0.419 0.426 0.438 0.427 0.443 0.431 0.426 0.434 0.431 Lesotho 0.285 0.306 0.351 0.354 0.375 0.400 0.409 0.424 0.363 Libyan Arab Jamahiriya 0.969 0.992 1.004 0.911 0.823 0.816 0.797 0.807 0.890 Madagascar 0.456 0.457 0.427 0.392 0.304 0.317 0.226 0.312 0.309 Mali 0.255 0.288 0.338 0.326 0.337 0.339 0.359 0.385 0.349 Mauritania 0.459 0.467 0.477 0.463 0.462 0.465 0.462 0.471 0.466 Mauritus 0.541 0.559 0.596 0.623 0.676 0.708 0.742 0.768 0.652 Morocco 0.480 0.503 0.529 0.536 0.555 0.548 0.567 0.598 0.539 Mozambique 0.227 0.249 0.247 0.190 0.231 0.233 0.271 0.319 0.295 Noracco 0.448 0.453 0.474 0.473 0.474 0.476 0.477 0.464	Ghana	0.382	0.376	0.382	0.350	0.366	0.377	0.392	0.414	0.380
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Guinea	0.349	0.361	0.364	0.359	0.368	0.367	0.383	0.393	0.368
Kenya 0.419 0.426 0.438 0.427 0.443 0.431 0.426 0.434 0.431 Lesotho 0.285 0.306 0.351 0.354 0.375 0.400 0.409 0.424 0.363 Liberia 0.487 0.477 0.479 0.439 0.263 0.069 0.262 0.196 0.334 Libyan Arab Jamahiriya 0.969 0.992 1.004 0.911 0.823 0.816 0.797 0.807 0.890 Madagascar 0.456 0.457 0.427 0.392 0.304 0.317 0.326 0.312 0.309 Malai 0.345 0.339 0.366 0.326 0.337 0.339 0.359 0.385 0.349 Mauritania 0.459 0.467 0.477 0.463 0.462 0.462 0.471 0.466 Maurituis 0.541 0.559 0.596 0.623 0.676 0.708 0.742 0.768 0.529 Mozambique 0.227 0.249 0.247 0.190 0.231 0.233 0.271	Guinea-Bissau	0.212	0.316	0.279	0.313	0.326	0.330	0.310	0.268	0.294
Lesotho0.2850.3060.3510.3540.3750.4000.4090.4240.363Liberia0.4870.4770.4790.4390.2630.0690.2620.1960.334Libyan Arab Jamahiriya0.9690.9921.0040.9110.8230.8160.7970.8070.890Madagascar0.4560.4570.4270.3920.3900.3620.3680.3630.402Malawi0.2550.2880.3380.3290.3040.3170.3260.3120.309Mali0.3450.3390.3660.3260.3370.3390.3590.3850.349Mauritania0.4590.4670.4770.4630.4620.4620.4710.466Mauritus0.5410.5590.5960.6230.6760.7080.7420.7680.652Morocco0.4800.5030.5290.5360.5550.5480.5670.5980.539Mozambique0.2270.2490.2470.1900.2310.2330.2710.3190.246Namibia0.6570.6600.6540.6310.6150.6290.6360.6650.643Niger0.4110.3750.3710.3240.3190.2970.2900.2950.335Nigeria0.4630.5030.4780.4290.4480.4440.4470.4760.461Réunion	Kenya	0.419	0.426	0.438	0.427	0.443	0.431	0.426	0.434	0.431
Liberia 0.487 0.477 0.479 0.439 0.263 0.069 0.262 0.196 0.334 Libyan Arab Jamahiriya 0.969 0.992 1.004 0.911 0.823 0.816 0.797 0.807 0.890 Madagascar 0.456 0.457 0.427 0.392 0.390 0.362 0.368 0.363 0.402 Malawi 0.255 0.288 0.338 0.329 0.304 0.317 0.326 0.312 0.309 Mali 0.345 0.339 0.366 0.326 0.337 0.339 0.359 0.385 0.349 Mauritania 0.459 0.467 0.477 0.463 0.462 0.465 0.462 0.471 0.466 Mauritius 0.541 0.559 0.596 0.623 0.676 0.708 0.742 0.768 0.529 Morocco 0.480 0.503 0.529 0.536 0.555 0.548 0.567 0.598 0.539 Mozambique 0.227 0.249 0.247 0.190 0.231 0.233	Lesotho	0.285	0.306	0.351	0.354	0.375	0.400	0.409	0.424	0.363
Libyan Arab Jamahiriya 0.969 0.992 1.004 0.911 0.823 0.816 0.797 0.807 0.890 Madagascar 0.456 0.457 0.427 0.392 0.390 0.362 0.368 0.363 0.402 Malawi 0.255 0.288 0.338 0.329 0.304 0.317 0.326 0.312 0.309 Mali 0.345 0.339 0.366 0.326 0.337 0.339 0.359 0.385 0.349 Mauritania 0.459 0.467 0.477 0.463 0.462 0.462 0.462 0.461 0.471 0.466 Mauritania 0.459 0.467 0.477 0.463 0.462 0.462 0.461 0.471 0.466 Mauritania 0.551 0.541 0.553 0.529 0.536 0.555 0.548 0.567 0.598 0.539 Mozambique 0.227 0.249 0.247 0.190 0.231 0.233 0.271 0.319 <td>Liberia</td> <td>0.487</td> <td>0.477</td> <td>0.479</td> <td>0.439</td> <td>0.263</td> <td>0.069</td> <td>0.262</td> <td>0.196</td> <td>0.334</td>	Liberia	0.487	0.477	0.479	0.439	0.263	0.069	0.262	0.196	0.334
Madagascar 0.456 0.457 0.427 0.392 0.390 0.362 0.368 0.363 0.402 Malawi 0.255 0.288 0.338 0.329 0.304 0.317 0.326 0.312 0.309 Mali 0.345 0.339 0.366 0.326 0.337 0.339 0.359 0.385 0.349 Mauritania 0.459 0.467 0.477 0.463 0.462 0.465 0.462 0.471 0.466 Mauritania 0.541 0.559 0.596 0.623 0.676 0.708 0.742 0.768 0.652 Morocco 0.480 0.503 0.529 0.536 0.555 0.548 0.567 0.598 0.539 Mozambique 0.227 0.249 0.247 0.190 0.231 0.233 0.271 0.319 0.246 Namibia 0.657 0.660 0.654 0.631 0.615 0.629 0.636 0.665 0.643 Nigeria	Libvan Arab Jamahiriva	0.969	0.992	1.004	0.911	0.823	0.816	0.797	0.807	0.890
Malawi 0.255 0.288 0.338 0.329 0.304 0.317 0.326 0.312 0.309 Mali 0.345 0.339 0.366 0.326 0.337 0.339 0.359 0.385 0.349 Mauritania 0.459 0.467 0.477 0.463 0.462 0.465 0.462 0.471 0.466 Mauritus 0.541 0.559 0.596 0.623 0.676 0.708 0.742 0.768 0.652 Morocco 0.480 0.503 0.529 0.536 0.555 0.548 0.567 0.598 0.539 Mozambique 0.227 0.249 0.247 0.190 0.231 0.233 0.271 0.319 0.246 Namibia 0.657 0.660 0.654 0.631 0.615 0.629 0.636 0.665 0.643 Niger 0.411 0.375 0.371 0.324 0.319 0.297 0.290 0.295 0.335 Nigeria	Madagascar	0.456	0.457	0.427	0.392	0.390	0.362	0.368	0.363	0.402
Mali 0.345 0.365 0.326 0.327 0.337 0.339 0.359 0.385 0.349 Mauritania 0.459 0.467 0.477 0.463 0.462 0.465 0.462 0.471 0.466 Mauritania 0.459 0.467 0.477 0.463 0.462 0.465 0.462 0.471 0.466 Mauritius 0.541 0.559 0.596 0.623 0.676 0.708 0.742 0.768 0.652 Morocco 0.480 0.503 0.529 0.536 0.555 0.548 0.567 0.598 0.539 Mozambique 0.227 0.249 0.247 0.190 0.231 0.233 0.271 0.319 0.246 Namibia 0.657 0.660 0.654 0.631 0.615 0.629 0.636 0.665 0.643 Niger 0.411 0.375 0.371 0.324 0.319 0.297 0.290 0.295 0.335 Nigeria </td <td>Malawi</td> <td>0.255</td> <td>0.288</td> <td>0.338</td> <td>0.329</td> <td>0.304</td> <td>0.317</td> <td>0.326</td> <td>0.312</td> <td>0.309</td>	Malawi	0.255	0.288	0.338	0.329	0.304	0.317	0.326	0.312	0.309
Mauritania 0.459 0.465 0.463 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.465 0.462 0.461 0.466 0.462 0.465 0.462 0.461 0.466 0.652 0.653 0.652 0.653 0.652 0.653 0.653 0.653 0.6652 0.663	Mali	0.345	0.339	0.366	0.326	0.337	0.339	0.359	0.385	0.349
Mauritius 0.541 0.559 0.602 0.602 0.702 0.702 0.742 0.768 0.652 Morocco 0.480 0.503 0.529 0.536 0.555 0.548 0.567 0.598 0.539 Mozambique 0.227 0.249 0.247 0.190 0.231 0.233 0.271 0.319 0.246 Namibia 0.657 0.660 0.654 0.631 0.615 0.629 0.636 0.665 0.643 Niger 0.411 0.375 0.371 0.324 0.319 0.297 0.290 0.295 0.335 Nigeria 0.463 0.503 0.478 0.429 0.448 0.444 0.447 0.476 0.461 Réunion	Mauritania	0.459	0.467	0.477	0.463	0.462	0.465	0.462	0.303	0.466
Marinal 0.341 0.353 0.355 0.645 0.645 0.765 0.764 0.767 0.762 0.646 0.657 0.660 0.632 0.575 0.548 0.567 0.598 0.539 Mozambique 0.227 0.249 0.247 0.190 0.231 0.233 0.271 0.319 0.246 Namibia 0.657 0.660 0.654 0.631 0.615 0.629 0.636 0.665 0.643 Niger 0.411 0.375 0.371 0.324 0.319 0.297 0.290 0.295 0.335 Nigeria 0.463 0.503 0.478 0.429 0.448 0.444 0.447 0.476 0.461 Réunion R R 0.443 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Sao Tome and Principe 0.443 0.457 0.449 0.448 0.443 0.437 0.444 0.451 Seychelles 0.675 0.718 0.783 0.781 0.820 0.831 0.869 0.861 <td>Mauritius</td> <td>0.541</td> <td>0.559</td> <td>0.596</td> <td>0.623</td> <td>0.676</td> <td>0.708</td> <td>0.742</td> <td>0.768</td> <td>0.652</td>	Mauritius	0.541	0.559	0.596	0.623	0.676	0.708	0.742	0.768	0.652
Mozambique 0.227 0.249 0.247 0.190 0.231 0.233 0.271 0.319 0.246 Mainbia 0.657 0.660 0.654 0.631 0.615 0.629 0.636 0.665 0.643 Niger 0.411 0.375 0.371 0.324 0.319 0.297 0.290 0.295 0.335 Niger 0.411 0.375 0.371 0.324 0.319 0.297 0.290 0.295 0.335 Nigeria 0.463 0.503 0.478 0.429 0.448 0.444 0.447 0.476 0.461 Réunion R Ravanda 0.353 0.323 0.346 0.340 0.326 0.297 0.314 0.346 0.331 Sao Tome and Principe 0.443 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.457 0.448 0.443 0.437 0.448 0.444 0.444 0.441 0.441 0.442 0.393 Sierra Leone 0.335 0.	Morocco	0.480	0.503	0.529	0.536	0.555	0.548	0.567	0.598	0.530
Normibia 0.227 0.247 0.100 0.251	Mozambique	0.400	0.249	0.247	0.190	0.333	0.233	0.271	0.319	0.246
Nambia 0.037 0.000 0.034 0.031 0.013 0.029 0.030 0.030 0.031 0.013 0.029 0.030 0.030 0.031 0.013 0.029 0.030 0.030 0.031 0.013 0.029 0.030 0.035 0.033 0.031 0.031 0.013 0.029 0.030 0.035 <t< td=""><td>Namibia</td><td>0.227</td><td>0.249</td><td>0.247</td><td>0.190</td><td>0.231</td><td>0.233</td><td>0.271</td><td>0.519</td><td>0.240</td></t<>	Namibia	0.227	0.249	0.247	0.190	0.231	0.233	0.271	0.519	0.240
Nigeria 0.411 0.373 0.371 0.324 0.319 0.297 0.290 0.293 0.335 Nigeria 0.463 0.503 0.478 0.429 0.448 0.444 0.447 0.476 0.461 Réunion 0.476 0.461	Namioia	0.037	0.000	0.034	0.031	0.015	0.029	0.030	0.005	0.045
Nigeria 0.465 0.305 0.478 0.429 0.448 0.444 0.447 0.476 0.461 Réunion Rwanda 0.353 0.323 0.346 0.340 0.326 0.297 0.314 0.346 0.331 Sao Tome and Principe 0.443 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.457 0.449 0.448 0.443 0.437 0.448 0.464 0.451 Seychelles 0.675 0.718 0.783 0.781 0.820 0.831 0.869 0.861 0.792 Sierra Leone 0.335 0.336 0.341 0.330 0.318 0.276 0.234 0.310 0.310 Somalia Sudan 0.395 0.401 0.386 0.365 0.380 0.400 0.431 0.463 0.403	Niger	0.411	0.575	0.571	0.524	0.319	0.297	0.290	0.293	0.555
Reumon Reumon Reumon Reumon Rwanda 0.353 0.323 0.346 0.340 0.326 0.297 0.314 0.346 0.331 Sao Tome and Principe 0.443 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.457 0.449 0.448 0.443 0.437 0.448 0.464 0.451 Seychelles 0.675 0.718 0.783 0.781 0.820 0.831 0.869 0.861 0.792 Sierra Leone 0.335 0.336 0.341 0.330 0.318 0.276 0.234 0.310 0.310 Somalia	Nigeria Décember	0.465	0.305	0.478	0.429	0.448	0.444	0.447	0.470	0.401
Rwanda 0.353 0.325 0.346 0.340 0.326 0.297 0.314 0.346 0.331 Sao Tome and Principe 0.443 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.457 0.449 0.448 0.443 0.437 0.448 0.464 0.451 Seychelles 0.675 0.718 0.783 0.781 0.820 0.831 0.869 0.861 0.792 Sierra Leone 0.335 0.336 0.341 0.330 0.318 0.276 0.234 0.310 0.310 Somalia	Reunion Devende	0.252	0.222	0.246	0.240	0.226	0.207	0.214	0.246	0 221
Sao Tome and Principe 0.443 0.455 0.503 0.474 0.423 0.373 0.397 0.442 0.439 Senegal 0.464 0.457 0.449 0.448 0.443 0.437 0.448 0.446 0.451 Seychelles 0.675 0.718 0.783 0.781 0.820 0.831 0.869 0.861 0.792 Sierra Leone 0.335 0.336 0.341 0.330 0.318 0.276 0.234 0.310 0.310 South Africa 0.718 0.727 0.743 0.733 0.728 0.717 0.721 0.742 0.729 Sudan 0.395 0.401 0.386 0.365 0.380 0.400 0.431 0.463 0.403	Kwanda	0.353	0.323	0.540	0.340	0.326	0.297	0.314	0.340	0.331
Senegal 0.464 0.457 0.449 0.448 0.443 0.437 0.448 0.464 0.457 0.448 0.443 0.443 0.448 0.444 0.445 0.444 0.444 0.445 0.444 0.445 0.444 0.453 0.401 0.330 0.310 <	Sao Tome and Principe	0.443	0.455	0.505	0.474	0.423	0.373	0.397	0.442	0.439
Seychelles 0.675 0.718 0.783 0.781 0.820 0.831 0.869 0.861 0.792 Sierra Leone 0.335 0.336 0.341 0.330 0.318 0.276 0.234 0.310 0.310 South Africa 0.718 0.727 0.743 0.733 0.728 0.717 0.721 0.742 0.729 Sudan 0.395 0.401 0.386 0.365 0.380 0.400 0.431 0.463 0.403 <td>Senegal</td> <td>0.464</td> <td>0.457</td> <td>0.449</td> <td>0.448</td> <td>0.443</td> <td>0.437</td> <td>0.448</td> <td>0.464</td> <td>0.451</td>	Senegal	0.464	0.457	0.449	0.448	0.443	0.437	0.448	0.464	0.451
Sierra Leone 0.335 0.336 0.341 0.330 0.318 0.276 0.234 0.310 0.310 Somalia South Africa 0.718 0.727 0.743 0.733 0.728 0.717 0.721 0.742 0.729 Sudan 0.395 0.401 0.386 0.365 0.380 0.400 0.431 0.463 0.403	Seychelles	0.675	0.718	0.783	0.781	0.820	0.831	0.869	0.861	0.792
Somalia Somalia South Africa 0.718 0.727 0.743 0.733 0.728 0.717 0.721 0.742 0.729 Sudan 0.395 0.401 0.386 0.365 0.380 0.400 0.431 0.463 0.403	Sierra Leone	0.335	0.336	0.341	0.330	0.318	0.276	0.234	0.310	0.310
South Africa 0.718 0.727 0.743 0.733 0.728 0.717 0.721 0.742 0.729 Sudan 0.395 0.401 0.386 0.365 0.380 0.400 0.431 0.463 0.403	Somalia									
Sudan 0.395 0.401 0.386 0.365 0.380 0.400 0.431 0.463 0.403	South Africa	0.718	0.727	0.743	0.733	0.728	0.717	0.721	0.742	0.729
	Sudan	0.395	0.401	0.386	0.365	0.380	0.400	0.431	0.463	0.403
Swaziland 0.419 0.521 0.522 0.538 0.593 0.597 0.617 0.629 0.555	Swaziland	0.419	0.521	0.522	0.538	0.593	0.597	0.617	0.629	0.555
Tanzania 0.355 0.373 0.369 0.358 0.359 0.347 0.359 0.390 0.364	Tanzania	0.355	0.373	0.369	0.358	0.359	0.347	0.359	0.390	0.364
Togo 0.378 0.389 0.398 0.364 0.358 0.338 0.345 0.341 0.364	Togo	0.378	0.389	0.398	0.364	0.358	0.338	0.345	0.341	0.364
Tunisia 0.528 0.572 0.599 0.612 0.616 0.632 0.667 0.695 0.615	Tunisia	0.528	0.572	0.599	0.612	0.616	0.632	0.667	0.695	0.615
Uganda 0.357 0.352 0.299 0.277 0.288 0.316 0.344 0.367 0.325	Uganda	0.357	0.352	0.299	0.277	0.288	0.316	0.344	0.367	0.325
Western Sahara	Western Sahara									
Zambia 0.521 0.502 0.455 0.432 0.420 0.385 0.384 0.404 0.438	Zambia	0.521	0.502	0.455	0.432	0.420	0.385	0.384	0.404	0.438
Zimbabwe	Zimbabwe									
Africa 0.453 0.469 0.470 0.464 0.460 0.448 0.464 0.483 0.464	Africa	0.453	0.469	0.470	0.464	0.460	0.448	0.464	0.483	0.464

Concentrating on the most current year 2005,¹ we first note from table 2.1 that the Africa average is 0.522, which is far below the averages for all other regions of the world. Indeed, the 2007-09 rankings

¹ Data are available for the more recent year 2007 as well, but these are not that different from those of 2005. Hence we have opted to focus on 2005, which fits better into the half-decadal pattern of the data for the entire sample period.

on HDI show that most African countries fall into the bottom two deciles. Other than Mauritius (81/183), the only African countries that rank reasonably well on these indicators (near top half) are some of the Northern African countries, e.g., Libya (55/183), and Tunisia (98/183).

Among African countries, highest HDI values are enjoyed by the North African countries of Libya, Tunisia, Algeria, and Egypt, in that order; however Mauritius's HDI index is only slightly less than Libya's, which is the highest among all African countries. For SSA, Mauritius, South Africa and Botswana, in that order, enjoy the highest HDI. In the other extreme, Niger has the lowest HDIX value of 0.326. The average for sub-Saharan Africa (SSA) is 0.487, which is only 7 percent lower than the overall African average of 0.522 that is inclusive of North Africa. Hence, the African HD picture is unlikely to be much distorted by including the North African countries. Meanwhile, such inclusion allows us to provide some regional comparative evidence as well (Annex Figures A1-A8).²

Tables 2.1 – 2.4 further indicate that in general the components of the HDI are positively correlated among themselves, that is, countries with higher values of a given component tend to also exhibit larger values of the other components. There are differences, however. Botswana, for instance, has very high HD components of EDX and GDPX of 0.772 and 0.800, respectively, but a relatively low value of LIFEX of 0.432, resulting in a HDIX of 0.668. While this HDI value is still quite respectable, especially with the African HDIX mean of 0.552, Botswana could have attained a much higher HDX, were it not for the relatively low LIFEX value. To further illustrate the point, Algeria for instance had EDX and GDPX of 0.739 and 0.713, respectively, which were both smaller than the respective values for Botswana. Yet, Algeria's HDIX was 0.743, thanks to its much higher LIFEX value of 0.778. If Botswana had Algeria's LIFEX value, its HDIX would have been 0.783 instead of 0.668.

Changes in HDI

² For example, in virtually all indicators of HD, except for life expectancy and the related health index (Figures A1 and A6, respectively), the Western region of the continent ranks last in welfare measures. While the reasons for this poor performance of the region are not apparent, they probably include institutional legacies of military and colonial regimes, geographical barriers to trade, and the nature of natural wealth and patterns of its distribution.

To study the over-time trends in the HDI, tables 3.1 - 3.4 report growth rates by country, using the above half-decadal data. As these statistics show, all African countries (in the sample), except for Zambia, have posted positive changes in HDIX since 1970. Indeed, the mean growth rate is 5.2 percent on a five-year basis, which translates to an annualized value of 1.0 percent. HDIX's growth rate is, however, uneven across time. It was quite strong in the 1970s (annualized rate of 1.6 percent), then decreased in the 1980s and early 1990s to about 0.3 percent, before rising above 1.0 percent. In some respect, this record mirrors that of per capita GDP growth, which also started rather strongly in the 1960s and 1970s, fell in the 1980s and early 1990s, resurged starting in the mid-1990s, and recorded an overall mean of 1.0 percent at the end of the decade (Fosu, 2010a). In any case, Africa as a whole has made significant progress on HDIX, which has increased from 0.366 to 0.522 between 1970 and 2005. Furthermore, there have been considerable improvements since the mid-1990s, with many countries overcoming the weak performance in the 1980s and early 1990s.

Country	1970	1975	1980	1985	1990	1995	2000	2005	Avg.
Algeria		8.482	9.456	8.162	5.300	3.491	4.883	4.974	6.393
Angola									
Benin		8.979	8.515	5.271	3.064	8.679	8.149	8.090	7.250
Botswana		15.765	11.147	9.143	8.450	-0.867	-2.878	2.914	6.239
Burkina Faso		10.676	5.821	7.583	5.272	4.311	10.895	10.615	7.882
Burundi		3.199	6.808	13.303	5.502	2.466	9.169	7.706	6.879
Cameroon		10.109	9.582	10.100	0.926	-2.277	0.879	3.452	4.682
Cape Verde									
Central African Republic		10.190	8.037	5.046	1.460	0.645	1.149	1.649	4.025
Chad									
Comoros									
Congo		11.554	8.479	5.918	-1.424	-3.906	-2.051	0.660	2.747
Congo (DRC)		4.139	2.778	2.476	-0.378	-6.280	-0.426	7.078	1.341
Côte d'Ivoire		11.274	6.506	0.410	0.275	-1.001	5.051	1.725	3.463
Djibouti									
Egypt		4.330	9.894	8.608	7.157	6.267	6.228	4.447	6.704
Equatorial Guinea									
Eritrea									
Ethiopia		7.243	3.856	0.315	9.890	6.241	9.661	13.452	7.237
Gabon									
Gambia									
Ghana		6.094	6.184	2.167	7.257	5.921	2.352	3.284	4.751
Guinea									
Guinea-Bissau									
Kenya		11.109	10.200	3.528	3.879	-1.908	-4.113	3.045	3.677
Lesotho		7.095	10.105	6.873	13.250	7.582	-2.038	-2.894	5.710
Liberia		7.461	8.044	1.960	-8.194	-8.775	27.839	3.413	4.535
Libyan Arab Jamahiriya		8.935	10.201	3.202	1.883	3.723	2.314	2.513	4.681
Madagascar		7.571	5.064	-0.723	2.462	5.190	6.386	5.166	4.445
Malawi		12.191	12.117	4.453	5.443	12.383	6.027	-0.554	7.437
Mali		4.041	9.684	0.082	6.221	7.908	10.462	11.944	7.192
Mauritania									
Mauritius		3.863	4.857	4.283	4.903	3.625	3.819	3.044	4.056
Morocco		9.099	9.630	7.011	6.673	5.100	6.168	6.899	7.226
Mozambique		16.937	9.584	-4.382	8.769	6.999	8.635	10.780	8.189
Namibia									
Niger		-3.032	2.423	-3.413	3.827	3.854	8.113	23.044	4.974
Nigeria		16.082	7.974	0.475	5.284	3.059	4.688	7.683	6.464
Réunion									
Rwanda		1.075	7.911	6.885	-17.474	-4.971	27.507	14.529	5.066
Sao Tome and Principe									
Senegal		4.880	5.447	6.914	5.425	4.268	5.057	5.909	5.415
-									

Table 3.1 African countries; variable HDIX in log-differences (growth rates). %

Sevchelles								
Sierra Leone								
Somalia								
South Africa	3.930	4.541	3.140	2.571	-0.279	-2.356	-1.369	1.454
Sudan	7.061	4.534	4.012	7.042	6.986	7.227	6.014	6.125
Swaziland	15.041	7.444	7.278	7.755	0.552	-5.143	-3.314	4.230
Tanzania	12.966	9.080	2.061	0.938	-0.423	3.625	7.290	5.077
Togo	13.343	11.381	1.671	2.679	3.882	5.672	4.881	6.216
Tunisia	10.580	8.983	7.750	6.387	6.372	5.939	4.643	7.236
Uganda	4.556	-2.482	1.929	2.210	6.068	10.086	8.172	4.363
Western Sahara								
Zambia	3.679	0.354	0.724	0.132	-7.809	-5.946	2.572	-
Zimbabwe								
Africa	8.300	7.261	4.121	3.566	2.488	5.229	5.527	5.213

Table 3.2 African countries; variable EDX in log-differences (growth rates). %

Country	1970	1975	1980	1985	1990	1995	2000	2005	Avg.
Algeria		21.248	17.515	13.917	11.621	10.346	9.375	7.552	13.082
Angola									
Benin		24.439	20.621	9.340	8.542	19.801	16.203	19.640	16.941
Botswana		17.608	14.967	13.016	11.515	6.854	6.133	2.725	10.402
Burkina Faso		16.033	16.458	22.162	18.131	5.694	25.633	26.702	18.688
Burundi		6.716	9.198	33.283	24.928	21.411	17.625	9.911	17.582
Cameroon		13.364	10.475	9.590	8.750	5.331	5.061	9.216	8.827
Cape Verde									
Central African Republic		14.546	19.136	13.858	12.407	11.184	10.058	9.834	13.003
Chad									
Comoros									
Congo		19.390	16.234	5.896	3.147	0.139	0.139	0.139	6.440
Congo (DRC)		12.467	11.084	4.422	4.235	10.198	8.894	8.056	8.480
Cote d'Ivoire		13.211	11.667	6.942	4.548	3.228	22.647	7.452	9.956
Djibouti		0.762	0.250	10.004	11 (10	0.551	0.557	0.200	0.460
Egypt		9.763	8.350	10.084	11.618	9.551	8.557	8.309	9.462
Equatorial Guinea									
Entrea		25 146	20.077	12 965	10 175	15 942	15 205	22 565	17 920
Cahan		23.140	20.077	15.805	12.175	13.842	15.205	22.303	17.039
Cambia									
Chana		11 183	10.057	8 286	7 652	8 522	7 576	8 005	8 8 8 3
Guinea		11.105	10.057	8.280	7.052	0.522	1.570	8.905	0.005
Guinea-Bissau									
Kenva		22 241	18 183	6 708	6 287	3 300	2 523	6 7 2 2	9 121
Lesotho		6 665	6 248	10 315	23 776	17 023	14 542	1 688	11 89/
Liberia		29 598	29 758	22 903	18 623	13.950	13 125	12 294	20.036
Libvan Arab Iamahiriya		19 572	22 079	13 628	10.341	6 566	5 260	3 920	11 623
Madagascar		13.087	11.571	1.369	1.350	8.384	7.635	6.905	7.186
Malawi		11.240	10.104	6.594	9.502	18.871	14.641	0.754	10.244
Mali		13.446	16.310	10.853	9.790	25.127	23.171	23.777	17.496
Mauritania									
Mauritius		3.680	3.550	3.703	3.571	4.355	4.173	4.109	3.877
Morocco		17.380	14.802	10.178	9.966	11.976	11.388	12.927	12.660
Mozambique		27.330	21.441	6.883	6.440	6.050	4.876	16.358	12.768
Namibia									
Niger		11.650	10.433	11.714	10.485	17.743	15.955	74.152	21.733
Nigeria		31.540	23.941	12.320	10.968	7.751	7.186	9.547	14.750
Réunion									
Rwanda		10.832	11.346	16.448	14.121	8.126	6.690	10.979	11.220
Sao Tome and Principe									
Senegal		9.805	8.929	13.220	12.948	12.521	11.126	12.583	11.590
Seychelles									
Sierra Leone									
Somalia		5 204	5.025	2.050	2 707	0.577	2 220	2 000	2 (0)
South Africa		5.304	5.037	3.850	3.707	2.577	3.220	2.096	3.684
Sudan		14.920	12.980	12.180	10.856	9.036	8.932	7.246	10.878
Swaziland		10.955	10.629	/.603	5.826	4.112	3.950	3.5/1	6.664
Tanzania		23.868	20.533	4.482	2.962	4.298	4.121	5.808	9.44/
Togo		55.852	25.245	0.233	5.885	12.448	11.069	9.100	14.836
Tunisia		11.152	10.032	12.891	11./95	11.123	10.009	ð.112 2.077	10./51
Ugalida Wastern Sahara		11.041	10.420	11.200	10.119	10.302	14.130	5.911	11.131
western Sanafa Zambia		7 522	7.005	5 421	5 1 5 1	0.144	0.000	0.000	2 5 1 2
Zamola Zimbabwe		1.333 8 775	7.005 8.066	3.431 8.603	7 130	-0.144	-0.090	-0.000 1 /78	5.342
Linuauwe		0.775	0.000	0.095	1.137	-0.123	1./5/	1.4/0	5.112

i	5.644	14.014	10.671	9.747	9.709	9.792	10.558	11.448

				08 01110					
Country	1970	1975	1980	1985	1990	1995	2000	2005	Avg.
Algeria		11.200	10.302	11.086	8.209	3.440	3.637	3.531	7.343
Angola		16.056	9.860	4 095	4.761	4 094	4.744	10.039	7.664
Benin		12 832	9 394	5 337	6.815	8 4 4 1	6.059	5 344	7 746
Botswana		10.095	8 103	6311	3 818	-12 123	-30 392	1 047	-1 877
Burkina Faso		10.311	8 797	6.407	5 266	5 552	6 809	6 560	7 100
Burundi		5 642	0.086	6 102	8.047	6.820	0.326	0.500	3 503
Companyon		10.077	11 074	11 200	-0.047	-0.829	7.516	2 452	3.393
Came Varda		6 725	11.0/4	6 6 5 6	2.909	-3.080	-7.510	-3.435	2.002
Cape Verde		0.723	12,900	0.030	4.001	5.929	5.239	5.44Z	2.152
Central Alfican Republic		19.384	12.830	4.916	-1.208	-4.893	-1.121	-1.175	3.152
Chad		8.548	8.521	8.446	3.494	-2.043	-5.524	-3.433	2.573
Comoros		9.563	7.548	6.914	8.427	8.942	6.967	5.876	1.148
Congo		9.370	6.848	2.399	-3.386	-9.709	-8.418	-1.055	-0.565
Congo (DRC)		6.477	6.737	4.903	0.970	-6.808	0.235	5.869	2.626
Côte d'Ivoire		21.922	11.315	3.399	1.812	-1.592	-4.307	1.596	4.878
Djibouti		11.534	9.810	7.547	5.862	6.304	3.817	3.068	6.849
Egypt		10.544	11.037	10.082	8.187	7.371	5.784	2.962	7.995
Equatorial Guinea		9.685	9.167	9.933	10.006	7.016	1.785	2.290	7.126
Eritrea		6.505	-2.488	3.962	15.271	16.639	12.626	7.561	8.582
Ethiopia		6.896	-1.627	2.869	12.138	9.589	8.825	8.562	6.750
Gabon		16.339	14,177	13,400	7.111	0.387	-3.850	-1.269	6.614
Gambia		16.992	15 407	11.871	7.938	5.312	4.562	4.064	9.449
Ghana		9 001	6 981	5 078	8 916	5 580	-3 523	-4 252	3 969
Guinea		13 212	13 739	11/06	11 317	9.894	9 570	9 89/	11 290
Guinea Bissau		0 754	12.034	14.050	7 1 18	4 420	5.820	5 180	8 300
Vanua Vanua		0.779	0 754	4 052	1 416	7.045	15 156	1 202	0.157
Kenya Lesothe		9.170	0./34 10.604	4.933	1.410	-7.043	-13.430	-1.502	0.137
Lesouio		10.204	10.094	0.327	9.214	-1.550	-28.403	-23.019	-2.731
Liberia		10.304	4./13	-1.068	5.017	11.561	10.975	8.463	/.138
Libyan Arab Jamahiriya		12.849	15.128	12.430	8.246	5./83	4.038	2.322	8.685
Madagascar		10.041	10.474	4.564	6.516	11.572	8.266	7.399	8.405
Malawi		13.337	10.811	8.697	11.650	10.322	-3.516	0.269	7.367
Mali		8.721	9.631	9.935	8.041	6.405	7.336	7.960	8.290
Mauritania		9.310	10.745	7.044	3.181	1.906	0.797	-0.254	4.675
Mauritius		4.494	4.792	4.737	3.309	2.014	2.581	1.542	3.353
Morocco		9.442	11.294	10.368	7.568	6.174	4.949	3.904	7.671
Mozambique		15.284	7.100	-0.338	3.707	12.638	8.089	0.044	6.646
Namibia		9.115	8.535	6.562	5.755	1.759	-11.376	-0.505	2.835
Niger		4.027	5.268	6.185	8.014	10.824	14.501	14.173	8.999
Nigeria		14.566	10.559	0.656	-1.724	0.764	5.913	6.349	5.297
Réunion		8.505	6.627	5.435	4.178	2.942	1.888	1.677	4.464
Rwanda		1.788	5.564	4.266	_	-62.650	148.249	25.768	2.690
Sao Tome and Principe		6.507	5.878	4.504	3.270	1.912	1.979	2.897	3,850
Senegal		11 164	12 850	11 266	7 530	4 239	3 074	2 882	7 572
Sevehelles		11.101	12.000	11.200	1.550	1.239	5.071	2.002	1.572
Sierra Leone		23 672	18 711	3 690	-14 918	-12/23	24 364	23 586	9 526
Somalia		0.077	8 265	12 492	2 971	1 071	16 082	1 995	6.085
South Africa		9.077	8.203 7.272	12.465 8 210	-3.6/1	2,500	10.962	4.005	0.965
South Africa		0.007	1.215	6.210 5.714	5.277	-2.390	-14.130	-13.014	-0.334
Sudan		/.1/0	0.304	5./14	0.000	0.035	5.357	3.915	3.888
Swaziland		12.332	11.936	11.121	8.056	-3.669	-28.525	-25.320	-2.010
Tanzania		8.862	6.177	3.546	-0.962	-3.741	3.238	10.711	3.976
Togo		11.090	9.380	6.051	3.230	2.981	3.067	4.500	5.757
Tunisia		12.930	12.642	9.224	7.124	5.702	2.923	1.875	7.488
Uganda		4.179	-3.377	-0.721	-8.169	-11.898	4.659	16.965	0.234
Western Sahara		17.021	20.040	16.584	11.135	7.200	7.276	6.034	12.184
Zambia		8.238	3.322	0.629	-3.683	-18.585	-24.129	4.812	-4.199
Zimbabwe		5.600	7.266	6.553	-1.389	-23.999	-42.884	-9.378	-8.319
Africa		10.399	8.979	6.855	2.436	0.450	2.678	3.137	4.991
-									

Table 3.3 African countries; variable LIFEX log-differences (growth rates). %

Africa

Table 3.4 African	countries;	variable	GDPX in	log-differences	(growth rates). %

Country	1970	1975	1980	1985	1990	1995	2000	2005	Avg.
Algeria		0.156	4.037	1.766	-2.315	-2.420	1.913	3.928	1.009
Angola		1.777	-6.941	1.335	0.750	-12.149	5.692	9.978	0.063
Benin		-0.406	1.893	3.018	-4.414	1.275	4.366	0.916	0.950
Botswana		20.363	10.963	8.479	10.030	1.463	6.775	4.120	8.885
Burkina Faso		9.721	-0.100	4.096	0.270	2.276	8.582	5.986	4.404
Burundi		-2.513	1.714	5.713	2.008	-14.235	-9.194	-1.880	-2.627
Cameroon		7.432	6.865	9.502	-8.558	-8.045	3.899	2.277	1.910
Cape Verde		1.102	-8.526	11.812	2.311	4.712	6.906	3.539	3.122
Central African Republic		0.445	-3.695	-1.654	-5.467	-4.340	0.080	-6.747	-3.054
Chad		0.561	-20.574	13.687	-3.179	-2.678	-1.837	21.251	1.033
Comoros		3.518	0.576	3.147	-2.065	-2.980	-1.378	1.301	0.303
Congo		6.803	2.360	9.430	-4.449	-3.063	0.936	2.637	2.094
Congo (DRC)		-5.403	-10.262	-2.684	-8.490	-36.666	-28.572	6.374	-12.243
Côte d'Ivoire		2.333	-0.475	-6.471	-4.243	-3.433	0.410	-3.843	-2.246
Diibouti		-1.392	-10.682	-1.770	-3.762	-8.330	-6.056	1.701	-4.327
Egypt		-5.353	10.007	5.924	2.189	1.920	4.407	2.112	3.029
Equatorial Guinea		17.648	-10.548	-2.928	-4.026	5.197	34.813	21.460	8.802
Eritrea									
Ethiopia		0.017	1.101	-11.476	5.315	-7.074	5.090	10.341	0.473
Gabon		4.083	2.122	-0.553	-1.969	-0.117	-2.339	-0.378	0.121
Gambia		5.213	-5.548	-0.880	0.119	-3.677	1.585	2.022	-0.167
Ghana		-1.620	1.404	-8.518	4.387	3.053	3.778	5.407	1.127
Guinea		3.406	0.979	-1.372	2.361	-0.221	4.170	2.773	1.728
Guinea-Bissau		39.614	-12.485	11.686	4.044	1.251	-6.336	-14.587	3.313
Kenya		1.789	2.660	-2.497	3.782	-2.909	-1.003	1.832	0.522
Lesotho		7.137	13.593	0.929	5.668	6.578	2.159	3.478	5.649
Liberia		-2.178	0.452	-8.853	-51.022	-	134.13	-29.308	-13.044
Libyan Arab Jamahiriya		2.365	1.192	-9.709	-10.171	-0.838	-2.370	1.176	-2.622
Madagascar		0.340	-6.920	-8.606	-0.292	-7.463	1.651	-1.367	-3.237
Malawi		12.227	15.904	-2.619	-7.845	4.332	2.611	-4.400	2.887
Mali		-1.592	7.619	-11.411	3.114	0.668	5.590	7.114	1.586
Mauritania		1.835	2.150	-3.143	-0.207	0.770	-0.606	1.914	0.388
Mauritius		3.346	6.423	4.413	8.138	4.581	4.745	3.459	5.015
Morocco		4.565	5.027	1.419	3.424	-1.326	3.403	5.326	3.120
Mozambique		9.250	-0.760	-26.436	19.821	0.537	15.153	16.498	4.866
Namibia		0.512	-0.966	-3.636	-2.516	2.216	1.229	4.331	0.167
Niger		-9.399	-0.869	-13.692	-1.452	-7.319	-2.306	1.628	-4.773
Nigeria		8.338	-5.223	-10.780	4.348	-0.773	0.593	6.241	0.392
Réunion									
Rwanda		-8.668	6.687	-1.623	-4.239	-9.440	5.749	9.466	-0.295
Sao Tome and Principe		2.730	10.024	-5.985	-11.371	-12.563	6.125	10.874	-0.024
Senegal		-1.391	-1.880	-0.202	-1.121	-1.374	2.529	3.567	0.018
Seychelles		6.112	8.688	-0.216	4.792	1.358	4.465	-0.966	3.462
Sierra Leone		0.296	1.429	-3.393	-3.531	-14.267	-16.295	27.906	-1.122
Somalia									
South Africa		1.262	2.173	-1.348	-0.790	-1.447	0.462	2.877	0.456
Sudan		1.611	-3.994	-5.589	4.154	5.111	7.530	7.062	2.269
Swaziland		21.739	0.103	3.161	9.662	0.605	3.349	1.936	5.793
Tanzania		5.026	-1.122	-2.959	0.354	-3.518	3.311	8.403	1.357
Togo		2.853	2.290	-8.817	-1.742	-5.633	2.124	-1.256	-1.454
Tunisia		8.000	4.593	2.115	0.780	2.559	5.342	4.134	3.932
Uganda		-1.671	-16.159	-7.721	3.879	9.497	8.255	6.550	0.376
Western Sahara		a = /=	0.850			0.50	0.0/0	- 0 - -	
Zambia		-3.747	-9.758	-5.161	-2.900	-8.795	-0.048	5.026	-3.626
Zimbabwe									
Africa		3.604	-0.049	-1.621	-0.929	-5.233	4.711	3.684	0.595

Examining the growth of the components of HDIX, we note that EDX's growth for Africa as a whole varied relatively little, though as with the case of per capita GDP growth, it began rather strongly at about an annualized rate of 3.0 percent in the 1970s and fell to approximately 2.0 percent thereafter. Overall Africa's EDX increased from 0.300 in 1970 to 0.607 in 2005, with an average annualized growth rate of 1.3 percent.

Similarly, LIFEX began at an annualized high growth rate of about 1.9 percent in the 1970s, but then declined; by 1995, it had reached a nadir of less than 0.1 percent. Since the mid-1990s, however, it has increased steadily. Though the growth rate remains substantially lower than that in the 1970s, it is substantially higher than that in the early 1990s. In any case, overall LIFEX for Africa increased from 0.359 to 0.508 between 1970 and 2005, with an annualized average of 1.0 percent.

Some regional and country differences

There are, of course, regional and country differences in the observed African pattern of HDI trends. In particular, Zambia seems like a special case, as it is the lone African country in the sample that registered negative growth in HDIX between 1970 and 2005, during which time its HDIX fell from 0.465 to 0.437. The country's HDIX grew relatively strongly in the early 1970s (though still at less than 1.0 percent annually) but stagnated pretty much thereafter, declining hugely in the 1990s, before eking out a small increase in the early 21st century. To better understand the poor performance of the Zambian HDIX, it is important to examine each of its components.

Zambia performs rather strongly on EDX in the 1970s and 1980s. Then, the bottom falls out starting from the early 1990s, though there was a slightly positive EDX contribution over the whole 1970-2005 period of 0.7 percent per year.

Similarly on LIFEX, Zambia began rather admirably in the early 1970s with a strong growth of 2.7 percent annually; then, the growth in life expectancy continued to decrease over the years, with actual declines in LIFEX beginning in the latter parts of the 1980s. The declines actually worsened increasingly until the beginning of the 21st century when LIFEX rose at an annualized rate of nearly 1.0 percent. During the overall 1970-2005 period, LIFEX fell by 0.8 percent on an annual basis.

Zambia did not perform well on GDPX either, which fell considerably during the 1970s, by about 1.5 percent per year, a record that differs significantly from that in most African countries, which grew relatively strongly in the 1970s. Zambia's GDPX continued to decrease throughout the period analyzed until about 2000; it posted an increase of 1.0 percent per year between 2000 and 2005. Over the entire 1970-2005 period, however, GDPX decreased by an annual average of 0.7 percent.

In effect, Zambia's poor performance on HDIX can be attributable to all the three components: EDX, LIFEX and GDPX, though the latter two seem to be the main culprits. Of course, all three components are likely to be correlated among themselves. However, the country's hugely poor performance on LIFEX in the latter part of the 1980s and in the1990s is particularly noteworthy. Although GDPX had been falling all along, LIFEX continued to improve through the 1970s until the mid-1980s, when the bottom began to fall out. It is now generally accepted that the prevalence of HIV/AIDS constituted a health shock in southern Africa generally, and in Zambia in particular, which may have in turn even further contributed to the downward slide of GDPX in Zambia. According to UNAIDS, Zambia's HIV/AIDS prevalence rate has been historically high, registering about 17 percent in 2003 (UNAIDS, 2006), compared with a median (mean) of 4 percent (8 percent) for SSA.

With the first case documented in 1984, HIV/AIDS has been a major problem in Zambia since especially the latter part of the 1980s and in the1990s. Thanks mainly to AIDS, life expectancy of the country reached a minimum of 42 years by 2000, from a high of 52 years in the mid-1980s. It may have also contributed to the subsequent GDPX declines noted above. Zambia's story, however, appears to have begun in the 1970s when the price of copper, Zambia's main export earner and GDP booster, fell substantially, reducing economic prospects in the country. Such an economic shock in turn compelled a large number of Zambian men to emigrate and work elsewhere in southern Africa. The migrants are generally associated with multiple sexual partners, and such behavior is believed to exacerbate the HIV/AIDS infections (ibid.). In turn, greater prevalence of AIDS reduced economic performance (Bonnel, 2000),³ weakening the capacity of households and governments in the region to treat AIDS patients and to care for AIDS orphans. Azemar and Desbordes (2009) also find that the prevalence of HIV/AIDS, as well as malaria, tends to weaken public governance and, hence, to reduce foreign direct investment in SSA.

The HIV/AIDS saga is essentially a southern African problem, rather than Zambia's per se. It exemplifies the greater interconnectedness of the sub-region, especially intra-migration and cultural practices regarding multiple partners that have helped spread HIV/AIDS. That sub-region is the most affected by the disease, with Swaziland, for instance, exhibiting a prevalence rate of 31 percent,

³ It can also weaken traditional social support systems, such as extended-family based risk pooling mechanisms.

followed by Botswana (28 percent), Lesotho (24 percent), Zimbabwe (23 percent), South Africa (18 percent), and then Namibia and Zambia (17 percent each).

Indeed, as discussed above, despite its stellar performance on the economic growth front, Botswana's performance on the HDIX has been less than impressive, thanks to the underperformance on LIFEX. The country's life expectancy dropped from 64 years in the mid-1980s to 51 years by 2000. This fall is even faster than Zambia's and much of it may have resulted from Botswana's high HIV/AIDS prevalence rate and equally high economic inequalities that could have led to excessive infant mortality rates in some parts of the country. Actually, the slowdown in Botswana's GDP growth in the1990s has been attributed not only to the deterioration in its terms of trade due to the fall in diamond prices but also to the HIV/AIDS pandemic (Fosu and Aryeetey, 2009).

Although Zambia performed the worst in terms of the evolution of HDI, Congo (DRC) and South Africa were not far behind with HDIX mean annual growth rates of 0.3 percent each during 1970-2005. In some sense, some of the low performance of South Africa could be traced to the fact that its level of HDI was already high at the initial period; indeed, among African countries, it had the highest HDIX value of 0.61 in 1970 (table 2.1). Hence, its rate of increase could be expected to be less as HDIX approached its 1.00 limit. For example, in 1970, South Africa enjoyed the highest level of EDX among African countries (table 2.2) and grew at a similar rate (less than 1.0 percent) as Mauritius, which had only a slightly less EDX value than South Africa's. This performance was less than the overall Africa's average of 2.3 percent. Nonetheless, the statistical artifact is not the entire explanation. While the country's EDX grew respectably, LIFEX fell, much of this drop occurring during 1995-2005, presumably as a result of the high HIV/AIDS prevalence (the 'Southern African syndrome').⁴

Nor is the falling life expectancy the only explanation for the poor performance of South Africa on HD, though. As in many other African countries, the country's GDPX actually declined during the 1980s and early-1990s. When Africa as a whole recovered economically as of the latter 1990s with

⁴ Prior to the 1990s when the disease became a major problem, LIFEX grew reasonably well as compared with the rest of Africa; however, LIFEX has since diverged downward, ending up with a 1970-2005 mean growth rate of about -0.0 percent, compared with the overall Africa's mean of 1.0 percent.

an average annual growth rate of nearly 1.0 percent, however, South Africa eked out a rate of 0.1 percent. While this relatively weak economic performance could be attributable in part to HIV/AIDS, a considerable portion could also be traced to political uncertainties accompanying the end of apartheid in 1994 (Fosu and Aryeetey, 2009). South Africa's GDPX growth recovered strongly during 2000-05 (table 3.4), however, when the uncertainties might have subsided with time. Thus, the potentially EDX 'statistical-artifact' story, HIV/AIDS, and political uncertainties, particularly the ones associated with the apartheid system, all appear to have conspired to hand South Africa a rather minimal growth in HDI during 1970-2005.

As indicated above, Congo (DRC) also performed rather poorly on HDI during 1970-2005. While the country exhibited a reasonable annual EDX growth rate of nearly 2.0 percent, and LIFEX grew by 0.5 percent, the main culprit appears to be the dismal performance on GDPX, which fell by 2.4 percent annually (table 3.4). This situation may be attributable to a combination of poor governance and political instability. The economic performance of former Belgian Congo was poor right in the early 1960s following independence, thanks to the political instability as the leaders (Prime Minister Lumumba and President Kasavubu) rivaled for power. Joseph Mobutu seized power in 1965, declared himself President, and ruled the country with an iron hand until his forced departure in 1997 via rebel action. Nor have successive governments so far succeeded in improving governance. Indeed, DRC ranks right at the bottom of African countries in terms of executive constraint, with a score of 1.0 or less out of a possible maximum score of 7.0 throughout its history. Since the mid-1990s following Mobutu's overthrow, furthermore, the country has received the score of 0.0, indicating 'perfect incoherence' (source: Polity IV Project, 2007). This low value of executive restraint tends to be growth-inhibiting (Alence, 2004; Fosu, 2009c). Although deterioration in the international terms of trade in the 1980s due to the decline in the price of cobalt contributed to the substantial GDP reductions then, DRC has enjoyed favorable terms of trade overall during 1981-2005. Hence, the continued declines in GDX cannot be blamed on such international price factors. Instead, Mobutu is believed to have looted the country dry (Collier and O'Connell, 2008), thanks to the low level of executive restraint. In sum, therefore, DRC's poor performance is traceable to a combination of political instability and governance. The real challenge, then, is how to fix that.

Nonetheless, many African countries succeeded in raising the levels of their HDI quite considerably. The top six countries are: Mozambique, Burkina Faso, Malawi, Benin, Ethiopia, and Tunisia, in that order.

Mozambique

Mozambique's performance is particularly noteworthy, since it is also in southern Africa and has had a considerable exposure to HIV/AIDS, with a prevalence rate of 14 percent. Despite this, the country registered a fairly strong growth in LIFEX over the entire 1970-2005 period of more that 1.3 percent per year, and above the African average. This success is likely attributable to active policies, as exemplified in the following statement from the country's development program (Mozambique, 1999):

"The government's strategy for the health sector focuses on increasing access to health care and improving the quality of services through the rehabilitation and construction of first-level care facilities and rural hospitals, and the provision of adequate medical supplies."

Mozambique's lowest growth, among the HDIX components, during 1970-2005 was in GDPX, which increased by 1.0 percent per year, while EDX grew by nearly 3.0 percent. This relatively low growth of GDPX resulted in great part from its precipitous drop of 5.0 percent at an annual rate in the early 1980s, in part because of a substantial decline in the terms of trade of about 2.0 percent per year, but also by the raging civil war between FRELIMO and RENAMO as of 1977 following Mozambique's independence of 1975. On the positive side, however, the apparently strong growth in education should bode well for the future as it contributes to a solid foundation for the country's development.

Nevertheless, Mozambique's GDPX growth during the post-war starting in 1992 has been quite remarkable. During 1995-2005, GDPX grew by more than 3.0 percent per year, compared with less than 1.0 percent in Africa as a whole (table 3.4). What accounts for this spectacular record, especially given that Mozambique actually experienced deterioration in its international terms of trade during

1991-2005 of about 0.5 percent per year?⁵ One factor might be the rebound phenomenon, as resources could now be used more fully and efficiently following the end of the war. For the growth to be sustained, however, a more fertile environment was required. The strategy was reflected in the Enhanced Structural Adjustment Facility (ESAF) document of 1999, for instance, setting out the government's objectives and policies for 1999-2002 (Mozambique, 1999), which states:

"Mozambique emerged in 1992 from a protracted civil war with over one-fourth of its population displaced and some of the poorest social indicators in sub-Saharan Africa. Over the subsequent three years, with generous assistance from the international community, the government successfully steered the resettlement and economic reintegration of the displaced population, the demobilization of 80,000 troops, and the return to democracy. Presidential and parliamentary elections were held in November 1994, and the next general elections are scheduled for late 1999. While the economic recovery has been strong in recent years, income per capita is still low by international standards, making further strong growth and poverty reduction the overarching goals of economic policy." ⁶

During this post-war period, Mozambique conducted credible multi-party elections, with its index of electoral competitiveness rising from less than 4.0 during the pre-1990s to the upper limit of 7.0 since 1995 (Fosu, 2009b). Meanwhile, the degree of constraint on the executive branch of government increased from less than 3.0 before the 1990s to 4.0 as of the mid-1990s (ibid.). Thus, in addition to engaging in economic liberalization and adjustment as part of ESAF, the country succeeded in favorably reforming its political environment. There was apparently sufficient progress to merit a 'syndrome-free' categorization for 1992-2005 (Collier and O'Connell, 2008), which must have helped to explain the substantial success on GDPX.⁷

⁵ Computed by authors using data from World Bank (2007). Note that all references to terms of trade throughout the paper pertain to data from this source.

⁶Mozambique launched a structural adjustment program in 1987, supported by a Structural Adjustment Facility (SAF) arrangement until 1990, by an Enhanced Structural Adjustment Facility (ESAF) arrangement until 1995, and by a second ESAF-supported arrangement until mid-1999. (Mozambique and IMF, 1999).

⁷ By 'syndrome-free' regime it is meant a politically stable state with reasonably market-friendly policies, which is viewed to be growth-enhancing (Fosu and O'Connell, 2006). The economic-growth importance of this regime is further elaborated below.

The role of external aid in the form of World Bank lending and ODA as an integral part of the structural-adjustment program cannot be underestimated either. In support of the structural reforms, the World Bank approved six adjustment lending operations, while donor support was substantial (Mozambique and IMF, 1999). Even during the 2000-07 period, more than one quarter (27.9 percent) of Mozambique's gross national income came from ODA (AU/ECA, 2009; table 7). Coupled with a favorable policy and governance framework, external assistance has apparently succeeded in contributing to the observed progress in HD.

Burkina Faso

Burkina Faso increased its HDIX by an average of 1.6 percent annually during 1970-2005, the second highest in Africa, as indicated above. Burkina Faso's strong performance on HDI results from relatively high growth on each of the three components of the index, scoring well above the African average on all of them, and especially on GDPX, which grew by nearly 1.0 percent annually compared with the African average of 0.1 percent. Much of this favorable GDPX growth occurred in the 1990s, following economic reforms as part of the structural adjustment program (SAP) with the Bretton Woods Institutions (BWI) that was launched in 1991.⁸ Subsequently, Burkina Faso achieved a syndrome-free regime, which was presumably conducive to growth (Collier and O'Connell, 2008; Fosu and O'Connell, 2006). Indeed, it is remarkable that the country achieved an annual GDPX growth rate of 1.2 percent during 1990-2005, compared with an increase of only 0.2 percent for Africa generally, despite a fall in its international terms of trade by 0.4 percent annually.⁹

The countries with the strongest performance in HDI were not necessarily those with the highest level of HDIX initially in 1970 (or in 2005). Instead, nearly all the top six, for instance, were below the African average. Hence, such a performance may be viewed as one of convergence.¹⁰

⁸ Based on the synthesis of a large number of country cases, Fosu (2008a) argues quite strongly that it is such economic exigencies, along with external pressure as part of the BWI-administered reform packages, which pushed many African countries toward the syndrome-free regime of the 1980s and 90s.

⁹ The average terms of trade for Africa increased slightly during this period (author's computation using data from World Bank, 2007).

¹⁰ From a cynical perspective, it may also be viewed as a statistical artifact, since the denominator would be relatively small and would thus tend to inflate the growth rate. It should also be noted that there were high HDIX-growth performers among several relatively high-HDI countries as well: e.g., Algeria, Botswana, Egypt, and Tunisia, though among these only Botswana is in SSA.

Poverty

Poverty represents another (negative) measure of social well-being, with its reduction being an indicator of improvement in HD. Table 4 sheds light on SSA's poverty-reduction performance in a global context, by presenting over-time trends in poverty by the major world regions: East Asia and the Pacific (EAP), Eastern Europe and Central Asia (EECA), Latin America and the Caribbean (LAC), Middle East and North Africa (MENA), South Asia (SAS), and sub-Saharan Africa (SSA). We present data for both the \$1.25 per-day and \$2.50 per-day headcount ratios using the new World Bank (2009a) database.¹¹

We make the following observations from table 4. First, in 2005, SSA exhibited the largest poverty at the \$1.25 level, as measured by the headcount ratio; at the \$2.50 standard, however, SAS had the highest poverty rate, with SSA second with 4 percentage points less. Second, poverty reduction over the entire 1981-2005 in SSA is rather minimal; the region has exhibited the least progress on poverty over the entire period.¹² Third, there is, however, a change in the over-time pattern. While poverty increased in SSA during 1981-96, it declined in 1996-2005. The rate of decrease in the latter subperiod is about the same as that in SAS, though it is considerably lower generally than that in the other regions.¹³ These results suggest, then, that SSA has been making progress on the poverty front since the mid-1990s, notwithstanding its dismal poverty record in the 1980s and early 1990s.

¹¹ The \$1.25 and \$2.50 poverty standards currently represent, respectively, the previous \$1 and \$2 ones; see Chen and Ravallion (2008) and Ravallion et al. (2009).

¹² An exception is EECA at the \$1.25 level where there is considerable increase in the poverty rate in this sub-period; however, this region had very minimal poverty, to begin with.

¹³ The rate of poverty reduction is lowest in MENA for the \$1.25 level. Note also that in level changes, poverty reduction is about the same for MENA, SAS and SSA.

		Level (%)			Mean ani	nual change (%)	Mean annual log-difference (Growth Rate		
۰.	\$1.25 standard	<u>19</u> <u>1</u> 77	$\frac{199}{6}$	$\frac{2}{5}$ $\frac{200}{5}$ $\frac{5}{167}$	<u>1981-</u> 1996	<u>1996-</u> 2005	<u>1981-1996</u>	<u>1996-2005</u>	
	EAP	7	.0 50.	8	-2.78	-2.14	-5.13	-8.48	
	EECA	1.0 12	57 4.6 .8 10.	1 3.65 9	0.20	-0.11	6.77	-2.59	
	LAC	7	4	8.22	-0.13	-0.30	-1.08	-3.18	
	MENA	7.8 59	87 4.1 9.3 47.	0 3.60 0 40.3	-0.25	-0.06	-4.35	-1.45	
	SAS	5 53	5 .3 58.	4 7 50.9	-0.82	-0.75	-1.55	-1.71	
	SSA	7	8	1	0.36	-0.87	0.64	-1.60	
	\$2.50 standard								
		<u>1981</u> 95.3	<u>1996</u> 74.8	<u>2005</u> 50.6	<u>1981-</u> <u>1996</u>	<u>1996-</u> 2005	<u>1981-</u> <u>1996</u>	<u>1996-</u> <u>2005</u>	
	EAP	8 15.2	5 18.3	9 12.8	-1.37	-2.68	-1.62	-4.33	
	EECA	2 31.5	0 28.8	7 22.9	0.21	-0.60	1.23	-3.91	
	LAC	8 38.9	4 32.4	5 28.4	-0.18	-0.65	-0.61	-2.54	
	MENA	6 92.5	7 88.5	1 84.4	-0.43	-0.45	-1.21	-1.48	
	SAS	5 80.8	3 84.2	1 80.4	-0.27	-0.46	-0.30	-0.53	
	SSA	9	3	0	0.22	-0.43	0.27	-0.52	

Table 4. Trends in Poverty (\$1.25 and \$2.50 headcount ratios), SSA vs. Other Regions, 1981-2005

<u>Notes</u>: East Asia and the Pacific (EAP), Eastern Europe and Central Asia (EECA), Latin America and the Caribbean (LAC), Middle East and North Africa (MENA), South Asia (SAS), and sub-Saharan Africa (SSA) [Source: Adapted from Fosu (2010b), which uses data from World Bank (2009a)]

What has been the record of growth and how has it been translated to poverty reduction? Table 5 presents the evidence for the six regions and for the two sub-periods: 1981-95 and 1996-2005. These results imply that SSA's rise in poverty in the earlier sub-period was associated with a decline in per-capita GDP during that period. Conversely, the reduction in SSA's poverty since the mid-1990s has been accompanied by growth resurgence. Associated with a one percent mean annual per-capita GDP reduction in 1981-95 was a corresponding increase in poverty of 0.64 percent and 0.27 percent per annum, respectively, at the \$1.25 and \$2.50 poverty levels. For 1981-2005, an annual mean GDP

growth of 1.29 percent was translated to poverty reduction of 1.60 percent and 0.52 percent annually, respectively. As observed elsewhere, however, the rate of transforming growth to poverty reduction in SSA would have been greater if the level of income inequality and or income had been larger (Fosu, 2009a, 2010b).

	P.C GDP growth		\$1.25 P ₀ gi	rowth	\$2.50 P ₀ growth	
Region/Variable – Period	1981- 95	1996- 05	1981-96	1996-05	1981-96	1996-05
East Asia and Pacific (EAP)	6.894	6.355	-5.126	-8.481	-1.616	-4.331
Eastern Europe and Central Asia (EECA)	-3.434	4.138	6.769	-2.594	1.229	-3.911
Latin America and Caribbean (LAC)	0.140	1.394	-1.083	-3.176	-0.605	-2.538
Middle East and North Africa (MENA)	0.713	2.309	-4.347	-1.445	-1.215	-1.484
South Asia (SAS)	3.208	4.143	-1.548	-1.710	-0.296	-0.530
Sub-Saharan Africa (SSA)	-1.009	1.293	0.644	-1.597	0.270	-0.517

Table 5: Per capita GDP growth vs. poverty reduction by region, 1981-2005

<u>Notes</u>: All figures are annual averages and are in percent. P.C. GDP growth rates are calculated from World Bank (2009b) as averages of annual regional values. P_0 is the headcount ratio and its growth rate is annualized: calculated as the logarithmic difference (dlogP₀) of ending-year value and beginning-year value, divided by the number of years between the two years, x 100 percent, based on data from World Bank (2009a) [Source: Adapted from Fosu (2010b)].

Country evidence

Poverty data by country are rather scant. World Bank (2009a) represents the source of cross-country comparable data. Unfortunately, much of this data is unavailable for a large number of African countries, especially for the earlier sub-period. Consequently, we limit our country analysis to the latter sub-period when comparable data are available for a reasonable number of countries in the region. To include as many African economies as possible, we use 1990-96 as the starting period and choose a beginning year as that closest to 1996 with data. The end period is the latest year in the 21st century for which there is data. Hence, only countries with data within 1990-96 and 2000-present are included. The latest available rates of poverty by country, as well as the growth rates of GDP per capita, income per capita, ¹⁴ poverty rates at the \$1.25 and \$1.50 levels, and of income inequality (Gini coefficient) are reported in table 6.

¹⁴ By 'income' we mean the private consumption part of GDP; for details, see Chen and Ravallion (2008).

Table 6. Headcount poverty ratio P_0 , and growths of PC GDP, Income, P_0 , early-mid-1990s to latest availabledata year in 2000-present **\$2.50**

Country	Region	Year	P ₀ , \$1.25	P ₀ , \$2.50	PC GDP growth	PC Incom growth	\$1.25 P ₀ growth	\$2.50 P ₀ grow th	Gini growth
Faso	SSA	2003	56.54	88.27	3.182	1.536	-2.557	0.251	-2.748
Burundi	SSA	2006	81.32	96.12	-2.532	0.756	-0.252	- 0.091	-0.013
Cameroon	SSA	2001	32.81	68.84	1.694	5.792	-9.001	- 3.598	-0.989
CAR	SSA	2003	62.43	88.05	-0.699	5.060	-2.823	0.585	-3.419
Côte d'Ivoire	SSA	2002	23.34	58.56	-0.145	3.168	1.448	- 0.799	3.958
Djibouti	MENA	2002	18.84	54.19	-1.643	-7.937	22.929	13.64 4	1.387
Egypt	MENA	2004	1.99	35.51	2.494	1.552	-2.356	2.757	0.718
Ethiopia	SSA	2005	39.04	87.96	2.706	1.244	-4.384	0.329	-2.947
Ghana Guinea Guinea-	SSA SSA	2005 2003	29.99 70.13	65.60 91.86	2.211 1.585	3.340 -1.628	-3.802 -0.722	- 1.934 0.367	0.819 -3.309
Bissau	SSA	2002	48.83	86.68	-2.205	-6.242	7.174	2.170	0.808
Kenya Lesotho Madagascar	SSA SSA SSA	2005 2002 2005	19.72 43.41 67.83	51.06 70.81 94.83	0.340 2.503 0.126	3.376 -3.671 1.755	-3.364 -1.313 -0.554	2.337 0.728 0.193	1.134 -2.641 0.200
Mali	SSA	2001	51.43	85.38	2.879	6.005	-4.292	- 0.971	-2.165
Mauritania	SSA	2000	21.16	56.79	0.995	2.321	-2.012	- 1.784	0.917
Morocco	MENA	2007	2.50	24.38	2.088	0.222	0.119	- 0.437	0.247
Mozambique	SSA	2002	74.69	93.91	4.813	3.647	-1.422	- 0.299	0.954
Niger	SSA	2005	65.88	90.92	-0.139	2.827	-1.555	- 0.417	0.502
Nigeria	SSA	2003	64.41	89.70	1.743	0.040	-0.882	0.260	-1.141
Senegal South Africa	SSA SSA	2005 2000	33.50 26.20	72.35 50.73	1.778 1.434	2.694 -0.584	-4.359 4.019	- 1.676 0.870	-0.507 0.413
Swaziland	SSA	2000	62.85	86.97	1.046	5.255	-3.725	- 1.051	-2.993
Tanzania	SSA	2000	88.52	98.16	2.546	-4.282	2.204	0.346 -	0.256
Tunisia	MENA	2000	2.55	21.05	3.564	3.371	-18.653	6.878 -	-0.412
Uganda Zambia	SSA SSA	2005 2004	51.53 64.29	83.72 87.26	3.580 0.980	3.115 -0.830	-2.475 0.439	0.982 0.046	1.532 0.236

<u>Notes</u>: Headcount ratio P_0 values are for the latest year ('present') for which data are available (in parentheses). Data are annual or annualized averages and in percent. Per-capita (PC) GDP growth rates are 1995-2005 means of annual values from World Bank (2009b). Growth rates of P_0 , Mean Income and Gini are calculated by the author as the log-differences using present and start-year (most recent in 1990-96) values, divided by the number of years between the two periods, x 100 percent, using data from World Bank, 2009a. Note that income refers to the consumption component of GDP and, thus, better reflects household income that is likely to be better linked, relative to GDP, with poverty. [Source: Adapted from Fosu (2010b)]

We note that most of the African countries shown in table 6 have experienced appreciable poverty reduction since the 1990s. At the \$1.25 level, the leading countries in this regard are: Tunisia, Cameroon, Ethiopia, Mali, Ghana, Swaziland, and Kenya, in that order. At the \$2.50 standard, the ordered list is: Tunisia, Cameroon, Egypt, Kenya, and Ghana. In contrast, those countries experiencing appreciable poverty increases include: at the \$1.25 standard, Djibouti, Guinea-Bissau, South Africa, Tanzania, and Cote d'Ivoire; and at the \$2.50 level, Djibouti and Guinea-Bissau. Furthermore, the poverty-reducing countries tend to also experience significant income growth, and conversely. In certain cases, income growth was accompanied by appreciable declines in income inequality (Burkina Faso, CAR, Ethiopia, Mali, and Swaziland). Conversely, increasing inequality may have thwarted the efforts of income growth in certain cases, including: Cote d'Ivoire, Djibouti, Kenya and Uganda.

In many instances, furthermore, income growth poorly reflects GDP growth. For example, Guinea, Lesotho, South Africa, and Tanzania exhibit positive per-capita GDP growth but negative per-capita income growth. In contrast, in the following countries per-capita income increased despite decreases in per-capita GDP: CAR, Cote d'Ivoire, and Niger. The above observations then suggest that both income growth and changing income inequality may have important implications for poverty reduction, while per-capita GDP growth may poorly reflect per-capita income growth, with the latter expectedly exercising a greater linkage to the behavior of poverty.¹⁵

Roles of growth and equity in poverty reduction – a quantitative assessment

¹⁵ See Fosu (2010b) for a further elaboration of these relationships for a global sample.

The above results are suggestive, that is, income growth tends to reduce poverty while increases in (income) inequality tend to raise it. The traditional hypothesis is that growth is the main driver of poverty reduction. Indeed, Dollar and Kraay (2002) argue that income distribution empirically plays no special role in the transmission of growth to poverty reduction. As more recent literature suggests, however, income distribution has crucial implications for the transformation of growth to poverty reduction (World Bank, 2006b). For African countries, Fosu (2009a) finds that higher levels of inequality in SSA reduce the rate at which growth lowers the poverty rate, as compared to non-SSA. And, among SSA countries, inequality differences imply considerable countries' respective abilities to reduce poverty from a given level of growth. In addition, rising inequality would increase poverty, and at a faster rate than declining income would raise it (ibid.).¹⁶

As Fosu (2010b) finds from a global sample, however, *on average* growth has been the main force behind both poverty declines and rises globally since the mid-1990s, consistent in some sense with Dollar and Kraay (2002). Nonetheless, there are considerable country deviations from this average story.¹⁷ Income growth was the main driver of poverty reduction among the aforementioned top \$1.25-level poverty-reducing African countries such as, Tunisia, Cameroon, Ghana, and Kenya; in Ethiopia, in contrast, falling income inequality explained most of the poverty decline. Among the poverty-rising countries (\$1.25 level), adverse income growth was primarily responsible for worsening poverty in Djibouti, Guinea Bissau, and Tanzania, while in Cote d'Ivoire, for instance, it was mainly the rising inequality. In the case of South Africa, the rising poverty could be attributed equally to both factors. (Fosu, 2010b, table 8.2)

III. EFFECTS OF GOVERNANCE AND INSTITUTIONS, AND PERSISTENT CHALLENGES

¹⁶ The converse could hold as well in certain cases, though, especially in low-income countries where, by redistributing from the non-poor to the poor, decreasing inequality could actually increase poverty, even if overall income does not change (Fosu, 2010c).

¹⁷ These results are, therefore, consistent with Ravallion (2001), who finds country-specific effects of growth on inequality; however, Fosu (2010b) goes a step forward by considering the country-specific implications of the resulting inequality for poverty reduction.

Both economic and political governances in Africa have improved generally since the late 1990s. And, this may help explain the significant uplift in economic growth and human development as observed above.

Economic governance

We use two measures of economic governance: domestic fiscal balance, which is government revenue less government expenditure, and external balance, defined as the current account balance (trade balance plus net receipts from abroad). These are graphed over time using IMF data for SSA, comparatively with several other regions, as figure 1 and figure 2, respectively.



Figure 1: Domestic Balance, SSA vs. other regions

Figure 2: External Balance, SSA vs. other regions



As these figures show, improvements in the measures of economic governance began in the late 1990s. For example, SSA's fiscal balance has improved tremendously from considerable deficits in the late 1990s to substantial surpluses by 2007. Indeed, as a proportion of GDP, the huge deficits which were the highest among the three regions (MENA, Latin America, and Emerging Asia) have been transformed to the highest surpluses among these regions (figure 1). Similarly, SSA's current account was in considerable deficit in 1998. By 2007, however, it had a substantial surplus. And, as a proportion of GDP, SSA's surplus was well above those of the other regions (Emerging Asia and Latin America), except for MENA (figure 2).

There are, of course, considerable variations across country groups. For example, the bulk of the improvements appear to emanate from the resource-intensive countries, which represent one-third (14 out of 42) SSA countries (Fosu, 2010d). These countries as a group have improved both their external account and fiscal balance, while the balances of non-resource-intensive countries have actually worsened (ibid.). An important implication is that there seems to have been an improvement in the management of revenues from resources, as illustrated in part by the setting up of oil-revenue funds in Chad and in Nigeria, for instance.¹⁸

The main importance of the above two measures of economic governance is that they reflect the domestic and external fiscal policy spaces that countries have for increasing growth and income distribution via spending. This could be in the form of fiscal stimulus or expenditure in the social sector, for instance. An improved external balance implies that countries could afford to import more either for consumption, which improves social welfare, or for investment, which could enhance growth (Savvides, 1995). On the domestic side, an improved balance implies that countries are less constrained to spend, for they will have less need to raise revenues from higher taxation or borrowing. Greater taxation would drain funds from the private sector, while more borrowing could increase interest rates; both outcomes would likely reduce private investment and, hence, growth.

¹⁸ An alternative explanation may also be that revenues increased as a result of terms of trade improvements and that these revenues were not fully absorbed in expenditures, for reasons other than fiscal prudence. In any case, international reserves in months of imports have also improved from 3.8 in 1997-2002 to 6.0 for SSA as a whole, and from 5.2 to 9.2 for resource-intensive SSA countries (IMF, 2009b).

As shown above, SSA had relatively large vulnerability risks in previous recessions in terms of low external and domestic balances. Fosu and Naude (2009) present IMF data showing that the higher predicted GDP growth this time around may be attributable to greater resilience resulting from improvements in vulnerability risks. For example, the IMF average growth rate forecast for 2009-2010, based on revised IMF data (IMF, 2009b), is 2.6 percent; this compares with 1982 and 1991 respective values of 0.71 percent and –0.29 percent (Fosu and Naude, 2009).

In addition to the above measures of economic governance, recent work suggests that economic policies matter for economic growth in Africa. In particular, the prevalence of a 'syndrome-free' (SF) regime, defined as "political stability with reasonably market-friendly policies,"¹⁹ has increased considerably especially since the 1990s (Fosu and O'Connell, 2006). Furthermore, being SF is a necessary condition for sustaining growth and near-sufficient condition for preventing growth collapse, which has been such an important feature of the African growth record (ibid.). Attaining SF can also add as much as 2 percentage points to per capita growth; this is a substantial amount given that per capita growth has averaged no more than one percent during the post-independence period (ibid.). It seems reasonable to assume, then, that a significant portion of the recent growth in SSA is attributable to a rise in the prevalence of this economic regime.

Political governance

We employ two measures of political governance: Index of Electoral Competitiveness (IEC) and Executive Constraint (XCONST),²⁰ their evolutions of which are graphed in figures 3 and 4, respectively. IEC has been found to have a positive impact on economic growth in African countries

¹⁹ By 'syndrome-free' it is meant the absence of any of the following 'anti-growth policy syndromes': 'state controls', 'adverse redistribution', 'suboptimal inter-temporal resource allocation,' and 'state breakdown' (for details see, e.g., Fosu and O'Connell, 2006).

²⁰ IEC is a weighted average (the first principal component) of the 'executive index of electoral competitiveness' and 'legislative index of electoral competitiveness'. It takes on values over 1-7, with a higher value indicating greater electoral competition. SSA's (average) IEC value increased from 3.0 in 1975-84 to 5.6 in 1995-2004. "Thus, SSA generally went from roughly one-candidate dictatorships to multiparty electoral competiveness." (Fosu, 2008b, p. 442).

XCONST measures the degree of constraint on the executive branch of government and it takes on values of 0-7, where 7 is for 'strict rules for governance', 1 means 'no one regulates the authority', 0 signifies 'perfect incoherence', etc. (for details see Fosu, 2009c).

that have achieved 'advanced-level' democracy as measured by IEC (Fosu, 2008b).²¹ Furthermore, Alence (2004) finds that democratic institutions in Africa considerably improve 'developmental governance', which he defines as 'economic policy coherence (free-market policies), public-service effectiveness, and limited corruption'. He, furthermore, observes that while 'restricted political contestation' (with limited executive constraints) has little direct impact on developmental governance, executive constraints improve developmental governance even if there is little political contestation. These results imply the critical role of XCONST.²² Indeed, Fosu (2009c) finds that XCONST can reduce the incidence of anti-growth 'policy syndromes' via mitigating the pernicious effects of ethnicity, and thereby increase GDP growth.





Source: Fosu (2009b).

²¹ Bounded between 1.0 and 7.0, with a higher value indicating a greater degree of electoral competitiveness, the threshold value obtained by Fosu (2008b) is 4.4 [data source: Database for Political Institutions (DPI)].

²² In figure 4, a higher value of XCONST implies a higher level of constraint for the executive branch of government.



Figure 4: Governance/Institutional Evolution, SSA vs. World - Executive Constraint (XCONST)

Source: Fosu (2009b).

As Figure 3 shows, IEC for SSA as a whole has been increasing steadily, especially since the early 1990s. By 2006, it had pretty much converged with the world's average. Similarly, XCONST began to accelerate in SSA by about 1990; the gap with the world's average considerably narrowed by 2007. Obviously, there are considerable differences across countries. In 2007, for instance, Botswana, Comoros, Lesotho, Mauritius and South Africa all achieved the possible maximum score of 7 on XCONST, while countries such as Cameroon, Chad, Gabon, Gambia, Sudan, Swaziland and Togo could manage only a score of 2 (1-7 range). Similarly, on IEC in 2006, CAR, Chad, Comoros, Ghana, Kenya, and Malawi were among countries with the highest possible score of 7; in contrast, Swaziland, Angola, Eritrea, DRC and Mauritania received sores of less than 4, meaning that they were highly politically uncontestable (Fosu, 2009b).

Obviously, political contestability may itself not be enough to ensure that there are incentives to provide productive public service. After all, political coalitions based on interest groups may hijack the process. Alesina and Drazen (1991), for instance, present a 'wars-of-attrition' political economy framework explaining why growth-enhancing stabilization is more likely to be delayed in a more

ethnically heterogeneous society. Having an appropriate antidote to such a 'war' would, thus, be a pre-requisite for ensuring a more equitable and efficient provision of public services.²³ Fosu (2009c), for example, suggests that a sufficiently high XCONST might provide at least a partial antidote to this problem, while Collier (2000) observes that 'diversity is highly damaging to growth in the context of limited political rights, but is not damaging in democracies'.

Moreover, Vollmer and Ziegler (2009) find that democracy raises HD (life expectancy and literacy) even when per capita GDP is accounted for.²⁴ In contrast, political instability (PI),²⁵ a dominant feature of the African terrain, tends to reduce HD by discouraging Africa's growth (Collier, 1999; Fosu, 1992; Gyimah-Brempong and Corley, 2005; Gyimah-Brempong and Traynor, 1999). Indeed, such conflicts can cost African countries more than 2.0 percentage points in per-capita GDP growth on average (Collier, 1999; Fosu and O'Connell, 2006), which is more than twice the realized growth during post-independence. Economic growth is, furthermore, the main contributor to HD (Fosu, 2002, 2004), so that PI is likely to reduce HD indirectly via its tendency to diminish growth. PI may additionally attenuate the ability of economic growth to increase HD in Africa (Fosu, 2002, 2004).

Thus, economic governance and nature of political institutions appear to play an important role in the evolution of HD in Sub-Saharan Africa. The challenge now is to ensure that Africa's progress toward improved economic and political governance continues. Many of the democracies remain fragile, especially with incumbent governments wanting to hold on to power. Such tendencies have led several incumbencies to actually attempt to change provisions of the constitution that limit the terms of office for the executive.²⁶ Inter alia, these provisions tend to diminish the advantage of the incumbent executive and to prevent a 'president-for-life' syndrome. Under such circumstances,

²³ Moreover, adverse redistribution engendered by ethnicity could undermine efficient resource mobilization, as it tends to attenuate the propensity to pay taxes (Kimenyi, 2006).

²⁴ The measure of democracy here is the Polity2 score ranging from 10 (highly democratic) to -10 (highly autocratic), from the Polity IV Project of the Center for International Development and Conflict Management at the University of Maryland.

²⁵ While Fosu uses elite PI in the form of the rampancy of military-coups events, Gyimah-Brempong et al. use civil wars or broaden the definition to include other forms of insurrections.

²⁶ Nigeria under ex-President Obasanjo and Uganda under President Museveni are cases in point. While the former failed, the latter succeeded.

unfortunately, the military tends to become the final arbiter through coups,²⁷ the rampancy of which has robbed many African countries of economic growth (Fosu, 1992).

IV. VULNERABILITY TO SHOCKS

Trade and political shocks

Various adverse shocks have had detrimental effects on HD in Africa. The negative international terms-of-trade shocks in the 1980s represent a case in point. A major portion of the dismal economic growth that saw per capita GDP fall by more than 1.0 percent on average annually during 1980-95 could be attributed in large part to the substantial deterioration in the terms of trade during that period (Fosu, 2010a). It is conceivable that such shocks may have contributed to the severe political instabilities, most in the form of civil wars, gripping many African countries by the early 1990s (e.g., Burundi, CAR, Djibouti, Liberia, Niger, Rwanda, Sierra Leone), which in turn reduced growth and HD. Indeed, 1990-95 witnessed the least progress in HDIX in Africa (table 3.1). This evidence is in concert with the finding in the wider literature that the likelihood of civil-war occurrence increases with lower incomes (Bruckner and Ciccone, 2009; Collier and Hoeffler, 1998); that ethnicity can interact with poverty to increase the risk of civil war (Fearon and Laitin, 2003); and that ethnic polarization, which can be exacerbated by shocks, raises the risk of civil war (Montalvo and Reynal-Querol, 2005).

It is, of course, much too early to know what the medium-to-long-term implications are of the current terms-of-trade shocks resulting from the global financial crisis initiated in the advanced economies.²⁸ Hopefully, the impact will be sufficiently limited, so that the risk of conflicts will be minimal.

Climatic and related shocks could also cause conflicts, which may in turn lead to migration. Naude (2010), for example, finds that armed conflicts and the lack of job opportunities are significant determinants of emigration from African countries (intra-Africa mostly). Hence, we could end up

²⁷ Most recently, in order to presumably restore the term limitation in the constitution, the military in Niger forcefully took over the constitutionally elected government that attempted to entrench the executive via a constitutional amendment removing the two-term limitation on the executive.

²⁸ Initial IMF data suggest that African countries would contract, between 2007 and 2009, at the same rate as emerging developing countries generally but at a rate less than one-half of that prevailing in advanced economies (Fosu, 2010d).

with a vicious circle, where adverse external shocks result in emigration due to the lack of job opportunities; in turn, migration can increase polarization as various groups compete for resources, which may lead to further conflicts. In any case, as observed above, conflicts can substantially reduce HD, either directly or via growth, and attempts to mitigate their incidence via improvements in governance seem crucial.

Appropriately managed, however, post-conflict economies can recover well (Fosu and Collier, 2005). As the story of Mozambique has amply demonstrated, political governance and economic performance can improve to raise HD considerably. Rwanda and other post-conflict countries enjoy similar legacies. Despite relatively marginal improvements in governance in terms of XCONST and IEC, ²⁹ Rwanda has nonetheless succeeded in raising its HDIX by more than 4.0 percent per year during 1995-2005 (compared with the African average of about 1.0 percent), thanks primarily to strong GDPX and LIFEX growths. This effort has been spearheaded by President Kagame's government, who has so far acted as a 'benevolent dictator'.³⁰ Whether the success will continue will depend on the extent to which the apparent discipline of the country's government will endure, or on the ability of the country to transform its governance toward a more durably accountable one for the longer term.³¹

²⁹ Following the genocide tragedy of Rwanda in 1994, the country embarked on reconciliation and rebuilding efforts. Unlike Mozambique, however, the country has not succeeded in appreciably improving its governance scores on XCONST or IEC. For example, XCONST has reached only 2.4 in 2000-04, from a low of 1.2 in 1990-94 (0-7), while IEC has actually deteriorated from 3.8 in 1990-94 to 2.8 in 2000-04 (1-7). Nevertheless, Rwanda shows considerable improvements on other governance measures, such as those from the 2007 Worldwide Governance Indicators of the World Bank: political stability (27.4 compared to 5.3 in 2002), government effectiveness (39.8 compared to 12.8 in 2002) and control of corruption (55.8 compared to 35.4).

http://info.worldbank.org/governance/wgi2007/sc_chart.asp). The Ibrahim Index of African Governance published in 2007 also designated Rwanda as the country which had most improved in Africa, in comparison to the 2002 data set.

⁽http://www.moibrahimfoundation.org/index/single.asp?countryid=35).

³⁰ By this it is meant that growth or HD-augmenting policies have been pursued without multi-party democracy or a stringent constraint on the executive branch of government.

³¹ As it has historically been the case with many African governments, there is a tendency for personality cults to develop around the head of state: 'neo-patrimonial governance', which can eventually erode the initial positive attributes of 'benevolent dictatorship'.

Health shocks

Health is a major determinant of development (Bloom and Canning, 2003; Bloom et al, 2004). Although other diseases have afflicted the continent, two diseases that have been contemporaneously devastating to African countries generally, especially over the last several decades, are malaria and HIV/AIDS. We have discussed the implication of the latter above. As noted, southern Africa has been the most affected by HIV/AIDS, with adverse implications for HD. Indeed, nearly all the southern African countries have experienced reductions in the growth rates of LIFEX since the early 1990s, relative to the overall African growth (Annex Figure A1). For 1990-2005, the growth rates for the most affected countries are: Swaziland (-3.83 Percent), Botswana (-2.76 percent), Lesotho (-3.65 percent), Zimbabwe (-5.08 percent), South Africa (-2.04 percent), Namibia (-0.67 percent), and Zambia (-2.53 percent). LIFEX growth averaged -2.94 percent for this severely HIV/AIDS-affected group of countries, in contrast with the overall African annual average growth rate of 0.42 percent. Hence, although Africa's LIFEX growth during this period was not particularly impressive, these high HIV/AIDS African countries fared even far worse. Certainly, while such performance might not be all attributable to the disease,³² much of it is probably due to it. In addition to the possible, direct impact in life expectancy, several studies have argued that HIV/AIDS has been particularly burdensome to Africa's development process (Azemar and Desbordes, 2009; Bonnel, 2000).

Malaria is another disease that has afflicted many African countries and has been more widespread throughout SSA than HIV/AIDS (Azemar and Desbordes, 2009). It is a serious "health and economic problem...afflicting more than half of the continent's population...It has severely retarded economic development in many countries in the region, with poverty and isolation being some of its most visible consequences" (Fosu and Mwabu, 2007, p. xiii). Case studies show that Kenya's per capita farm income declined by some 40 percent in 1994 due to malaria (Mwabu, 2007); that childhood malaria constituted a major burden in Nigeria (Olagoke, 2007); that there is a strong demand for malaria control products and services in Cameroon (Kamgnia, 2007); and that particular attention is called for in malaria control and distribution of pharmaceutical products in Zambia (Musonda and Mangani, 2007).

³² In Zimbabwe, for example, a portion of the health setback might be attributable to the overall deterioration in health services resulting from the Mugabe-associated governance fiasco.

For Africa as a whole, Sachs and Malaney (2002) show that malaria has exacted huge economic and social burdens on the African population. Sachs (2005) also argues that achieving the Millennium Development Goals (MDGs) in Africa, in particular, would be impossible without addressing the burden of the disease, much of which is avoidable through inexpensive preventive measures such as the use of insecticide treated bed-nets and immunization against childhood illnesses. Furthermore, meaningful levels of foreign direct investment (FDI), which might prove critical to the technological advancement required to move many African countries out of 'poverty traps', could not be achieved without a resolution of the malaria problem. Indeed, more than a half of SSA FDI deficit with other developing countries could have been avoided in the absence of malaria (Azemar and Desbordes, 2009).

Vulnerability to Recent Financial Shock and Fragility

Figure 5 classifies African countries on the basis of their respective risks to the recent global financial crisis, as estimated by the IMF, and their degrees of 'fragility', based on the Brookings Institution's index.³³ Countries on the far-right upper corner are the countries that deserve special attention, as they are both 'critically weak' and highly susceptible to the financial crisis. Unfortunately, we have some nine countries in this category, most of which are conflict or post-conflict economies. There are additionally another set of nine countries that are 'critically weak' and are also classified as medium-risk on the financial crisis. Indeed, only one country (Senegal) falls in the 'best' category of being relatively stable and with a low financial-crisis risk.

³³ The IMF index is based on such measures as fiscal deficits, external current account deficits, and available international reserves. The Brookings Institution's measure of fragility is based on a large set of variables measuring economic and political governance, inter alia. For details see IMF/Gamo et al. (2009) and Rice and Patrick (2008), respectively.

2009)			
		Ghana (84)	Zambia (32) Mauritania (37)	Somalia (1)*† Congo Dem Ben of (3)†
			Diibouti (38)	Burundi (5)
			$L_{\text{esotbo}}(53)$	Sudan (6)
	High			Central African Rep. (7)
	mgn			Liberia (9)
is				Côte d'Ivoire (10)
cris				Angola (11)
al c				Nigeria (28)
nci				1 (igenia (20)
na		São Tomé & Principe (61)	Cameroon (29)	Sierra Leone (13)
efi		Benin (71)	Comoros (31)	Eritrea (14)
th			Mozambique (39)	Chad (16)
v to			Burkina Faso (44)	Ethiopia (19)
lity	Medium		Malawi (46)	Congo, Rep. of. (20)
abi			Madagascar (49)	Niger (21)
Jer			Tanzania (55)	Guinea (23)
Ill				Rwanda (24)
υfv				Togo (26)
sk (
Ri		Senegal (68)	Kenya (50)	Guinea-Bissau (18)
			Gambia, The (51)	Uganda (27)
			Mali (52)	
	Low			
			X V1-	
		States to watch	Weak	Critically weak

Figure 5. Vulnerability to Financial Crisis and Fragility (Source: Fosu, 2010d; also see Bakrania and Lucas, 2009)

<u>Notes</u>: Figs. in parentheses indicate the ranking on the Brookings Index of Weak States (Patrick and Rice, 2008), while vulnerability classification is from IMF/Gamo, 2009. † DRC and Somalia are classified as 'failed states'.

* Somalia is not included in the IMF classification, presumably due to the lack of data; however, it is the weakest state in the Brookings Index and is the worst performer on the economic index, and is thus assumed here to be of 'high' vulnerability.

To shed some light on the importance of the vulnerability risk to the recent global financial crisis, we take a complementary approach and focus on the small set of low-risk countries in Figure 5: Gambia, Guinea-Bissau, Kenya, Mali, Senegal, and Uganda. The mean percent change of per capita GDP growth between the pre-crisis and crisis 2007 and 2009 years for this group of countries exceeds that for SSA as a whole by a large margin, ³⁴ suggesting that the low-risk countries as a group have less susceptibility to the crisis than the other SSA countries.

V. MEETING HUMAN DEVELOPEMNT CHALLENGES

What are the key human development challenges in Africa over the next five years, i.e., by the year 2015, when regions and countries are expected to show the extent to which they have achieved the Millennium Development Goals? How can these challenges be met? We focus in particular on obstacles to improving conventional and new dimensions of human development. There are systemic, recurring and specific challenges in this regard. The systemic and persistent challenges affect the continent's ability to improve all dimensions of human development. The recurring challenges also affect the achievement of all human development goals. Specific challenges relate to particular regions, countries, and human development dimensions.

Systemic and Persistent Challenges

A. Income poverty. Poverty has been a pervasive feature of the African continent for decades. Except for a few countries in northern Africa, most African countries suffer from high rates of absolute income poverty. Since there is a fair amount of correlation between income, on the one hand, and health and education, on the other hand, the low value of HDI for Africa can be attributed in great part to the high poverty rate, and conversely. Fortunately, there is evidence of economic recovery on the continent generally since the mid-1990s, with signs of growth acceleration during the last eight years or so. If the historical past is any indication, however, sustaining high rates of growth in the region is a challenge, especially in the light of the current global crisis. Thus, policies to at least

³⁴ The percent changes in the per capita GDP growth rates of these countries between the pre-crisis and crisis 2007 and 2009 periods, respectively are: -73.28, 38.59, -83.24, 823.62, -141.49, and -35.22, with a mean of 88.1 (source: Fosu, 2010d). This mean value certainly exceeds the overall mean SSA value of -124.13 percent (ibid.). Even excluding what appears to be an extreme positive value for Mali of 823.62 percent, the mean value for the low-risk countries is: -58.9, which is still higher than the overall SSA average.

maintain the present growth acceleration in many African countries are called for. And so is the need to decrease social as well as income inequalities in order to achieve higher shared growth. Sustainable development, which goes beyond attaining the MDGs, cannot be achieved without a rigorous pursuit of this dual-pronged approach to growth and distribution. The approach requires strong institutions that promote efficiency while maintaining reasonable levels of equity.

B. HIV/AIDS and Malaria Pandemic. The large declines in life expectancy of the African population due to HIV/AIDS within a relatively short period, especially in southern Africa, will take years to reverse. Substantial progress in this area over the next five years is unlikely because resources are lacking to treat and care for those affected by HIV/AIDS and to prevent new infections. In particular, there is need for policy makers on the continent to find mechanisms for effectively minimizing the risk of new infections and for providing and financing ARVs in ways that minimize risks of the virus developing resistance to these therapies. Emergence of widespread resistance to antiretroviral medicines, including resistance to treatments intended to prevent mother-to-child-transmissions of the virus, would substantially raise AIDS-related deaths and the economic losses associated with the disease.

Similar challenges apply to malaria, which afflicts Africa even more widely than HIV/AIDS does. Malaria is a source of much morbidity and mortality on the continent. Yet, popular and relatively cheap medications for treatment can no longer be counted on due to disease resistance (Fosu and Mwabu, 2007).

C. Building political institutions. Peaceful mechanisms for choosing political leaders and sharing power are underdeveloped in many parts of Africa. The consequence of this has been failed states and civil conflicts. This problem can be solved only in the long-run, but steps to address the problem can be taken over the next five years. Short-term solutions include voter education programs, enacting of laws for governing the financing of political parties and for settling electoral disputes. In particular, there should be strong restraints to check the power of the executive branch of government, for it is the lack of such checks in the past that fostered the political excesses, which have been bad for HD. Enshrining in the constitution in every African country a term limitation for the head of state is a must if a meaningful degree of executive constraint is to endure. Also a must are political and other

mechanisms for enforcing term limits enshrined in constitutions. The processes will be difficult; however, in the same vein as reforms in the 1980s and 90s came about from economic exigencies and external pressure (Fosu, 2008a), such a strategy should endure where appropriate.

D. Resource mobilization. None of the above programs will be possible without financial resources. In many African countries, human development programs are unsustainable because they depend on uncertain foreign aid, official development assistance (ODA), which is generally perceived to be pervasive in Africa. As percent of GNI, ODA registered 6.3, 5.9, 4.1, and 4.3 in 1990, 1995, 2000, and 2007, respectively. Thus, on average, external aid is currently only slightly larger than FDI (one-quarter larger), as the latter has risen in importance relative to ODA over the years.³⁵ Nonetheless, the significance of aid is country-specific. For example, the following African countries have ODA as percent of GNI exceeding 20 percent (ODA/GNI numbers in parentheses): Liberia (44.7), Burundi (37.7), Guinea-Bissau (35.4), Sierra Leone (34.1), Eritrea (33.2), DRC (28.3), Mozambique (27.9), Sao Tome and Principe (24.1), Rwanda (21.3), and Malawi (21.1). For these countries, most of which are conflict or post-conflict countries, therefore, ODA is crucial for development. In the short run, therefore, the challenge will be to identify those countries that could use ODA most productively.

Related to ODA are debt flows, which have also been an important source of funding for many African countries. In 2007, for instance, disbursement of public and publicly guaranteed debt³⁶ was 2.0 percent of GNI (World Bank, 2010a). On the flip side, external debt servicing can be a burden. In 2007, for instance, debt servicing expatriated some \$17 billion, about one-half of ODA (World Bank, 2010b). While this outflow can drain resources from the public budget, its implications for budget allocation are perhaps more consequential for HD. For example, constrained debt relief is found to have increased the share of expenditures for these sectors in countries which have improved their institutions (Dessy and Vencatachellum, 2007). Although, there is no one-to-one mapping of public expenditures into outcomes, public expenditures are necessary, as government tends to be the main

³⁵ ODA rose to 5.7 percent of GNI during 2006 mainly as a result of the multilateral debt-reduction initiative (MDRI) of 2005 but has now returned to nearly its 2000 level.

³⁶ Private non-guaranteed external debt has been traditionally minimal among African countries, averaging less than 0.5 percent of GNI in 2007-08, for example.

source of funds for the social sectors.³⁷ Thus, sustaining recent efforts with debt relief, as in the case of the 2005 multilateral debt relief initiative (MDRI), appears to be an important way to improve HD.

African governments should, however, re-double their efforts to raise resources domestically, and to improve the business environment in order to attract greater private funding, such as foreign direct investment (FDI). The net flow of FDI has increased from 0.5 percent of GNI in 1990, to 1.4 percent in 1995, to 2.1 percent in 2000, and to 3.5 percent in 2007 (World Bank, 2010a). While there has been a definite improvement, FDI flows remain small and, more importantly, concentrated in natural resources in resource-intensive countries. As observed above, improving public sector governance would be crucial for increasing FDI flows.

While private portfolio investment has also risen rapidly in SSA recently, it is concentrated in certain countries, with South Africa alone receiving about 90 percent of SSA flows (Delechat et al, 2008). As country risk ratings have improved on the continent, however, countries like Ghana, Kenya, Tanzania, Uganda and Zambia have begun to attract these private flows (ibid.). Attracting these funds requires further improvements in public governance in order to garner more favorable risk ratings.

Another private flow that has recently been gaining in popularity in the literature is remittances, mainly from the diaspora. In 2007, for instance, recorded flows represented 2.3 percent of GNI (source: World Bank, 2010b),³⁸ about two-thirds of FDI and slightly more than one-half of ODA. Remittances have traditionally played a useful counter-cyclical role in many economies generally (Chami et al, 2009).³⁹ In particular, they have been poverty-reducing in African countries (Gupta et al, 2007). Hence, these funds should contribute to improving HD. An important challenge is how to facilitate the transfer of such funds without onerous government intervention.

³⁷ Current research suggests that public expenditure on health, for instance, has significantly reduced infant and under-five mortality in Africa (Anyanwu and Erhijakpor, 2009).

³⁸ The actual amount of remittances is likely to be be larger, however, as non-recorded flows are likely to be appreciable.

³⁹ The evidence is based a sample of 70 countries (16 advanced economies and 54 developing countries). The authors find that remittances have a negative effect on output growth volatility of recipient countries.

Finally, capital flight, a major source of funds outflows from Africa requires special attention. While a portion of this flight is consistent with the optimal portfolio decisions of private investors (Collier et al, 2004), a considerable portion of it can be attributed to corruption.⁴⁰

Thus, in addition to country-specific responsibilities, there is need for collective action on the part of both African countries and their development partners to create the fertile environment that would expand the available financing resources and also maximize their effectiveness in increasing HD. Beyond governance, the provision of regional public goods would require the coordination on the part of regional and continental bodies such as the African Union, the Economic Commission for Africa, the WHO Africa Office, and the African Development Bank. Financing key components of human development, especially those related to child and maternal health and basic education, as well as physical infrastructure, should be a priority.

Recurring Challenges

Recurring challenges include drought, floods, preventable disease epidemics, and economic recessions. To address these problems effectively, careful planning and development of disaster management skills are needed. Such efforts might usefully entail regional cooperation, given the regional 'public-good' nature of many of these challenges.

Specific Challenges

Specific challenges relate to specific human development obstacles in individual countries; thus uniform policies cannot be relied on to improve people's lives everywhere on the continent. In some countries, for example, in Southern Africa, both HIV/AIDS treatment and prevention are required, whereas in other countries, such as those in West and North Africa, prevention should receive high priority. Moreover, while in some countries data to construct HDI and to monitor progress towards the achievement MDGs exist, such data are unavailable in many others. Programs to address data limitations will vary from country to country and from region to region. Data issues are so central because without reliable information, progress that is being made to improve people's lives cannot be

⁴⁰ The African Union, for instance, believes that as much as \$148 billion is transferred from the continent each year due to corruption (UK Africa, 2006, p. 14). This amount is more than 4 times the ODA to SSA in 2007.

assessed. The training of staff in data collection, analysis and storage is also a major challenge on the continent. However, ways of dealing with staff shortages and upgrading their skills will vary from country to country.

VI. CONCLUSION

The last several decades have not been encouraging from the standpoint of economic development in Africa generally. Annual economic growth has been low or negative on the continent and disparities in living standards have increased in many countries. Concomitantly, poverty has been on the increase in many parts of Africa despite notable decreases in others. Still around 50% of the African population remains poor, a condition that contrasts sharply with situations in other world regions where poverty rates have declined considerably over the past two decades and a half.

Due to high fertility in Africa, more than two-fifths of the bottom billion people in the world are Africans (Collier, 2007). Despite disappointments on the economic development front, however, human development on the continent has fared reasonably well. Except for Zambia, HDI in Africa increased in all other countries from 1970-2005. In particular, the HDI itself, despite being far below the world average, increased noticeably. Moreover, all the other components of HDI improved similarly, though health shocks in particularly southern Africa have considerably constrained HDI. The patterns of time trends in economic growth and in HDI suggest that public policies are crucial for human development.

There is some evidence that with appropriate social policies, human development can occur even when economic development is stagnant or on the decline. Similarly, human development can suffer even in periods of robust economic progress. Human development, as an approach to improving people's lives, is a phenomenon that may not be affected automatically by forces of economic growth. Policies such as the ones we have indicated above are needed to insulate human lives from economic downturns and to enhance them during periods of growth.

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ANNEX FIGURES

The grouping of African countries below into Central, Eastern, Northern, Southern and Western Regions follows the African Development Bank classification.

Central Africa

Burundi, Cameroon, Central Africa Republic, Chad, The Congos, Equatorial Guinea, Gabon, Rwanda, Sao Tome and Principe

Northern Africa

Algeria, Egypt, Libya, Morocco, Sudan, Tunisia

Western Africa

Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Nigeria, Senegal, Sierra Leone, Togo

Eastern Africa

Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Mauritius, Seychelles, Somalia, Tanzania, Uganda

Southern Africa

Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa,

Swaziland, Zambia, Zimbabwe

Region Central Africa Eastern Africa Southern Africa Southern Africa Vestern Africa

Figure A1: Mean life expectancy 1990-2005





Figure A3: Mean literacy rate 1990-2005





Figure A4: Mean GDP per capita 1990-2005

Figure A5: Mean education index 1990-2005



Figure A6: Mean health index 1990-2005



Figure A7: Mean income index 1900-2005





Figure A8: Mean human development index 1990-2005