

## COMPARABILITY OF GDP ESTIMATES IN SUB-SAHARAN AFRICA: THE EFFECT OF REVISIONS IN SOURCES AND METHODS SINCE STRUCTURAL ADJUSTMENT

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The unreliability of African income estimates was highlighted when Ghana announced that GDP estimates were revised upwards by 60.3 percent in November 2010. Similar revisions are to be expected in other countries. Many statistical offices are currently using outdated base years. It is argued that with the current uneven application of methods and poor availability of data, any ranking of countries according to GDP levels is misleading. The paper emphasizes the challenges for “data users” in light of these revisions. GDP data are disseminated through international organizations, but without any detailed data descriptions. It is argued that many statistical offices in Sub-Saharan Africa struggled to recover from the structural adjustment period, and the offices have not had the capacity to handle other challenges such as providing data to monitor the Millennium Development Goals. Currently, neither data users nor data producers are getting the assistance they need.

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### 1. INTRODUCTION

On November 5, 2010, Ghana Statistical Services announced that its GDP for the year 2010 was revised to 44.8 billion cedi, as compared to the previously estimated 25.6 billion cedi. This meant an increase in the national income level of Ghana by about 60 percent and, in US Dollar per capita value, the increase implied that the country moved from being a low income country to a middle

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income country overnight (Ghana Statistical Service, 2010). The upward revision prompted the World Bank Chief Economist for Africa, Shanta Devarajan, to speak of Africa's statistical tragedy (Devarajan, forthcoming).<sup>1</sup> He explained that "the 'tragedy' is that we were happily publishing GDP statistics and growth figures for Ghana over the last decades, when in fact the national accounts were understating GDP by 62 percent."<sup>2</sup> According to the World Bank, the upward revision was all done according to international standards.<sup>3</sup> On July 1, 2011 the World Bank gave the revised national income estimates its official stamp of approval, and Ghana was reclassified as a low middle income country from its previous status as a low income country (World Bank, 2011a).<sup>4</sup>

The revision raises questions regarding the meaningfulness of comparisons of GDP levels in Sub-Saharan Africa, and leaves recent growth estimates shrouded in uncertainty. This paper discusses the likelihood of similar revisions in other countries based on information collected during visits to the statistical offices in Ghana, Nigeria, Uganda, Tanzania, Kenya, Malawi, and Zambia, in addition to an e-mail survey of national accounting statistics in Sub-Saharan Africa.<sup>5</sup>

The fundamental principle for data users is that the data are comparable across time and space. While revisions constitute an important step toward getting an accurate measure of GDP level for the individual country, they make it difficult to utilize the data for comparisons of changes in production and income. In order to shed light on this problem, the paper surveys the comparability of GDP per capita level estimates across Sub-Saharan Africa: first, across different data sources; and second, by comparing the World Development Indicator database with the information available at the statistical offices in the region. It is argued that comparability is lower than most data-users assume. While revisions such as the one just undertaken in Ghana is one of many important improvements at national statistical offices over the past years, the uneven quality of statistical infrastructure means that comparability across countries has not improved significantly in the independence period. It is argued that the uncertainty regarding current comparability of GDP level estimates extends to recent growth rates.

To examine the causes of these problems, the second section of the paper attempts to give a historical perspective on the different challenges faced by statistical offices in estimating GDP. It particularly focuses on the period since the decades of policy reform and liberalization, often referred to as the period of "structural adjustment" in the 1980s and 1990s. For the statistical offices in Africa, structural adjustment meant a double shock to the statistical system; informal and unrecorded markets were growing, meanwhile public spending was curtailed and

<sup>1</sup>In his keynote address to the 2011 IARIW-SSA Conference on Measuring National Income, Wealth, Poverty, and Inequality in African Countries, September 28–October 1, 2011.

<sup>2</sup>On his blog, "Africa's statistical tragedy" (<http://blogs.worldbank.org/africacan/node/2039>).

<sup>3</sup>This matches my observations made during consultations with statistical officers at Ghana Statistical Services, Accra, Ghana and at the institute of Statistical, Social and Economic Research, Legon, Ghana, February 2010. There was no doubt that GDP was underestimated. At the time the likely revisions that were mentioned were in the range of 40–45 percent. For a report on the upward revision, see Jerven and Duncan (2012).

<sup>4</sup>A status it was granted simultaneously with Zambia.

<sup>5</sup>The e-mail survey covered statistical offices in Burundi, Cameroon, Cape Verde, Guinea, Lesotho, Mali, Mauritania, Mauritius, Morocco, Namibia, Mozambique, Niger, Senegal, Seychelles, and South Africa.

resources limited. The paper considers the resulting income and growth evidence data users are left with. It is argued that the lack of a transparent revision of baseline estimates across Sub-Saharan Africa following structural adjustment has left scholars and policymakers with malleable “facts” on economic performance.

The paper concludes with an evaluation of the contemporary challenges for statistical infrastructures in Sub-Saharan African countries, with an emphasis on the implications for national income accounting. The challenge of providing reliable and valid data for development has so far not been satisfactorily met. Rather than strengthening the institutional capacity to measure development, the recent Millennium Development Goals (MDGs) agenda could arguably have been detrimental for national accounts statistics because it has put pressure on statistical offices to prepare reports on social statistics related to the MDGs.

## 2. A LEVEL PLAYING FIELD?

This paper was specifically written for the conference on the “Experiences and Challenges in Measuring National Income, Wealth, Poverty and Inequality in African Countries,” co-organized by the International Association of Research in Income and Wealth (IARIW) (with Statistics South Africa). It is therefore suitable to start out by making reference to a similar conference, also co-organized by IARIW (with the UN Economic Commission for Africa) five decades ago, in Addis Ababa, January 1961, when national income accounting was in its trial phase in Africa. In the 1950s and 1960s, the most vocal skeptic in development economics regarding the preparation of national income estimates, and particularly the comparison of resulted aggregated GDP levels, was Dudley Seers, who argued that:

In the hands of authorities, such international comparisons may yield correlations which throw light on the circumstances of economic progress, and they tell us something about relative inefficiencies and standards of living, but they are very widely abused. Do they not on the whole mislead more than they instruct, causing a net reduction in human knowledge? (Seers, 1952–53, p. 160)

As one would expect, the usefulness of these aggregates was commented on in many of the papers published in an edited volume following the conference (Samuels, 1963). The discussion centered on whether it was ever defensible to aggregate national accounts. Ady wrote: “The usual aggregates are certainly valueless, at present, for certain purposes: welfare comparisons using per capita income, for example, are obviously nonsensical when income estimates themselves are in part derived by multiplying per capita averages of doubtful accuracy by population estimates equally subject to error” (Ady, 1962, p. 5).

Billington (1962), on the other hand, explicitly contradicted Seers and took the view that the United Nations System of National Accounts was the best approach toward measuring the progress of African economies. He argued that the system of standardization of measurement was the right path forward (pp. 1–51). In support, Prest and Stewart (1953), who estimated the income of Nigeria, and Peacock and Dosser (1958), who provided estimates of the income of Tanganyika, all argued that to provide total aggregates was necessary, and that these estimates would help in informing the government and the international community regarding prospects

for economic progress. Ady remained skeptical and reminded readers that “there is at least one African country whose per capita income figures were revised upwards by 75 per cent in recent years” (Ady, 1962, p. 55).

National Income Statistics can be approached as a dual problem of governance and knowledge. The governance consideration is more pragmatic and focuses on the political need for statistics to govern the national economy. Thus, in the spirit of Seers, one can focus on the knowledge question, and ask whether the preparation of aggregates estimates is intellectually defensible. Will the final estimates increase knowledge or are they more likely to mislead data users? It is clear that in the 1960s this intellectual question was sidestepped and the more pragmatic governance imperative proved more important. Thus, it was emphasized by Okigbo (1962), in the preface of his GDP estimates for Nigeria 1950–57, that GDP statistics were required and demanded as an input into national development plans. Simultaneously, he was careful to point out that “It is impossible to overstate the arbitrariness of the process of ‘quantification’ ” (p. 65). Seers, as mentioned, argued for a set of minimalistic accounts in place of the aggregates, and recommended that one stick to recording the sectors where one actually had data, and refrain from misleading aggregation (Seers, 1959, pp. 1–36). He did, however, consider it very unlikely that he would be heard, and explained that “the ‘demonstration effect’ of industrial countries is so strong that it is the rule, rather than the exception, for statisticians working in primary producing countries to treat national income estimates as the highest priority in statistical work” (p. 36).

Seers was correct in his prediction. By the 1960s, national income accounting was widely established in independent states across Sub-Saharan Africa. Was Billington right concerning the disciplining virtues of standardization in methods? As more and more newly independent African countries began to compile official national accounts, Deane (1961) reviewed some of the new estimates and commented that “what was once the happy hunting ground of the independent research worker has become the routine preoccupation of official statisticians and international Civil Servants”; but according to Deane, “the fact is, however, that African national-income publications are as heterogeneous under the official stamp as they ever were when privately produced” (pp. 630–31).

Where are we today, five decades later? The recent Ghana revision implies that the GDP level estimates are still “soft.” The GDP estimates are taken at face value by data users—as downloaded either from the Penn World Tables and World Development Indicators or through other data sources. The governance imperative has changed; the GDP estimates are increasingly used in global rankings of income and are the basis of international classifications.

So where do data users go when they want to know the GDP level of a country? There are three major sources of national income data: the World Development Indicators, Penn World Tables, and the Maddison dataset.<sup>6</sup> They are all based on national account files as prepared by the respective national statistical

<sup>6</sup>From World Development Indicators (henceforth WDI), GDP per capita (constant 1995 US\$) is used. The best equivalent from Penn World Tables (henceforth PWT) is Real GDP per capita (Laspeyres) in 1996 International Geary Dollars. Finally, from Maddison, Per Capita GDP in 1990 International Geary–Khamis Dollars is used. The table was compiled in 2009, and the datasets have been updated since.

agencies, but differ in their modifications and according to their currencies and purchasing power parity adjustments. The World Development Indicators database is maintained by the World Bank Group, and is the data source most commonly used in public domains such as politics and the media. The second source is from a database maintained by economists at Pennsylvania University. This database has been updated since the first version was published in 1980. The most recent version was published in 2011 as version 7.0.<sup>7</sup> These data sources are the ones most commonly used by growth economists when calculating cross-country growth regressions. A third source of income data, commonly used by economic historians but also by economists, is the datasets produced by Angus Maddison. These datasets are regularly updated by the Groningen Growth and Development Center at the University of Groningen. In Table 1 the countries are ranked according to the reported GDP per capita for year 2000; the poorest countries are at the top and the richest at the bottom. Only Sub-Saharan African economies are ranked in the table, and the countries in the rankings only include countries for which GDP per capita data for the year 2000 is available from all three sources.<sup>8</sup> Consequently 45 countries are left, and the respective rankings in each dataset are shown in Table 1. They are ranked with the poorest economy in each dataset as number 1 and the richest economy in each dataset as number 45. Quite obviously, we do not expect the dollar values, which are reported just after the country name in the table, to match up, but we can compare the relative ranking of the countries in the different datasets.

The three sources agree on the ranking of some countries but disagree on most—in some cases, with a large discrepancy. The sources agree unanimously that the Democratic Republic of Congo (DRC), formerly Zaire, is the poorest country. It should be noted that its income is probably grossly understated in the official statistics.<sup>9</sup> Among the ten poorest economies, there are only six that consistently appear in that bracket according to all three sources. In addition to the DRC, these are Sierra Leone, Niger, Burundi, Tanzania, and Ethiopia. There is better agreement among sources when identifying the ten richest countries. In the relative ranking among them there is wide variation, but nine out of ten countries appear in the top ten groups of all the three sources. There are also large fluctuations in the rankings. When considering the lowest and highest rank of a country across the three sources, some stand out. There is the most uncertainty with regard to the placement of Guinea, which is ranked as the seventh poorest economy according to Maddison, while PWT lists it one spot short of placing it among the ten richest African countries in per capita terms. Mozambique is considered the eighth poorest country by WDI, while Maddison places it among the 12 richest economies. Across the three sources, Liberia jumps 20 places; the country is ranked as the second poorest by PWT and yet Maddison ranks it as richer than the majority of African countries. Angola, Central African Republic, Comoros, Congo-Brazzaville, Nigeria, and Zambia all make leaps of more than ten places in

<sup>7</sup>In tables 1 and 2, the PWT data are Laspeyres data from the 6.2 version.

<sup>8</sup>Thereby directly excluding Algeria, Egypt, Libya, Morocco, and Tunisia. In addition, WDI does not have data for Djibouti, Mayotte, Reunion, and Somalia. Note that Maddison lacks a separate estimate for Eritrea (his estimate for Eritrea and Ethiopia is considered to represent Ethiopia).

<sup>9</sup>MacGaffey (1991) noted this some time ago, and the situation has certainly not improved since.

TABLE 1  
RANKING AFRICAN ECONOMIES ACCORDING TO GDP PER CAPITA IN THREE DATA SOURCES  
(INTERNATIONAL USD)

Rank	Maddison	WDI	PWT			
1	Congo-Kinshasa	217	Congo-Kinshasa	92	Congo-Kinshasa	359
2	Sierra Leone	410	Ethiopia	115	Liberia	472
3	Chad	429	Burundi	139	Sierra Leone	684
4	Niger	486	Sierra Leone	153	Burundi	699
5	Burundi	496	Malawi	169	Ethiopia	725
6	Tanzania	535	Tanzania	190	Guinea-Bissau	762
7	Guinea	572	Liberia	191	Niger	807
8	Central African Rep.	576	Mozambique	191	Tanzania	817
9	Comoro Islands	581	Niger	200	Togo	823
10	Ethiopia	605	Guinea-Bissau	210	Madagascar	823
11	Togo	614	Chad	218	Chad	830
12	Zambia	645	Rwanda	242	Malawi	839
13	Malawi	656	Burkina Faso	243	Zambia	866
14	Guinea Bissau	681	Madagascar	246	Burkina Faso	933
15	Madagascar	706	Nigeria	254	Central African Rep.	945
16	Angola	765	Mali	294	The Gambia	954
17	Uganda	797	Sudan	313	Rwanda	1,018
18	Rwanda	819	Togo	323	Mali	1,047
19	Mali	892	Kenya	328	Sudan	1,048
20	Gambia	895	Central African Rep.	339	Uganda	1,058
21	Burkina Faso	921	São Tomé & Príncipe	341	Nigeria	1,074
22	Liberia	990	Uganda	348	Mozambique	1,093
23	Sudan	991	Gambia, The	370	Benin	1,251
24	Mauritania	1,017	Zambia	394	Kenya	1,268
25	Kenya	1,031	Ghana	413	Congo-Brazzaville	1,286
26	Cameroon	1,082	Benin	414	São Tomé & Príncipe	1,300
27	São Tomé & Príncipe	1,226	Comoros	436	Comoros	1,359
28	Nigeria	1,251	Mauritania	495	Ghana	1,392
29	Ghana	1,270	Angola	524	Mauritania	1,521
30	Benin	1,283	Lesotho	548	Senegal	1,571
31	Zimbabwe	1,328	Guinea	605	Lesotho	1,834
32	Côte d'Ivoire	1,352	Senegal	609	Angola	1,975
33	Senegal	1,358	Zimbabwe	620	Cote d'Ivoire	2,171
34	Mozambique	1,365	Cameroon	675	Cameroon	2,472
35	Lesotho	1,490	Cote d'Ivoire	739	Guinea	2,546
36	Cape Verde	1,777	Congo-Brazzaville	791	Zimbabwe	3,256
37	Congo-Brazzaville	2,005	Swaziland	1,538	Cape Verde	4,984
38	Swaziland	2,630	Cape Verde	1,541	Namibia	5,269
39	Namibia	3,637	Equatorial Guinea	1,599	Equatorial Guinea	6,495
40	Gabon	3,847	Namibia	2,366	Botswana	7,256
41	South Africa	3,978	Botswana	3,931	South Africa	8,226
42	Botswana	4,269	South Africa	4,020	Swaziland	8,517
43	Seychelles	6,354	Mauritius	4,104	Gabon	10,439
44	Equatorial Guinea	7,973	Gabon	4,378	Seychelles	10,593
45	Mauritius	10,652	Seychelles	6,557	Mauritius	15,121

Source: Alan Heston, Robert Summers, and Bettina Aten, Penn World Table Version 6.2 (Center for International Comparisons of Production, Income and Prices, University of Pennsylvania, 2006); Angus Maddison, *The World Economy: Historical Statistics* (OECD, Paris, 2003); World Development Indicators (World Bank, Washington DC, 2007).



TABLE 2  
ESTIMATED CORRELATION MATRIX OF THE DATA SOURCES

	Maddison	WDI	PWT
Maddison	1.00		
WDI	0.79	1.00	
PWT	0.89	0.90	1.00

the rankings from one source to another, leaving the relative ranking of one fifth of the countries as a matter of high uncertainty.<sup>10</sup>

What kind of agreement should one expect? The dollar estimates do not agree upon total values and there is no reason why we would expect them to be the same. The systematic variation in cash values reflects the fact that the income per capita measures are quoted in international dollars from different years: 1990 (Maddison), 1995 (WDI), and 1996 (PWT). Furthermore, the income estimates reported in datasets provided by the PWT and WDI differ because different formulas were used to calculate the international price estimates. The methods applied to express the income estimates in international prices are discussed by Deaton and Heston (2010). Regarding the difference between the Maddison data and the WDI, Maddison notes that “the discrepancy between the World Bank and my estimates is bigger than can be explained by the bias of EKS [Elteto, Koves, and Szulc] measure.”<sup>11</sup> We would thus expect some kind of systematic difference between the different datasets, but price adjustments should not alone account for such differences in ranking. The result of the simple exercise of calculating the correlation coefficients of the GDP estimates according to the three sources is presented in Table 2.<sup>12</sup> Again, while we would not expect the different constant price estimates to have the same values, one would expect a higher reliability in the rankings between these datasets.

It could be equated with measuring the weight of 45 different bags of flour with three different scales. In that case, some kind of systematic error might be expected. This would mean a clearly discernible and stable plus or minus error attributable to the specific weight, but close agreement on the ranking. It is, after all, a measure of the income in the same country, in the same year and theoretically using the same or a very similar method. It is obvious from this table that the issue

<sup>10</sup>For further discussions of the rankings of African economies, see Jerven (2010b).

<sup>11</sup>Maddison, “Background Note on ‘Historical Statistics’ ” (2010), retrieved July 2011 from <http://www.ggdc.net/maddison>. Elteto, Koves, and Szulc are the authors that suggested the methods underlying the EKS measure of international dollars.

<sup>12</sup>I have checked whether it makes a difference which of the PWT versions one is using, and found that rankings for year 2000 from different versions (6.1, 6.2, 6.3, or 7.0) of Laspeyres or Chain GDP series are usually correlated in the order of 0.93–0.99. The datasets have better agreements for other regions such as Europe and Asia, and for Latin America. The Maddison and WDI data on 22 Latin American countries agreed about the relative income ranking for the majority of the countries. The ranking matches country by country in the bottom and the top of the distribution. In the middle of the income distribution, the countries Guatemala, Ecuador, Jamaica, Dominican Republic, and Columbia jump a few places up and down from one source the other. The average of jumps in the ranking is less than 1, compared to 7 in the African sample.

is not only one of systematic error in measurement between the sources, as in the example of the faulty scale. Instead, it is as if each time the income is measured, it is done using a different scale with an unknown margin or direction of error.

In theory, the differences between national or official data and international income and growth data are only that the latter are expressed in international prices. But there are other sources of disagreement. As we have seen from the recent example of Ghana, the data series provided by the national statistical agencies are subject to revisions, and there are various official series with different base years covering the same years. The dataset provider has a multitude of national accounts data files to pick from; therefore the process of splicing various series together involves some discretion on the part of the dataset compiler. The actual process of picking and harmonizing series are not accounted for in a specific and transparent manner in the data descriptions accompanying the published datasets. The ranking of Ghana in the datasets today will of course depend very much on whether the PWT and Maddison have updated their data to allow for the large upward revision.

The problem is that the data users are not well informed. Many data users have no *a priori* reasons to judge which of the datasets are better than the other. Only seasoned country experts can reasonably be able to judge the data quality in a country. A data user would like to know to what extent the dataset one is using coheres with what is otherwise known about the country, and should therefore be able to judge whether a large fluctuation is economic information or just statistical errors. A data user could also be interested to know how the data quality in one country compares with the data from another country. To be specific: perhaps the data user, having seen that Ghana just revised their income upwards by 60 percent, may feel cautious about comparing the income of Ghana with that of Cote D'Ivoire or Nigeria. How should the data user navigate the databases?

The term for this information is metadata—detailed data descriptions. This information should ideally accompany the statistical series. It should contain definitions, sources, and all other information that the data user needs to be a confident user of the data. The World Bank and other international organizations offer very little help here. The only metadata that are downloadable in the data-bank from the World Bank is its textbook definition, and it is then noted that data are in constant or current, local or international currency, and that the base period “varies by country.”<sup>13</sup> The data manual, which we have referred to earlier, only contains the generic mathematical formulas and definitions that are used to compile the data.

Young (2010) encountered the problem of incomplete datasets when attempting to build up and revise a database for African measures of living standards. He argued that the underlying data supporting estimates for living standards are minimal or non-existent (p. 1). Young reported that for 24 of the 45 countries for which the PWT provides international price data, there were in fact no benchmark studies of prices. Although the UN reports constant data prices for 47 Sub-Saharan African countries between 1991 and 2004, they have only received data

<sup>13</sup>Retrieved from <http://data.worldbank.org/> in August 2011.



for less than half of these 1,410 observations, and for 15 of the countries no underlying data has been received at all (p. 1). It is further explained in the World Bank Statistics Manual that when the data are missing, the Bank uses “a method for filling the data gap, which is based on the assumption that the growth of the variable from a period for which data exists has been the same as the average growth for those other countries in the same regional or income grouping, where data exists for both periods” (World Bank, 2011b). Possibly to reassure data users it is reported that “these gap-filling procedures are run automatically, with no human intervention” (World Bank, 2011b).

To check the consistency between national statistical office information and the information provided by the World Bank, all the statistical offices in Sub-Saharan African were surveyed.<sup>14</sup> The information is summarized in Table 3. In the first column, the year of the latest estimate that was prepared is reported. The second column reports the base year for the constant price estimates, the third column reports the most recent GDP estimate at current prices as supplied by the statistical office, the next column shows the same information as reported in the WDI database, and the final column compares the latest estimates from the two sources.

The list shows great variation. Only 18 of the 48 countries have prepared estimates for the year 2009 or 2010. Still, the World Bank provides data in both constant and current prices for all of these countries up to and including the year 2009 in their database. This means that when we have contemporary rankings of African economies, more than half of the entries are not yet official estimates, but are based on advice from country missions or other private communication between the World Bank data group and country representatives. It also implies that when we are presented with continent-wide growth statistics, about half of the underlying data are actually missing, and are created by other means. It is not clear from the World Development Indicators whether or when these data are official, official preliminary data, projections based on previous country performance, projections based on neighboring country performance, or conjectures based on “expert” advice. As discussed by Ward (2004, p. 98), many less developed economies have since the 1970s been unable to provide timely GDP estimates to the United Nations Statistical Office, and increasingly the World Bank has made its own estimates.

The information in the first column, the country base year, is also of crucial importance. The base year determines the year for which the prices used for accounting are held constant, in order to distinguish economic growth from price increases. Choice of base year has further implications: the index problem applies. This means that the weight of each sector is still determined from its base year value; thus a small sector in the base year will still contribute little to aggregate

<sup>14</sup>The information was gathered directly from statistical offices in person from Ghana, Nigeria, Uganda, Kenya, Tanzania, Malawi, and Zambia between spring and fall 2010. Burundi, Cameroon, Cape Verde, Guinea, Lesotho, Mali, Mauritania, Mauritius, Morocco, Namibia, Mozambique, Niger, Senegal, Seychelles, and South Africa all provided information via e-mail or on the phone in the spring and summer of 2011. The other information was gathered from statistical offices websites during the same period. The World Bank data were initially collected in July 2011, and rechecked in November 2011.

TABLE 3  
 AVAILABILITY OF NATIONAL ACCOUNTS DATA AT STATISTICAL OFFICES IN AFRICA  
 (LOCAL CURRENCY, BILLIONS)

Country	Estimate	Base Year	GDP	WDI	Difference
Angola	–	–	–	5,988.7	
Benin	2007	–	2,641.7	2,658.1	–1%
Botswana	2004	1993/94	47.16	47.16	0%
Burkina Faso	2005	1999	2,881.4	2,862.8	1%
<sup>^</sup> Burundi*	2007	2006	1,403	1,060.0	32%
Cameroon*	2009	2002	11,040.3	10,474	5%
<sup>^</sup> Cape Verde*	2007	1980	107.3	107.3	0%
<sup>^</sup> Central African Rep.	2003	1985	670.1	662.11	1%
<sup>^</sup> Chad	2009	–	3,622	3,228	12%
<sup>^</sup> Comoros	–	–	–	153.1	
<sup>^</sup> Congo, Dem. Rep.	–	–	–	3,366.4	
<sup>^</sup> Congo, Rep.	2009	1990	3,869.8	4,523.4	–14%
Cote d'Ivoire	2005	1996	9,012	8,631.2	4%
<sup>^</sup> Djibouti	2000	–	91.2	–	
<sup>^</sup> Equatorial Guinea	2002	1985	1,523.72	1,496.3	2%
<sup>^</sup> Eritrea	–	–	–	18.0	
<sup>^</sup> Gabon	2008	2001	7,032.9	6,508.8	8%
<sup>^</sup> Gambia	2008	2004	23	18.2	26%
Ghana*	2010	2006	36.9	36.9	–0%
<sup>^</sup> Guinea*	2008	2003	20,982	20,780.4	1%
<sup>^</sup> Guinea-Bissau	2006	1986	172.3	302.5	–43%
Kenya*	2009	2001	2,365.5	2,273.7	4%
<sup>^</sup> Lesotho*	2008	2004	13.2	13.2	0%
<sup>^</sup> Liberia	–	–	–	59,839.9	
Madagascar	2009	1984	16,802	16,604.25	1%
<sup>^</sup> Malawi*	2007	2007	510.5	484	5%
<sup>^</sup> Mali*	2008	1997	–	3,067.3	
<sup>^</sup> Mauritania*	2007	2005	914.7	733.8	25%
<sup>^</sup> Mauritius*	2010	2007	300	299.5	0%
Mozambique*	2009	2003	325.6	280.1	–14%
Namibia	2008	2004	81.5	74	10%
<sup>^</sup> Niger*	2010	2006	2,748.2	2,748.2	0%
<sup>^</sup> Nigeria*	2008	1990	24,665.2	24,553	0.5%
<sup>^</sup> Rwanda	2010	2006	3,282	3,281.7	0%
Sao Tome and Principe	2006	2001	1,444.6	1,545.9	–7%
Senegal*	2009	1999	6,029	6,023.2	0%
<sup>^</sup> Seychelles*	2008	2006	9.1	8.7	4.5%
<sup>^</sup> Sierra Leone*	2007	2001	4,966.5	5,829	17%
<sup>^</sup> Somalia	–	–	–	1,347,900	
South Africa*	2010	2005	2,662.8	2,662.8	0%
<sup>^</sup> Swaziland	–	–	–	12,770.6	
<sup>^</sup> Togo	–	–	–	28,212.7	
Tanzania*	2010	2001	32,293.5	32,492.87	–1%
<sup>^</sup> Uganda*	2009	2002	34,166	30,100.93	14%
Zambia*	2008	1994	55,210.6	54,839.4	1%
<sup>^</sup> Zimbabwe	–	–	–	5,625.0	

Source: World Development Indicators and national statistical office websites.

\*Information obtained from the statistical office personally.

<sup>^</sup>The base year used by the World Bank is different from that reported by the national government (or information not available). Sudan is excluded from this comparison because the WDI reported GDP in Sudanese pounds (9871.88) while the official data are reported in Sudanese dinars. Ethiopia is also excluded because data were reported in different currency units.

growth today, even if its importance has increased greatly.<sup>15</sup> When GDP is revised and the base year changed, it allows the statistician to reweight the relative importance of the different sectors, and further, to change or reconsider the methods and data sources. For 13 countries the official information has not been obtainable; 19 of the 34 countries we have information for have a base year that is within the last decade (i.e., 2001 or more recent). According to the IMF Statistics Department, advisors remind authorities that international best practice is to rebase every 5th year,<sup>16</sup> but only seven countries (Burundi, Ghana, Malawi, Mauritius, Niger, Rwanda, and Seychelles) have been able to follow up on this recommendation.

It is extremely likely that the income of the countries with an outdated base year is severely underestimated. When Ghana's GDP was revised upwards, it was mainly due to the inclusion of new data on previously unmeasured parts of the economy as they changed the base year from 1993 to 2006. Ghana is one of the countries with a relatively recent base year; the GDPs of the countries with an outdated base year are serious underestimates. The index number problems and updating of methods (such as which version of System of National Accounts—1953, 1968, 1993, or 2008 is used) play a relatively minor role here. What really matters is inclusion of new data for sectors previously underestimated or considered unimportant. As will be shown in the discussion of Zambia and Tanzania, it is this type of statistical growth that is the most important when the base years and data collection methods are unchanged for a long period of time.

In late 2011, the Nigerian Bureau of Statistics announced that a revision of methods and rebasing of the national accounts series was underway there shortly, and that a change in base year from 1990 would result in a similar upward revision there (Reuters, 2011). Moreover, upon direct questioning, most statisticians in national accounts divisions replied affirmatively to the question: "Do you think that GDP is underestimated today?" Of 23 countries that responded to the survey, only Lesotho and Namibia were satisfied that GDP estimates were covering the whole economy, while representatives from 18 countries responded that GDP was underestimated.<sup>17</sup>

The disagreement between the most recent estimates from the official statistical office and those provided by the World Bank is also worth noting. In the last column in the table the most recent estimate in local currency at current prices is compared with the same data from the World Bank. Often the discrepancy is accounted for by the fact that the national statistical office and the World Bank are not using the same base years for their accounts. For example, Burundi has updated its base year to 2006, while the World Bank series still uses 1980 as their base year. The result is that the World Bank reports a much lower GDP for Burundi, to the dismay of the national accounts division.<sup>18</sup>

<sup>15</sup>This problem is generically referred to as the index number problem. In Francophone Africa it is more common to use chain indices. Here the base year only refers to the prices for which GDP is held constant, but when calculating economic growth from one year to another, the previous year's weights are used.

<sup>16</sup>Personal communication, Macroeconomic Statistics Advisor, IMF East AFRITAC, December 2010.

<sup>17</sup>Results of this survey are discussed further in Jerven (2013).

<sup>18</sup>Personal communication, Institut de Statistiques et d'Études Économiques, Burundi, February 2011.

In conclusion, a ranking of African economies according to GDP levels should not be taken at face value. The information is in large part unverifiable preliminary estimates or projections, and the level differences are as likely to reflect statistical methods as they are to be informative of economic realities. With the current uneven application of methods and poor availability of data, any ranking of countries according to GDP levels is misleading. This section started out by exploring the view on the comparability of estimates in the 1960s and then moved to investigate whether comparability has improved today. The following section is an attempt to map out the main challenges to the statistical infrastructures in Sub-Saharan Africa since independence until today.

### 3. CHALLENGES TO STATISTICAL INFRASTRUCTURES IN SUB-SAHARAN AFRICA: FROM STRUCTURAL ADJUSTMENT TO THE MILLENNIUM DEVELOPMENT GOALS

The independent states across Sub-Saharan Africa implemented regular and standardized national accounts in support of national development plans in the 1960s and 1970s (Jerven, 2011a). There were some variations in the political economy of development in the region—the most emphasized being whether a given country was described as “socialist” or “capitalist” (Barkan, 1994), or whether it was regarded as “urban biased” or “rural biased”—to describe whether their pricing policy toward the agricultural sector favored urban dwellers or agricultural producers (Bates, 1991). There were some important common denominators across all regimes. All states used marketing boards to administer the purchases, sales, and transport of agricultural crops—including both so called “cash crops” for exports and food crops for domestic consumption. In addition, most states were directly or indirectly involved in industrial and infrastructure activities through state development corporations. In all states this meant that national statistical offices could draw upon a rich availability of administrative data—i.e., data collected by the government to support its regular functions. Eventually, survey data also became available as most states conducted household budget surveys once or twice in the 1960s and 1970s. These data allowed states to further increase the coverage of rural and non-monetary activities, as called for in the 1968 System of National Accounts.

Progress soon gave way to decline, and in the 1980s and 1990s economic collapse redefined the task of development (Van De Walle, 2001). The convenient data sources became increasingly obsolete as “parallel,” “black,” and “informal” markets thrived. Brett writes of Uganda in the late 1970s that “the formal economy was replaced by an untaxed economy” (Brett, 2008, p. 350). The new challenge was to account for this “informal” economy in the midst of a collapsing formal economy in which the statistical offices were firmly embedded. This economic development experience has been referred to as “the lost decades,” which were indeed lost in national accounting terms. As the historians Ellis (2002) and Nugent (2004) noted, this makes the writing of the history of Africa in the 1980s and 1990s very difficult. While all countries experience fundamental changes in political priorities and structural changes over time that required reforms of the statistical infrastructure (such as in the U.S., see Jorgenson 2009), in Sub-Saharan Africa the

size of the task was far too large compared to the statistical capacity that was in place to handle the challenge.

To take a few examples, in the Zambian statistical office in Lusaka, the national account reports and any other publications relating to the accounting methodology and most other relevant reports ceased to be available after 1973. Beyond that, just an annex report to the 1973–78 estimates was obtainable. This means that very little is known about the estimates and their procedures in the 1980s. In 2007, during my visit to the Central Statistical Office in Lusaka, neither the national accountants nor the persons responsible for library/data dissemination functions were able to clarify whether this was an issue of the reports having gone missing or of one of them never having been published.<sup>19</sup> A similar problem was observed in Ghana, where the Ghanaian Statistical Services office/department ceased publishing its annual Economic Survey in 1985 due to a lack of funding and qualified personnel.<sup>20</sup> It attempted to reinstate this document as a regular source of economic information for Ghana in 2005, but it has not been published since. According to Muwanga-Zake, the statistical office in Uganda completely collapsed:

The main problem was the lack of investment in statistics production; the Department lacked resources and could not effectively carry out its role as the central coordinating body for statistics within government, let alone for the country as a whole. The Department lacked essential facilities: buildings became derelict; there was only one roadworthy vehicle; and there were no computers, so all statistics had to be manually tabulated and simple desk calculators used for calculations. Other agencies progressively took over aspects of the Department's data gathering and processing responsibilities. Inevitably, there was considerable overlap in some important statistics activities, such as price collection, estimation of GDP, and statistics on central government revenue and expenditure. Any published data had lost credibility. (Muwanga-Zake, 2010, p. 247)

In the 1980s and 1990s all African economies, with the exception of Botswana, had to undergo “Structural Adjustment”—the policy reform programs that the IMF and the World Bank made conditional upon further financial support. This meant a reduced role for the state, in all states, irrespective of whether they were referred to as “capitalist” or “socialist” in the 1970s and 1980s. In many countries some of the basic functions of the state were privatized, and as a result the recording capacity disappeared. Hibou mentions the examples of Mozambique and Cameroon, and notes that customs collection was privatized and that correspondingly “the national accounts do not record either the volume or the value of the exports, nor the tax and customs revenue” (Hibou, 2004, p. 7). It was not until the late 1990s that the statistical offices in some countries were able to adjust to new economic and political realities. Fortunately, the cases of upwards revision in Tanzania and Zambia following structural adjustment are well documented, and provide us with an insight into what may have happened in other countries.

<sup>19</sup>Personal communication, Central Statistical Office, Lusaka, March 2007.

<sup>20</sup>Personal communication, Ghana Statistical Services, Accra, February 2010.

A Zambian report on a national income estimate revision for a new series based in 1994 starts by stating the obvious: “inflation rates of more than 200 percent in the early 1990s had adverse effects on the provision of macroeconomic statistics” (Republic of Zambia, 1994). Creating meaningful data on year-to-year real economic growth in such circumstances is complicated. Furthermore, structural adjustment entailed massive change in the structure of production and “the break-up of the former large parastatals meant that previous sources of data were not available” (Republic of Zambia, 1994). A revision and a rebasing were overdue as the accounts were still based on 1977 prices and the benchmarks were “becoming inadequate, and over time provided less accurate estimates” (Republic of Zambia, 1994). The previous estimates had largely “excluded [the] informal sector and therefore impaired the value of GDP estimates over time, in all sectors except agriculture” (Republic of Zambia, 1994).

After incorporating informal sector activity into total GDP, the formal sector share was estimated at 58 percent in terms of value added with a corresponding 42 percent share for the informal economy. To this estimate, the statistical office gave the following warning: “we wish to caution that including the informal sector activity in the Zambia National Accounts may tend to exaggerate the GDP of the nation, relative to other countries or even to the previous estimates which mostly excluded it. It must also be recognised that it will be difficult to up-date the sector relation based on indicators in the absence of surveys to monitor the activity in the future” (Republic of Zambia, 1994).

In Tanzania the report accompanying the new constant price series at 1992 prices held that “strong efforts were made to determine what is the story behind the figures, whether the data applies to what is experienced as happening in the industry. This has not been emphasized earlier”; thus indicating that rather than letting the data speak for themselves, the resulting figures were compared to what was otherwise known or assumed regarding economic trends (United Republic of Tanzania, 1997). Structural changes, especially in the later part of the 1980s, were not reflected in the available statistics, resulting in an underestimation of value added. “Estimates of the size of this deficiency ranged from 30 percent to as much 200 percent of GDP” (United Republic of Tanzania, 1997). The new level estimates were reached by incorporating all available data into the accounts, including the results of new surveys of the transport, trade, and construction undertaken as part of the project. In the previous estimation methods of 1976, the “private sector was under covered—sometimes not covered at all—and the growing informal sector was not generally accounted for” (United Republic of Tanzania, 1997). A time series was developed by extrapolating these data trends backwards. The assumptions were changed; the informal economy was expected to increase when the formal sector was in decline, rather than move with it.

Thus in the late 1990s, both Zambia and Tanzania underwent a massive upward reappraisal of their respective national incomes following structural adjustment. Both countries had followed a path of state led development from the late 1960s until the economic decline in the 1980s. During this period as a matter of convenience and ideology, data on trade, services and, by implication, production (through the state marketing board) were collected by the parastatal companies which were assumed to be representative of the whole economy. When those



state agencies were unable to offer services or unable to offer services for an acceptable price, economic actors turned to informal and parallel operators. Consequently, the national income estimates recorded a massive decline in the late 1970s and early 1980s. Meanwhile, it is impossible to correctly gauge the movement and/or the size of the unrecorded component in this period. As noted, Zambia and Tanzania have revised their national accounts to include “informal” sector estimates, but much as with the inclusion of the “subsistence” economy in the 1960s, the national accountants are unable to measure economic change. The resulting national income series is potentially misleading as scholars approach per capita estimates and wish to compare income across countries, as well as across time.<sup>21</sup>

Writing generally on structural adjustment, Nugent (2004) comments that “the statistics which constitutes the basis on which structural adjustment is conventionally evaluated are especially problematic. Aside from the larger question of the relationship between the numerals and reality, there is the simple fact that African governments have lacked the means to gather reliable statistics” (p. 328). The cases of Tanzania and Zambia have wide applicability. Economic decline in the late 1970s followed by structural adjustment in the 1980s and 1990s is the dominant pattern in Sub-Saharan Africa. Changing economic realities were not reflected in the official economic statistics, and the effect of revisions re-raises questions regarding the efficacy of structural adjustment programs. The importance of the statistical offices was neglected in the decades of policy reform, specifically during the period of structural adjustment in the 1980s and 1990s. In retrospect it may be puzzling that the IMF and the World Bank, the latter recently fashioning itself as the “Knowledge Bank,” embarked on growth oriented reforms without ensuring that there were reasonable baseline estimates that could plausibly establish whether the economies were growing or stagnating. For the statistical offices, structural adjustment meant having to account for more with less; informal and unrecorded markets were growing, while public spending was curtailed. As a result, our knowledge regarding the economic effects of structural adjustment is limited.

After the implementation of structural adjustment programs during the 1980s, the IMF and the World Bank shifted the focus to redesigned policy reform programs called Poverty Reduction Programs where policy targets were set out in a Poverty Reduction Strategy Paper. The motivation was to actively involve the country subject to the reforms in the policy formulation process—referred to as ownership—and to appease critics of the structural adjustment programs who had pointed out the negative impacts on the poor from the former programs. Many scholars have pointed out that the actual changes to both process and content were minor (Stein, 2008), but it did make a difference to the statistical offices: it created a new demand for poverty data.<sup>22</sup>

Booth and Lucas (2003) argue that the Poverty Reduction Strategy Papers (PRSPs) lead to improvements in the quality and availability of household survey

<sup>21</sup>For a discussion of discrepancies in growth rates across different versions of the Penn World Databases, see Johnson *et al.* (2009). Jerven (2010a) discusses the implications of changing base years for a sample of African countries. For a specific focus on the changes in Tanzania, see Jerven (2011b).

<sup>22</sup>For a history, see Wold (2005).

data. They argue that some serious concerns over the sustainability of this level of data collection remain, but at least the importance of the challenges involved with household surveys are now better recognized (p. 101). They also note that while the issue of data availability is discussed in the PRSPs, the country capacity for data analysis and collection is neglected (p. 102). Thus the new development agenda caused a new demand for information, but did not have clear strategies for how this demand should be fulfilled. Poverty monitoring has been complicated by this deficiency, and the existing data series relies on inconsistent and unreliable data (Levine, 2006, pp. 89–100).

Currently the international development community has embraced the idea of “evidence based policy.” Related to it are the principles of “results based management” that have inspired the development community to set out quantifiable targets such as the Millennium Development Goals (Black and White, 2003). This new agenda has again put the issue of the statistical capacity of poorer countries on the policy agenda. The eight goals are supported by 18 targets and 48 indicators, thus encompassing most aspects of economic development. Interestingly, indicators of political “governance” were not included in the list of quantifiable targets. One of the justifications in a UN Development Program report was that this would put too much pressure on poorer countries’ statistical capacities. It was argued that while the concept of “governance indicators” is on the rise from the national to international level, statisticians have shied away from this task due to a lack of data, a perceived lack of experience and the political sensitivity of the endeavor (UNDP, 2010, p. 5). This admission highlights the precarious situation of the statistical offices, and begs the question: If this applies to the governance indicators, what are the effects of the Millennium Development Goals’ data demands on the national statistical office?

The response from the national accounts divisions, the statistical offices, international and national stakeholders is univocal.<sup>23</sup> The pressure currently put on statistical offices is not yet matched by their capacity. A discussion paper by Alvarez *et al.* (2011) provides a listing of all the available data relating to 12 MDG targets from 1990 to 2009, for each Sub-Saharan African country.<sup>24</sup> The data availability picture is a mixed one: nine countries have data at least as recent as 2005 for all but one of the targets (Liberia is the only country with recent data for all targets) and most countries have at least some data over the time period for all but one target. Somalia and Sudan have no data at all. Note that the poverty data are consistently where we find the fewest recent observations; this is because processing of the survey instruments used to measure poverty required more costly data collection and analysis procedures (Guenard and Mesple-soms, 2010). Also note that this only surveys a subset of 12 MDG indicators, and the data availability situation for all 48 indicators is likely to provide a more pessimistic picture. The latest MDG progress report does briefly mention issues of data availability, but does not ask how this may effect evaluation, nor does it discuss issues of statistical capacity (United Nations, 2011). Vandemoortele claims that in the case of the

<sup>23</sup>Personal communication on research visits to Ghana, Nigeria, Uganda, Kenya, Tanzania, Malawi, and Zambia, 2010.

<sup>24</sup>The observations for start and end dates: 1990 and 2009 are estimates only.

MDGs, statistics have been abused to fabricate evidence of success, and furthermore, that the use of quantitative targets has promoted a one-dimensional view of development and the process has strengthened the “money-metric and donor-centric view of development” (Vandemoortele, 2011, p. 1). Sanga argued specifically regarding the MDGs that: “a major weakness is the assumption that data would be available. Countries have been struggling to build their capacity to collect, process, and disseminate the requisite data” (Sanga, 2011, p. 113).

In some cases, the MDGs have meant a windfall of economic resources for the statistical offices. National accounts divisions have complained that this means that staff from already undermanned divisions are pulled to sections where data are collected for the MDG indicators. National stakeholders, such as the central banks, have lamented that they suspect that the quality of the important economic growth data have been decreasing and have noticed that, as a result of more resources being available for data collection, analysis and dissemination have suffered. These concerns have been echoed by representatives from IMF and World Bank.<sup>25</sup> The concern is that the limited capacity of the statistical offices is further constrained by the Millennium Development Goals agenda.

How can statistical capacity be improved and monitored? Some efforts are being made through the National Strategy for the Development of Statistics (NSDS).<sup>26</sup> It is a program developed by Partnership in Statistics for Development in the 21st Century (PARIS21, 2011a), founded by the UN, EC, IMF, WB, and OECD in 1999, with the purpose of strengthening statistical capacity in developing countries. Only 27 African countries have implemented a strategy; and, of those that have implemented plans, their success has not been investigated in any detail—at least not according to the publically available reports. An NSDS summary report published by PARIS21 in March 2011 states that 27 African countries are currently implementing a strategy, 18 are currently designing or awaiting adoption of a strategy, 6 have either an expired strategy or no strategy but are currently planning an NSDS, and 2 countries either have a strategy that has expired or no strategy, with no plan to develop a new one as yet (PARIS21, 2011b).

At the country level, NSDS planning reports include a review of the Strengths, Weaknesses, Opportunities, and Threats (SWOT) assessment section which provides some insight into what some of the persistent problems might be in Ghana, Ethiopia, Republic of Kenya, Republic of Liberia, and Mauritius.<sup>27</sup> While a number of the reports provide a rather generic SWOT analysis, a handful were quite candid in their response. For example, the reports of Kenya, Ethiopia, and Liberia all noted that development partners can be part of the problem. However, a lack of available NSDS country assessments makes it difficult to establish a clear picture of the overall success rate of the program. Statistical capacity building

<sup>25</sup>Personal communication on research visits to Ghana, Nigeria, Uganda, Kenya, Tanzania, Malawi, and Zambia, 2010.

<sup>26</sup>Other initiatives such as the PARSTAT project (Programme d’Appui Régional à la Statistique) financed by the EU and implemented by Afristat) is one example.

<sup>27</sup>Ghana: “Ghana Statistics Development Plan 2009–2013,” November 2008; Ethiopia: “National Strategy for the Development of Statistics 2009–2014,” 2008; Republic of Kenya: “Ministry of Planning and National Development’s Strategic Plan for National Statistical System 2003/4–2007/8,” 2003; Republic of Liberia: “National Strategy for the Development of Statistics (NSDS), 2009–2013,” 2008; Republic of Mauritius: “National Strategy for the Development of Statistics (NSDS) 2007–10,” 2007.

success depends on actual implementation of the NSDS recommendations, and the evidence in the existing reports and sentiments expressed by statisticians and development scholars is that the NSDS ranks low on the priority list for both governments and donors alike. The changes in agenda signaled by documents such as the poverty reduction strategies papers and the millennium development declaration has meant that we today are much more able to monitor development at the household level and that we have much more data on the social indicators than before, but there has not been a parallel expansion in the capacity of preparing comparable GDP estimates across Sub-Saharan Africa.

#### 4. CONCLUSION

The cases of upward revisions discussed here point to a general problem of dealing with ad-hoc revisions. Ghana's income was just revised upwards by over 60 percent. More upward revisions are likely to be forthcoming from other countries, and it is not likely that they will be as well documented as they were in the cases of Ghana, Tanzania, and Zambia discussed here. Perhaps most surprisingly, upwards revisions like these are in line with global standards. Some countries are still following the 1968 Standard of National Accounts, while others have already implemented the 1993 or 2008 standard.<sup>28</sup> The problem is that they are unequally adapted at the local level. Furthermore, there is no agreement on a method for dealing with the growth effects of these revisions. The national income accountants in the countries that I visited had been contacted recently by IMF representatives who recommended substantial upward revisions of the national income estimates. It was recommended that the increase be "spliced" in backwards, thus creating an illusory acceleration of economic growth in the most recent years. Essentially this means that instead of adding a 60 percent increase in a single year, the increase is divided into separate parts and added to the estimates for earlier years. An equally important issue is how the revisions affect cross-country comparisons. As a result, the data used to assess development are in a precarious state.

What to do about it? Best practice needs to be based on local conditions and not solely on international standardization. Transparent recording of data deficiencies that pertains to specific countries is sorely needed. Drawing attention to data deficiencies is not only a first step toward solving them; it will also mean that the chances that scholars and practitioners of development do not draw incorrect inferences from poor statistics are decreased.

Ambition regarding monitoring efforts over a specific project should also be tempered by a holistic view on the capacity of the statistical office to deliver information upon which one can confidently govern. The MDGs agenda is committing the same mistakes as were committed at independence, during structural adjustment and during the era of poverty reduction. Targets, and the policies needed to reach them, were identified first, but less thought was given to where this

<sup>28</sup>As far as has been possible to gather; only Cameroon and Lesotho are currently on the way to upgrade to SNA 2008. The majority of countries reported using SNA 1993, while three of 23 responding countries reported using 1968 SNA. If one should venture a guess, it is not likely that non-responding countries have more up to date methodologies, rather the opposite.

information should come from. It may be a useful suggestion to turn the initial question around. Rather than asking what kind of development we should target—the question should be: what kind of development can we monitor.

Currently funds are being made available to statistical offices but in an uncoordinated fashion. Typically, support has been ad-hoc and directly linked to particular donor funded projects. In this manner, donors distort data production rather than building up statistical capacity. It has been observed that this stretches current manpower and infrastructural resources. The statistical officers are richly remunerated in terms of per diem allowances when engaged in data collection, but this means less people and resources for analysis and dissemination.

The international standardization of measurement of economic development has led to a procedural bias. Thus, there has been a tendency to aim for high procedural adherence, rather than to focus on the contents of the measures. Development measures should take their starting point in local data availability, and not create measures reliable by appearance only. A typical tendency has been to aim for high “validity” in terms of adherence to an international standard, rather than reliability. There is a preference for aggregation, a preference for conducting a census and for getting the accurate level estimates. These preferences come at the expense of prioritizing frequent reporting of survey data that tells data users something useful about changes. In practice this means that there is funding made available for big one off data collection projects. This preference is shared by the statistical office and donors, as the statistical office gets access to per diem funding for data collection, while the donors fulfill demanding global standards of statistical sophistication.

A change in the funding structure at the statistical offices is needed: not only more funding, but funding geared toward reliable and frequently disseminated surveys. It is better to survey 50 minibuses each year and thereby get an impression of earnings and services provided in the small scale transport sector regularly, rather than to have one transport census every 30 years and hope that change before, after, and in between roughly follows the number of license plates issued in the country. There also needs to be a shift in funding so that statistical offices are rewarded for dissemination and analysis. Independence of the statistical office is not only a legal matter; it also derives from the ability to survey, analyze, and disseminate. More regular survey funding would also leave the statistical offices with a better capability to collect data independently of government or donor projects in the country.

Income and growth data users are currently given very little help from the data providers. The metadata—information accompanying the data files—are lacking or insufficient. In order to better judge the quality of the estimates, the user needs to know when the last revision of the baseline estimate was undertaken. The availability of data on the informal sector will depend on when the last time a household budget survey was conducted. Finally, to avoid misunderstandings, the data users should be informed about the structural breaks in the series. Transparency in reporting, meaning that international databases acknowledge their sources and report metadata appropriately, will be helpful in turning the attention of the development community to the important role played by the local statistical offices.

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