

MORTEN JERVEN

POOR NUMBERS

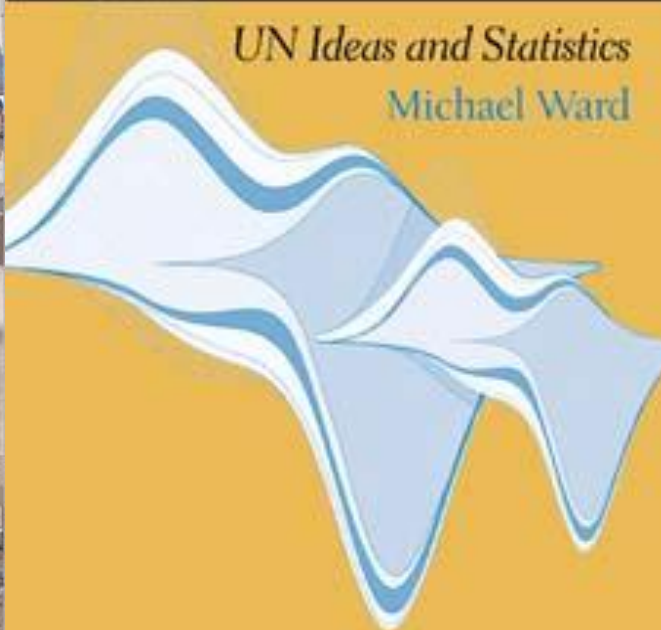
HOW WE ARE MISLED BY AFRICAN DEVELOPMENT
STATISTICS AND WHAT TO DO ABOUT IT



Quantifying the World

UN Ideas and Statistics

Michael Ward



United Nations Intellectual History Project Series

GDP

A BRIEF BUT AFFECTIONATE HISTORY

DIANE COYLE

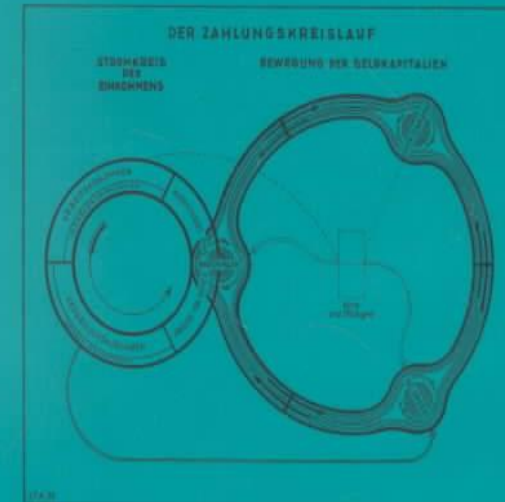
REVISED AND EXPANDED EDITION

CAMBRIDGE STUDIES IN MODERN ECONOMIC HISTORY

Statistics and the German
State, 1900–1945

The Making of Modern Economic Knowledge

J. Adam Tooze



Auditing the World: The IMF

Morten Jerven - Norwegian University of Life Sciences

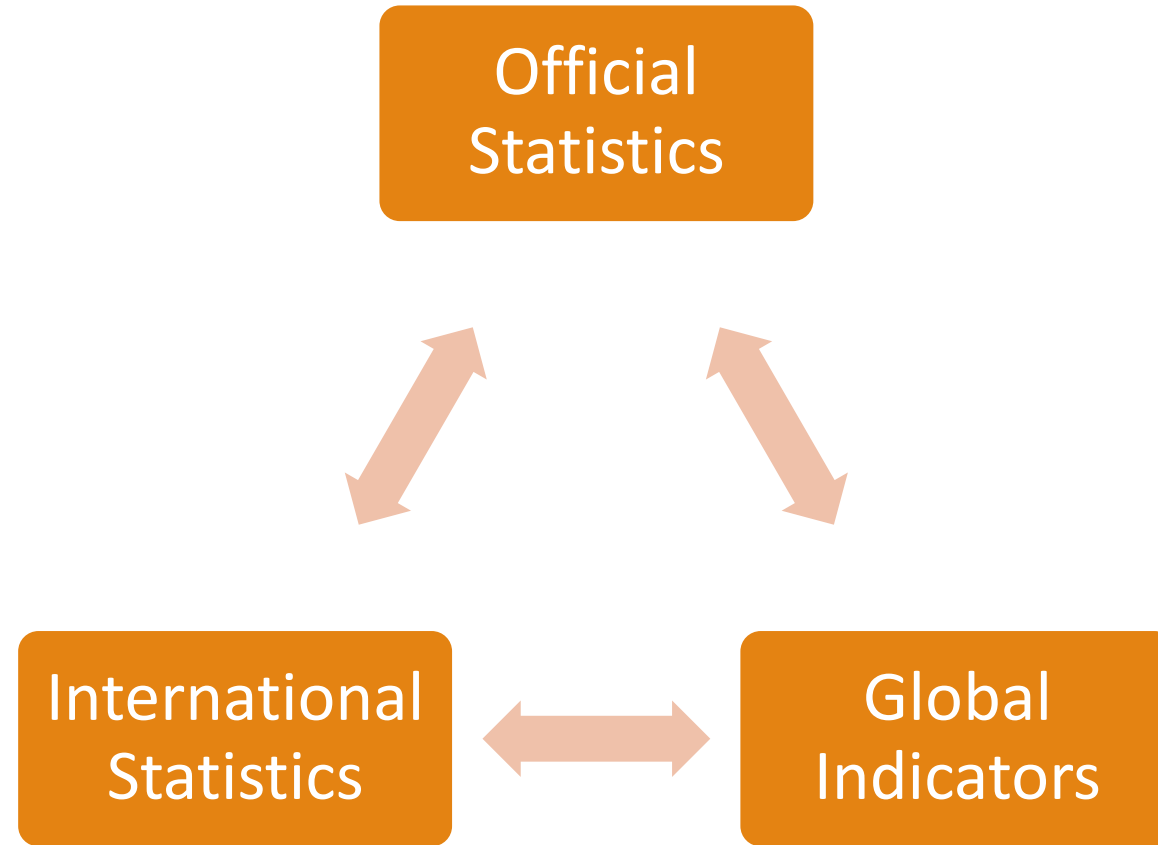
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Ruling the World By Numbers

06.02.2017	1. Ruling the world by numbers: introduction
13.02.2017	2. States and statistics: Why do states count?
20.02.2017	3. Auditing the world: The IMF
27.02.2017	4. Counting the poor: The World Bank
06.03.2017	5. A world that counts: from millennium development goals (MDGs) to sustainable development goals (SDGs)
13.03.2017	6. Poor Numbers? Statistical capacity in low income countries
20.03.2017	7. Governance matters: democracy by numbers
27.03.2017	8. Correlates of war: Studying war and peace by numbers
03.04.2017	9. Evidence based policy : Knowledge and governance requirements
11.04.2017	Easter BREAK
18.04.2017	Easter BREAK
25.04.2017	10. Contesting poor numbers: qualitative and quantitative research.
08.05.2017	11. Conclusion

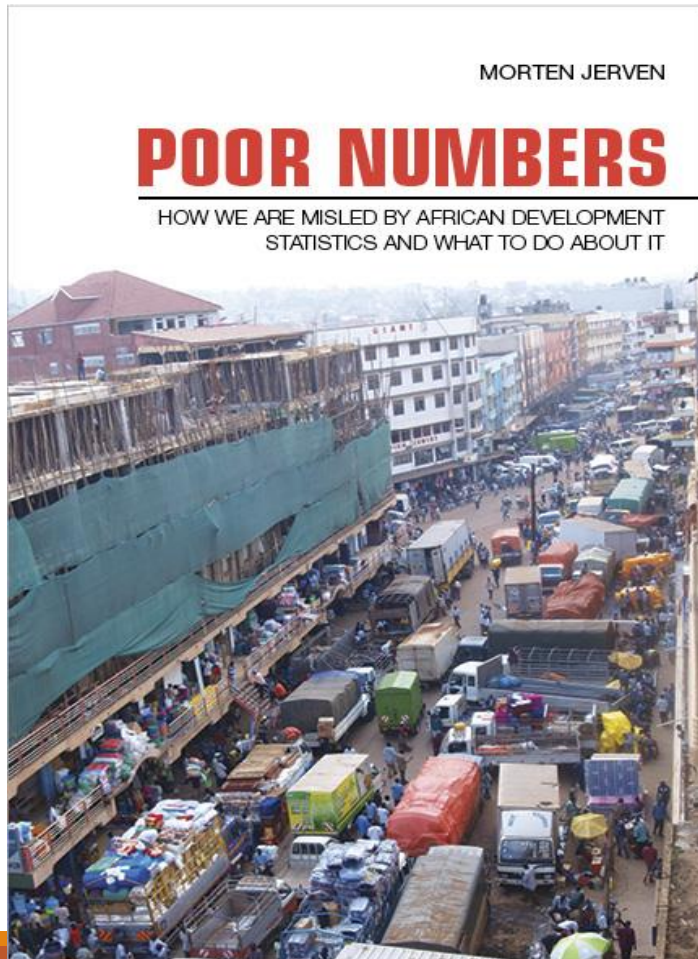
Official Statistics, International Statistics and Global Indicators



Outline

1. Poor Numbers
2. The IMF

Poor Numbers



1. What Do We Know about Income and Growth in Africa?
2. Measuring African Wealth and Progress
3. Facts, Assumptions, and Controversy: Lessons from the Datasets
4. Data for Development: Using and Improving African Statistics

The Knowledge Problem

The Symptom of a Problem

On the 5th of November, 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 income level of Ghana by about 60 percent and, in dollar values, the increase implied that the country moved from being a low income country to a middle income country overnight.

Undoubtedly – This good news, but a knowledge problem emerges.

Reactions

- Todd Moss at CGD: Boy we really don't know anything!
- Andy Sumner and Charles Kenny in the Guardian: Ghana escapes the 'poverty trap'. Paul Collier and Dambisa Moyo are wrong!
- UNDP in Ghana: It is a statistical illusion.
- Shanta Devarajan, World Bank Chief Economist for Africa: declares Africa's statistical tragedy.

Is Africa much richer than we think?

Nigeria just announced the GDP figures – GDP almost doubled...

In 2012 I guesstimated (in African Affairs) that GDP in Nigeria was underestimated that were about 40 'Malawis' unaccounted for inside Nigeria...

Is Africa much richer than we think?

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Turns out there were 58...

A validity test

For year 2000 take all available GDP per capita estimates in international USD for African countries from the three most commonly used data sources and rank them from poorest to richest.

MADDISON			WDI			PWT		
1	Congo, Dem. Rep.*	217	Congo, Dem. Rep.*	92	Congo, Dem. Rep.*	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	1018		
18	Rwanda	819	Togo	323	Mali	1047		
19	Mali	892	Kenya	328	Sudan	1048		
20	Gambia	895	Central African Rep.	339	Uganda	1058		
21	Burkina Faso	921	São Tomé & Príncipe	341	Nigeria	1074		
22	Liberia	990	Uganda	348	Mozambique	1093		
23	Sudan	991	Gambia, The	370	Benin	1251		
24	Mauritania	1017	Zambia	394	Kenya	1268		
25	Kenya	1031	Ghana	413	Congo, Rep.	1286		
26	Cameroon	1082	Benin	414	São Tomé & Príncipe	1300		
27	São Tomé & Príncipe	1226	Comoros	436	Comoros	1359		
28	Nigeria	1251	Mauritania	495	Ghana	1392		
29	Ghana	1270	Angola	524	Mauritania	1521		
30	Benin	1283	Lesotho	548	Senegal	1571		
31	Zimbabwe	1328	Guinea	605	Lesotho	1834		
32	Côte d'Ivoire	1352	Senegal	609	Angola	1975		
33	Senegal	1358	Zimbabwe	620	Cote d'Ivoire	2171		
34	Mozambique	1365	Cameroon	675	Cameroon	2472		
35	Lesotho	1490	Cote d'Ivoire	739	Guinea	2546		
36	Cape Verde	1777	Congo, Rep.	791	Zimbabwe	3256		
37	Congo	2005	Swaziland	1538	Cape Verde	4984		
38	Swaziland	2630	Cape Verde	1541	Namibia	5269		
39	Namibia	3637	Equatorial Guinea	1599	Equatorial Guinea	6495		
40	Gabon	3847	Namibia	2366	Botswana	7256		
41	South Africa	3978	Botswana	3931	South Africa	8226		
42	Botswana	4269	South Africa	4020	Swaziland	8517		
43	Seychelles	6354	Mauritius	4104	Gabon	10439		
44	Equatorial Guinea	7973	Gabon	4378	Seychelles	10593		
45	Mauritius	10652	Seychelles	6557	Mauritius	15121		

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What do we know about Income and Growth in SSA?

- World bank data have GDP estimates for all countries from 1960 until 2015.
- But: some have not yet published numbers – there are breaks in the series...

Where does the international databases get their data from?

Where Does the Data Come From?





What Happened in Ghana?

- A revision of the base year...
- How is GDP measured?
- $Y = C + I + G + (X - M)$
- $Y = \text{Wages} + \text{Profits} + \text{Rents}$
- $Y = \text{Sector Production} - \text{Intermediate Consumption} = \text{Value Added}$
 - (Agriculture + Mining + Manufacturing + Construction + Trade + Transport + Private and Public Services)

What happened in Ghana?

- A revision of the base year...
- How is real GDP measured?
- $Y = C + I + G + (X - M)$
- $Y = \text{Wages} + \text{Profits} + \text{Rents}$
- $Y = \text{Sector Production} - \text{Intermediate Consumption} = \text{Value Added}$
 - (Agriculture + Mining + Manufacturing + Construction + Trade + Transport + Private and Public Services)
- It needs to be expressed in constant prices – how is that done?

What Happened in Ghana?

Sectors	1993	1994	2010
Agriculture	Value	Volume or Proxy* 1993 Base		Rebase to 2006
Manufacturing	Value	Proxy*1993 Price		Rebase to 2006
Mining	Value	Proxy*1993 Price		Rebase to 2006
Construction	Value	Proxy*1993 Price		Rebase to 2006
Retail/Wholesale	Value	Proxy*1993 Price		Rebase to 2006
Communications	Value	Proxy*1993 Price		Rebase to 2006
Services	Value	Proxy*1993 Price		Rebase to 2006
GDP	SUM	SUM		SUM

IMPORTANCE OF THE BASE YEAR

- Until 2010 Ghana used 1993 as base year.
- A base year change coincides with changes in methods and basic data.
- A break in the series

What Do We Know about Income and Growth in SSA?

What happens when there are gaps or breaks in the data?

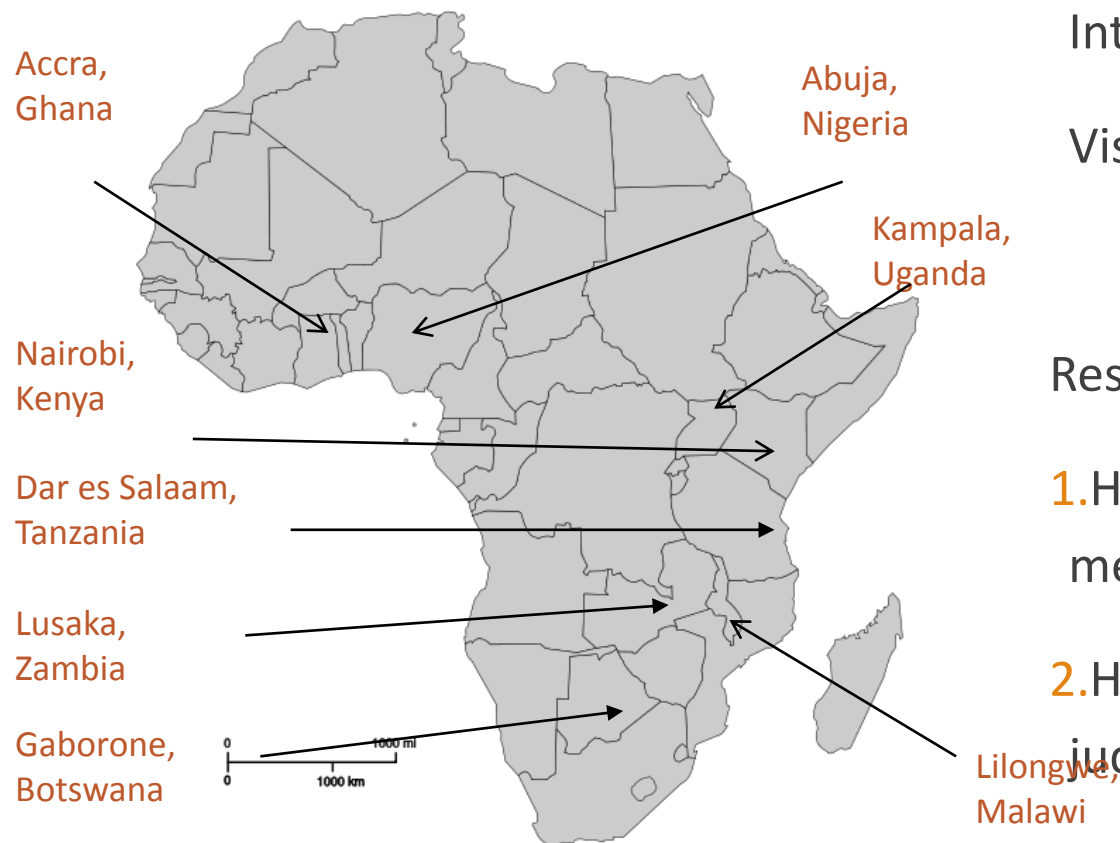
According to the manual: The Bank uses 'a method for filling the data gap'.

In 2007 I wanted to access the real data behind the time series:

“Raw data provided by the National Statistics Agencies are not available for external users and only handful of people at the World Bank have access to it.”

“You may want to visit the National Statistics Offices website or contact them directly.”

Field Work, West, East and Central Africa 2007-2010



Interviews and Archival work

Visiting Central Statistical Offices

Research questions:

1. How is national income measured?

2. How does it affect prevailing judgments on African Growth

+ Archival Work

+ Email survey: Burundi, Cameroon, Cape Verde, Guinea, Lesotho, Mali, Mauritania, Mauritius, Morocco, Namibia, Mozambique, Niger, Senegal, Seychelles and South Africa

The Knowledge Problem Across Space

Table 1.2. Availability of national accounts data at statistical offices in Africa and comparison of country-level GDP and World Development Institute GDP

Country	Estimate	Base year	GDP from country ¹	GDP from WDI ¹	% difference
Angola	—	—	—	5,989	
Benin	2007	—	2,642	2,658	-0.6
Botswana	2004	1993/94	47	47	0.0
Burkina Faso	2005	1999	2,881	2,863	0.6
Burundi ^{2, 3}	2007	2006	1403	1,060	32.4
Cameroon ²	2009	2002	11,040	10,474	5.4
Cape Verde ^{2, 3}	2007	1980	107	107	0.0
Central African Republic ³	2003	1985	670	662	1.2
Chad ³	2009	—	3,622	3,228	12.2
Comoros ³	—	—	—	153	
Cote d'Ivoire	2005	1996	9,012	8,631	4.4
Democratic Republic of Congo ³	—	—	—	3,366	
Djibouti ³	2000	—	91	—	
Equatorial Guinea ³	2002	1985	1,524	1,496	1.9
Eritrea ³	—	—	—	18	
Gabon ³	2008	2001	7,033	6,509	8.1
Gambia ³	2008	2004	23	18	27.8
Ghana ²	2009	2006	37	37	0.0
Guinea ^{2, 3}	2008	2003	20,982	20,780	1.0
Guinea-Bissau ³	2006	1986	172	303	-43.2
Kenya ²	2009	2001	2,366	2,274	4.0
Lesotho ^{2, 3}	2008	2004	13	13	0.0
Liberia ³	—	—	—	59,840	

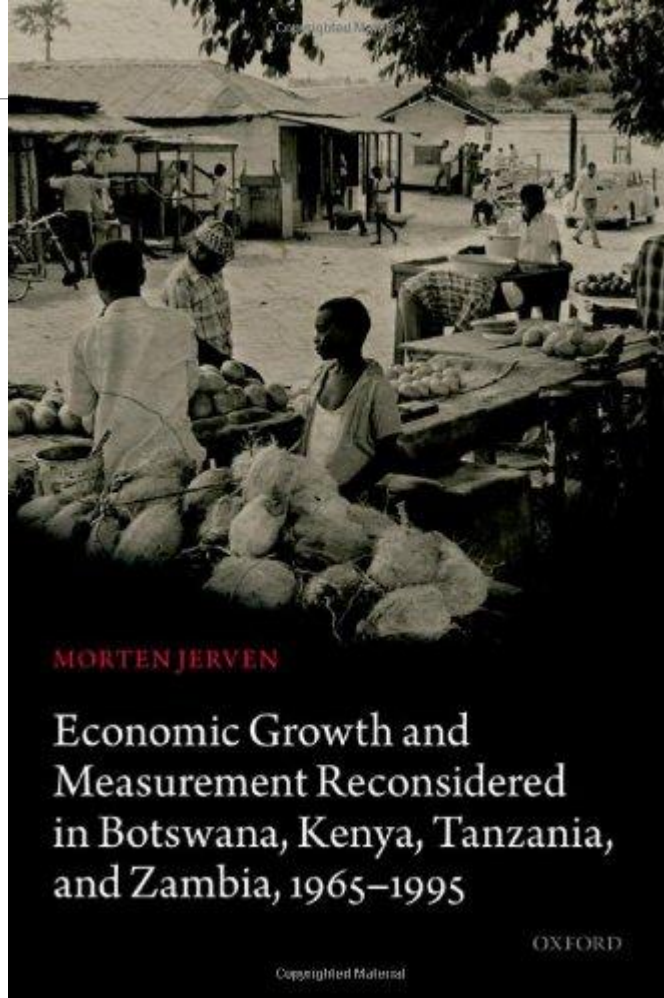
Madagascar	2009	1984	16,802	16,604	1.2
Malawi ^{2, 3}	2007	2007	511	484	5.6
Mali ^{2, 3}	2008	1997	—	3,067	
Mauritania ^{2, 3}	2007	2005	915	734	24.7
Mauritius ^{2, 3}	2010	2007	300	300	0.0
Mozambique ²	2009	2003	326	280	16.4
Namibia	2008	2004	82	74	10.8
Niger ^{2, 3}	2010	2006	2,748	2,748	0.0
Nigeria ^{2, 3}	2008	1990	24,665	24,553	0.5
Republic of Congo ³	2009	1990	3,870	4,523	-14.4
Rwanda ³	2010	2006	3,282	3282	0.0
Sao Tome and Principe	2006	2001	1,445	1,546	-6.5
Senegal ²	2009	1999	6,029	6,023	0.1
Seychelles ^{2, 3}	2008	2006	9	9	0.0
Sierra Leone ^{2, 3}	2007	2001	4,967	5,829	-14.8
Somalia ³	—	—	—	1,347,900	
South Africa ²	2010	2005	2,663	2,663	0.0
Sudan ⁴	—	—	—	—	
Swaziland ³	—	—	—	12,771	
Togo ³	—	—	—	28,213	
Tanzania ²	2010	2001	32,294	32,493	-0.6
Uganda ^{2, 3}	2009	2002	34,166	30,101	13.5
Zambia ²	2008	1994	55,211	54,839	0.7
Zimbabwe ²	—	—	—	5,625	

Country	Base Year	Planned Revision	Years Btw Revisions
Angola	1987	2002 (2013)	15
Burundi	1996	2005 (n/a)	10
Benin	1985	1999 (2014)	14
Burkina Faso	2006		
Botswana	2006		10(1996-06)
Central African Republic	1985	2005 (2014)	20
Cote D'Ivoire	1996		
Cameroon	2000		
DRC	1987	2002 (2014)	15
Republic of the Congo	1990	2005 (2013)	15
Comoros	1999	2007 (2013)	17
Cape Verde	2007		28 (1980-07)
Eritrea	2004	Not compiled after 2005	
Ethiopia	2000/01	2010/11 (2013)	10
Gabon	2001		
Ghana	2006		13 (1993-06)
Guinea	2003	2006 (2013)	3
Gambia	2004		28 (1976/77-2004)
Guinea-Bissau	2005		19
Equatorial Guinea	1985	2007 (2013)	22
Kenya	2001	2009 (2013)	8
Liberia	1992	2008 (2015)	16

Country	Base Year	Planned Revision	Years Btw Revisions
Lesotho	2004	2013 (2015/16)	10
Madagascar	1984		
Mali	1987	1997 (2013)	10
Mozambique	2003	2009 (2013)	6
Mauritius	2007	2012 (2015)	5
Malawi	2009	2014	5 (2002-07)
Namibia	2004	2009(2013)	6
Niger	2006		19
Nigeria	1990	2010 (2013)	not known
Rwanda	2006	2011 (2013)	5
Senegal	1999	2010 (2014)	11
Sierra Leone	2006		5 (2001-06)
South Sudan	2009		
Sao Tome and Principe	1996	2008 (na)	12
Swaziland	1985	2011 (2014)	
Seychelles	2006		
Chad	1995	2005(2014)	10
Togo	2000		22
Tanzania	2001	2007	6
Uganda	2002	2009/10 (2013)	8
South Africa	2005	2010 (2014)	5
Zambia	1994	2011 (2013)	
Zimbabwe	1990		

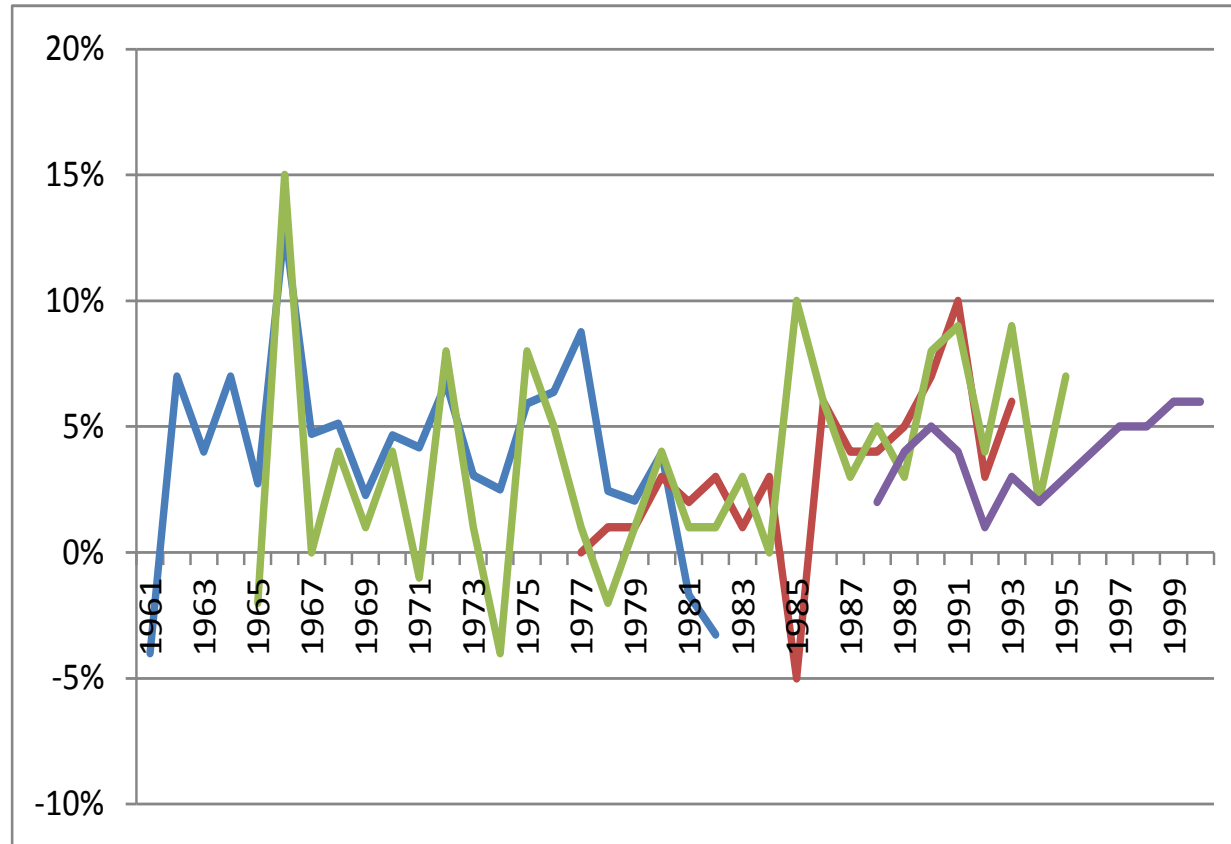
The Knowledge Problem Across Time: Reliability

Economic Growth and Measurement Reconsidered



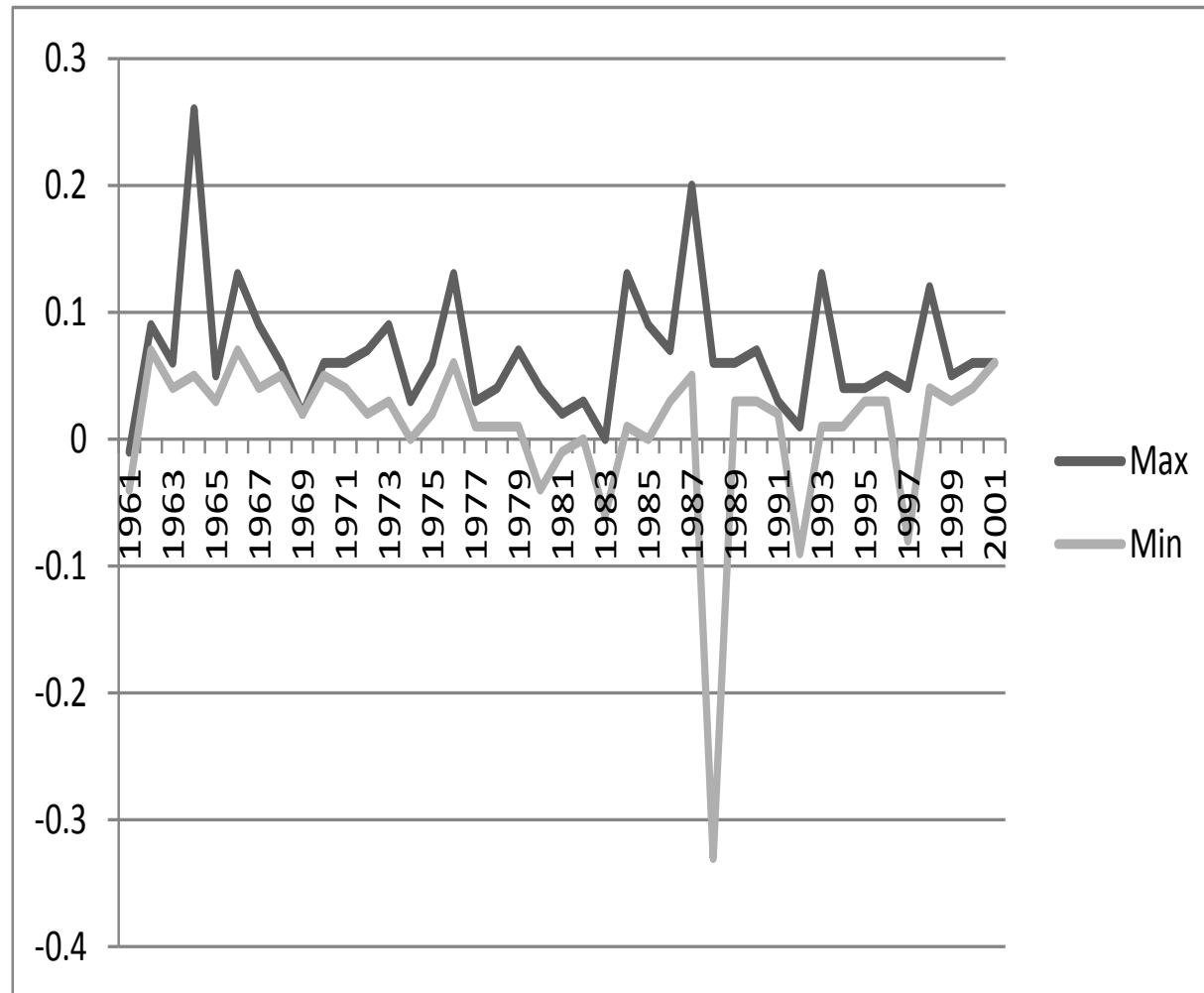
Country studies of Economic Growth in
Botswana, Kenya, Tanzania, and Zambia,
1965-1995

Figure 2: GDP growth at constant prices, Tanzania 1961 – 2001



Sources: National Accounts Tanzania (various editions).

Figure 1: Annual Range of Disagreement in GDP Growth Rate, Tanzania 1961 – 2001



Sources: Tanzania: National Account Files, WDI: World Development Indicators 2003, PWT: Penn World Tables
Heston A., Summers R. and. Aten B (2006) and Maddison: Angus Maddison (2009).

A very short history of statistical capacity

1. Scholarly and Colonial Estimates

- Rich debates – roots of the current system.

2. Independence and the Development State

- Richer administrative data + household surveys, industrial census, population census.

3. 'Lost Decades'

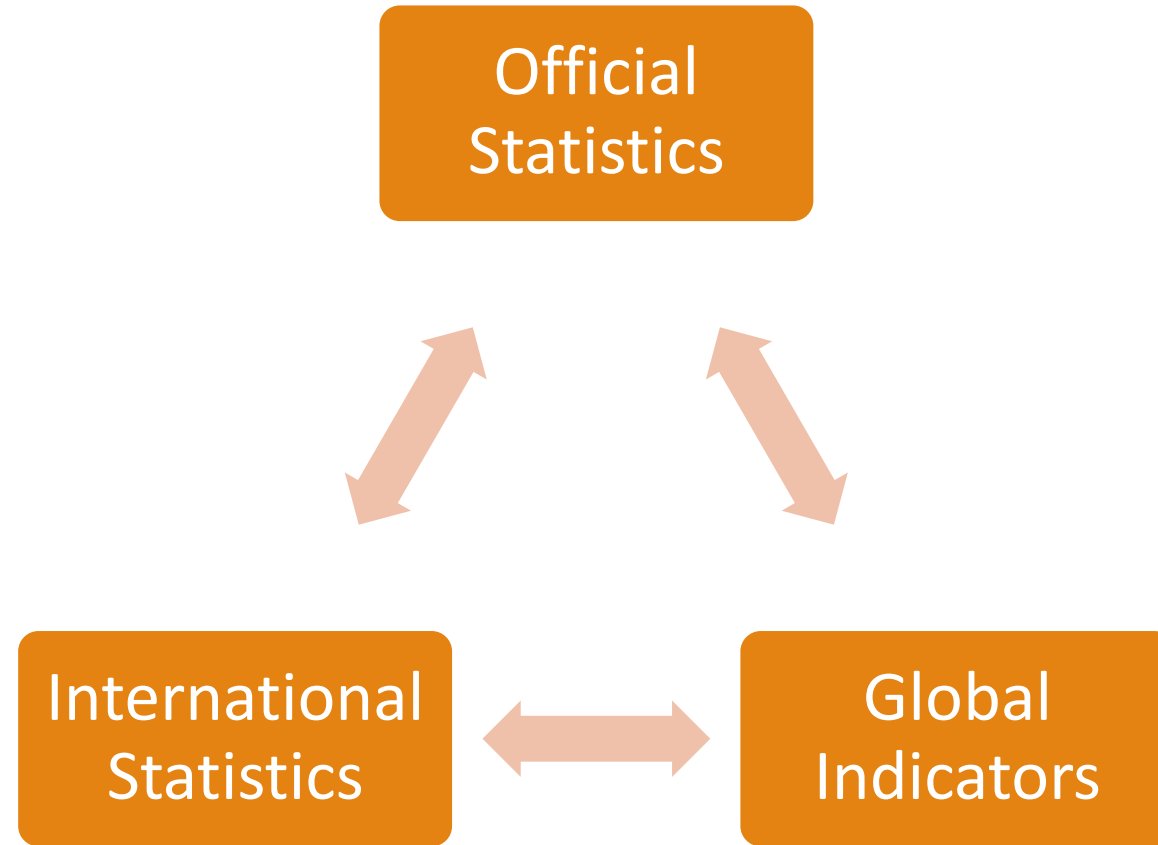
- Double shock to the statistical system
- The informal economy and constrained administrative funding.

4. From Poverty to MDGs

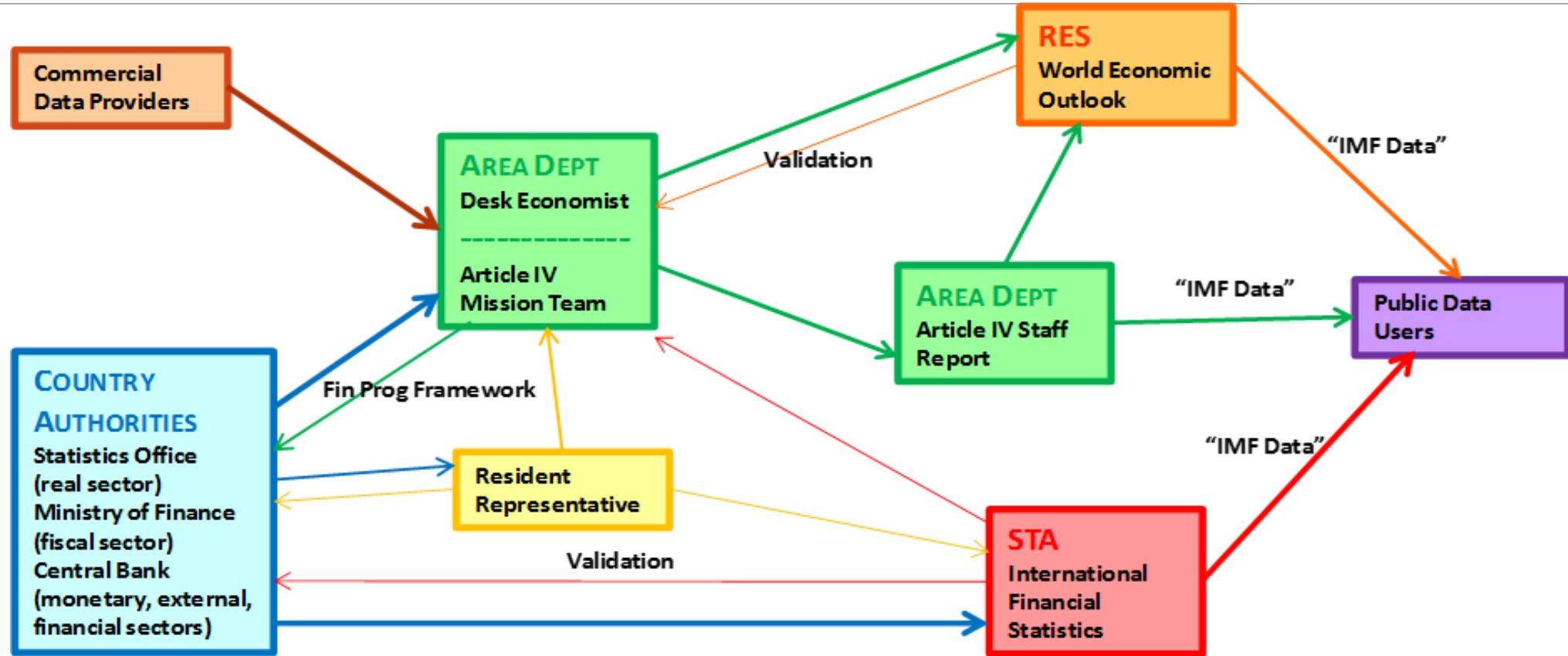
- New demands on an already weakened statistical office.
- MDGs: 8 Goals, 18 indicators and 48 targets
- SDGs: 17 Goals, 169 indicators and 230 targets?

Auditing the World: The IMF

Official Statistics, International Statistics and Global Indicators



How does the IMF get their data?



Economic expertise and local knowledge



Quality Assurances?

1. Article IV Report
2. DDSB
3. ROSQ

Problems: Time, Incentives and Resources

Results

1. Decisions based on affiliation and trust, not a sober analysis of the data.
2. Data agreement indicate political closeness rather than informational quality.
3. Large gaps and disagreements between IMF databases – translated into confusion among other databases.

How the IMF does (or doesn't) check the quality of statistics from low income countries

Table 1. The Managing Director's Position on IEO Recommendations

Recommendation	Position
1) Develop a long-term strategy for data and statistics in the IMF	Support
2) Define and prioritize the Fund's data needs and support data provision by members accordingly	Support
3) Reconsider the role and mandate of STA	Qualified Support
4) Reexamine staff incentive in the area of data management	Support
5) Make clear the limits of IMF responsibility regarding the quality of disseminated data, together with clarifying the distinction between "IMF data" and "official data."	Support

Beyond GDP: What if the world was not governed according to GDP

1. Environment
2. Gender Equality
3. Leisure