

Postscript to the article ‘World inequality and globalization’ (Oxford Review of Economic Policy, Spring 2004). Bob Sutcliffe, April 2007.

1. In ‘World inequality and globalization’ I tried to summarize the evolution of the overall distribution of world income during the 20th century. Since there is virtually no disagreement that from the beginning of the century until about 1980 there was a major rise in global inequality (although measurements of it are rather approximate), the article concentrated on disagreements about what happened to global distribution after 1980 over which there has been considerable disagreement.

My result was that the global gini coefficient fell in each of the two decades studied, as did the ratio between the top and bottom 50 per cent, and 20 per cent of the population. But the ratio between the top and bottom 10 and 5 per cent fell in the first decade and rose in the second; and the ratio between the top and bottom 1 per cent rose considerably in both of the decades. So overall inequality (measured by the Gini) seemed to fall while the ratio of the extremes rose.

2. Problems with the methodology

There were three main problems with the methodology. The first was combining a figure derived from national accounts (GNI or GDP per head) with a distribution estimate derived from direct income and consumption household surveys. It is dangerous to assume that the parts of national income which are not personal income or consumption are distributed between persons in the same way as personal income. Part of the answer to this is Branko Milanovic’s ‘true’ distribution method which by-passes the use national accounts based figures altogether. That, however, still does not account for the contribution of unpaid public services to welfare. Nor does it avoid a second problem. This is the insufficient number of countries and years for which comparable household income or consumption studies are available to make a definitive calculation of global distribution and its evolution.

3. Updating the conclusions.

Recently a greater amount of intra-country distribution data has become available (especially in the WIID dataset) and all three ppp GNI/GDP series has been updated. This may mean that at some point it will be possible to repeat my study in a more satisfactory way. All I have done here is to make some more limited calculations based on the World Bank’s GNI ppp estimates from 2000 to 2005 and the latest national distribution data at the decile/quintile level of disaggregation, published in WDI 2006 (Table 2.8). This GNI ppp figures exist for 156 countries (96 per cent of world population) and the distribution figures exist for 126 countries containing 93 per cent of world population. I did two sets of calculations: one for inter-country distribution (that is, not including intra-country distribution) and another for global distribution (including intra-country distribution) and compared them where possible with my earlier results.

4. Measures of inter-country distribution, 2000–2005.

Table 1: *The inter-country Gini coefficient and ratios top to bottom 50, 20, 10, 5 and 1 percent of the population, for 157 countries, 2000–2005.*

Variable ▼	Year ►	2000	2001	2002	2003	2004	2005
Population (mill.)		5,860	5,930	6,000	6,070	6,140	6,210
Gini:		0.549	0.543	0.538	0.531	0.525	0.518
50/50		5.46	5.33	5.26	5.15	5.07	4.97
20/20		17.13	16.94	16.88	16.70	16.58	16.39
10/10		34.20	33.76	34.30	34.18	34.25	34.34
5/5		49.69	48.93	49.81	49.37	48.98	48.39
1/1		64.80	63.86	61.72	60.86	60.68	60.59
Gini excluding China		0.574	0.572	0.570	0.567	0.564	0.560

Source of data: *WDI online edition 2007.*

5. Global distribution.

Table 2: *The 'global' Gini coefficient for decile/quintile incomes*

Variable ▼	Year ►	2005
Population (mill.)		6,011
Gini:		0.619
50/50		8.43
20/20		29.95
10/10		61.35
5/5		124.82
1/1		442.97
Gini excluding China		0.643

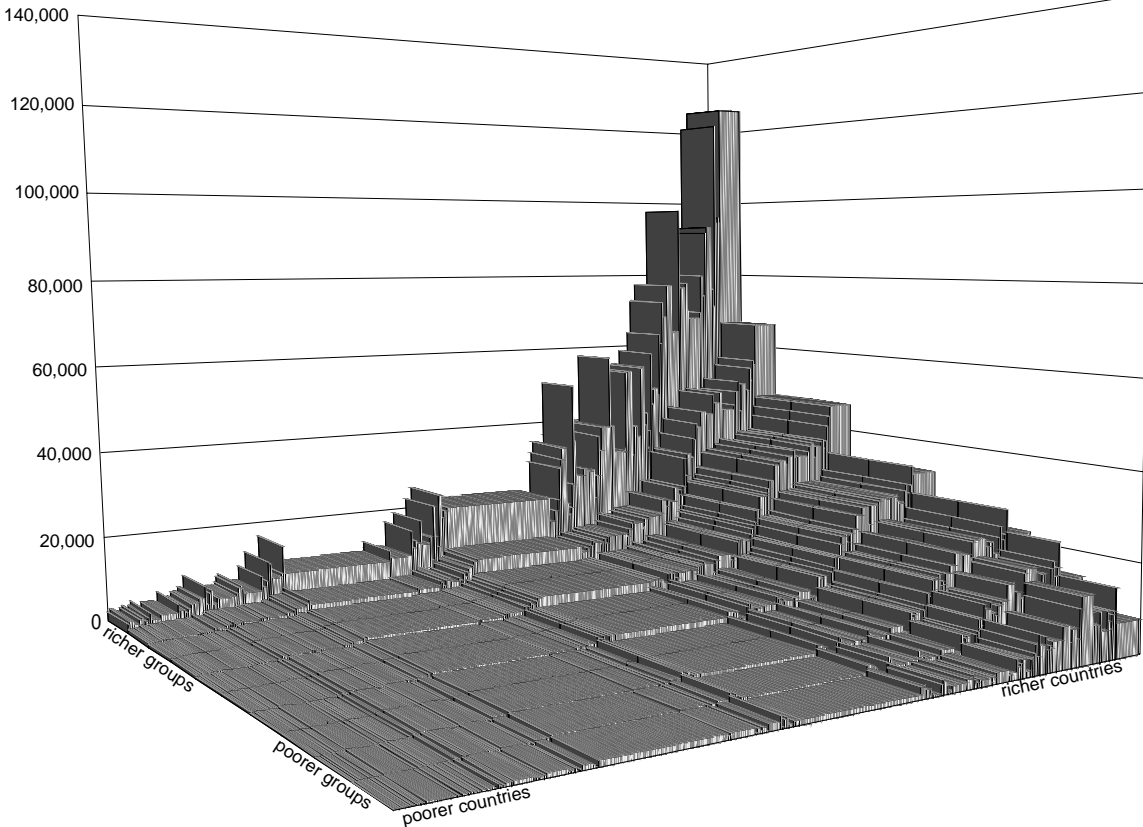
Source: calculated from WDI GNI per head 2005, with most recent country distribution figures (all from Table 2.8, WDI, 2006), for 126 countries.

The calculation of this global Gini coefficient is based on the 126 countries with decile/quintile distribution data in WDI 2007 (online version). This makes it roughly (but not strictly) comparable to the coefficients which were estimated in the article for previous years. These were (for 1980, 1990 and 2000 respectively) 0.667, 0.650 and 0.627. So the 2005 figure shows the continuation of a decline at a similar rate. But at the same time the inter-country Ginis in Table 1 show an accelerated rate of decline, which suggests support for the hypothesis that an increasing proportion of global inequality is produced by intra-country (as opposed to inter-country) inequality.

The data which formed the basis of the calculation in Table B can be plotted on a three-dimensional graph which I have found makes up in impact for what it lacks in exactitude.

A visualization of the global distribution of income, 2005

Gross national income per head, by decile, \$ppp



Source of data: as Table 2.

6. The three sources of ppp income/product data.

In the article I noted differences between the three sources of ppp income data and that these affected the calculation of inter-country Gini coefficients, although with diminishing effect. Comparing the latest versions of the three datasets, there are still some striking differences: for instance, the ratio between GDP or GNI per head between the USA and China for 2003 (the latest year for which a three-way comparison is possible) is 7.18 in WDI, 5.41 in Maddison and 5.28 in PWT. If, for each of the three sources, population and income per head figures for the years since 2000 are projected into the future, Chinese total GDP would overtake that of the USA in 2008 according to the World Bank figures, in 2011 according to PWT and should have already happened in 2006 according to Maddison. Table 3 shows the differences which emerge from the three estimates regarding overall distribution.

Table 3: *The inter-country Gini coefficient with ratios for the year 2003.*

Variable▼ Source▶	World Bank	Maddison	PWT 6.2
Population (mill.)	6,070	6,317	6,245
Gini:	0.531	0.515	0.511
50/50	5.15	5.04	4.69
20/20	16.70	15.79	15.06
10/10	34.18	33.00	32.94
5/5	49.37	51.77	51.91
1/1	60.86	122.48	83.76

Sources: WDI 2007, Maddison (March 2007 update) and Penn World Tables 6.2.

These are quite small except for the case of the ratio of the richest/poorest 1 percent of the population, which is lowest in the case of the World Bank, considerably higher in PWT and very much higher in Maddison. The reason for this is clear and can be seen in the differences in the population covered. PWT make an estimate for the GNI/GDP of nearly all countries, and Maddison for all countries, while the World Bank leaves gaps for several countries without official national accounts figures. The countries left out are nearly all in two categories – very high income, in particular oil-exporting countries, and very low income countries, in particular African countries in states of civil war or incomplete post-war reconstruction. This omission does not diminish the Gini coefficient (which is larger according to the World Bank figures) but it clearly does diminish the ratio of extremes.

7. Analysis of Table 2.8 of WDI 2006: Palma's law

One of the conclusions of the article was that the greatest variations have taken place in the ratios between the very rich and the very poor. Gabriel Palma (2005) has drawn attention to an analogous fact regarding differences in distribution between different countries: there is much more variation in the percentage of income received by the poorest and the richest groups while the middle groups' share shows 'extraordinary homogeneity' between different countries. Analyzing the information on distribution in 126 countries (Table 2.8 of WDI, print edition) strongly supports Palma's argument. The statistics of the separate and two possible combinations of decile groups is as follows:

Table 4: *Variations in the share of income going to different deciles/quintiles.*

Decile(s)▶ Measure▼	I	II	III+IV	V+VI	VII+VIII	IX	X	I – IV	V – IX
Average	2.4	3.7	10.4	14.7	21.1	15.4	32.1	16.7	51.2
SD	1.3	1.3	2.7	2.5	1.8	1.0	8.3	4.9	3.4
Coefficient of variation	0.424	0.338	0.259	0.168	0.086	0.067	0.258	0.296	0.078

Source: calculated from WDI 2006, Table 2.8.

In other words, the share of income going to the middle to upper middle part of the population is very much less variable than the share going to the groups richer or poorer than that. Hence, a measure of inequality based on a ratio of rich to poor produces a far wider range of measured inequality than an integral measure such as the Gini, as Table 5 shows.

Table 5: *The ratio of income/consumption of the top decile and the bottom decile.*

Most unequal (>30)		Least unequal (<7)	
Bolivia	157.3	Belarus	6.9
Namibia	129.0	Germany	6.9
Lesotho	96.6	Bangladesh	6.8
Botswana	80.9	Luxembourg	6.8
Paraguay	75.7	Slovak Republic	6.7
Central African Republic	68.1	Pakistan	6.6
Haiti	68.1	Ethiopia	6.5
Colombia	67.0	Kyrgyz Republic	6.4
Brazil	57.3	Sweden	6.2
El Salvador	55.4	Uzbekistan	6.1
Panama	54.5	Norway	6.0
Swaziland	50.2	Slovenia	5.9
Guatemala	48.2	Ukraine	5.9
Ecuador	46.2	Albania	5.9
Niger	44.3	Finland	5.7
Peru	39.3	Hungary	5.6
Chile	39.2	Bosnia and Herzegovina	5.5
Argentina	36.0	Czech Republic	5.2
Honduras	35.2	Japan	4.5
South Africa	31.9	Azerbaijan	3.3

Source: calculated from WDI 2006, Table 2.8.

The comparable figure for the world as a whole would be 61.4 (including intra-country inequality) or 34.3 (inter-country inequality only). On this and other measures, therefore, the world as an single entity is more unequal than all except a very few of its constituent countries. It is ironical that the world is more unequal than South Africa, whose inequality once aroused the almost universal fury of the world.

8. A general reflection.

Given the problems of method and data (the still uncertain nature of ppp estimates of income and the fact that national distribution estimates are produced infrequently and lag behind income estimates) it is impossible to be very confident in these estimates. That conclusion is strengthened by the fact that another method, which in principle seems preferable, has produced a radically different result for a five-year sub period of the 2½ decades studied (Milanovic, 2002). The data I have used nevertheless show a slow reduction in recent years in the Gini coefficient and in the partial ratios. Does that mean that the world is getting more equal? That is both a conceptual question (equality of what?) and a factual one (are the figures right and well calculated?). Conceptually a change in a measure of world income distribution is composed of myriad increases and decreases in more particular inequalities. In significant senses the world becomes both more equal and less equal all the time, though there are periods when one tendency strongly prevails, like the first three-quarters at least of the 20th century. As far as data is concerned, more abundant national survey data may change my conclusions, as could the serious revision of ppp estimates which is about to be published. Given the relative rates

of growth of countries such as India and China, however, new national income estimates are not likely to reverse the direction of change of inter-country distribution, although more recent authoritative data on intra-country distribution (especially in India and China) could well reverse the direction of change of the global distribution. The widely shared conclusion that intra-national inequalities are both growing and are coming to account for a large share of global equality than before may mean that the greater availability of recent, comparable intra-national distribution estimates, based on survey studies, could produce a major change in the conclusions which emerge from the easily available World Bank figures which I have used. In any event the direction of movement of some global figure, whatever it tells us about the overall trend of equality/inequality, can only tell a limited amount about how the trend is being brought about. There is a tendency to assume that if measures of global inequality then things are getting better with the world. Maybe, maybe not. A short-run reduction in inequality is not necessarily part of a long-run benign process, any more than an increase in inequality is necessarily part of a malign process (as in the original conception of the Kuznets curve).

References

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