Global income inequality: current trends and future developments

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Policy Research Talk

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World Bank Development Research Group
Washington, DC
A. National inequalities mostly increased
## Ginis in 1988 and twenty years later

<table>
<thead>
<tr>
<th></th>
<th>1988</th>
<th>2008</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Gini</td>
<td>36.0</td>
<td>38.5</td>
<td>+2.5</td>
</tr>
<tr>
<td>Pop-weighted Gini</td>
<td>33.9</td>
<td>37.3</td>
<td>+3.4</td>
</tr>
<tr>
<td>GDP-weighted Gini</td>
<td>32.2</td>
<td>36.4</td>
<td>+4.2</td>
</tr>
<tr>
<td>Countries with higher Ginis (38)</td>
<td>33.7</td>
<td>38.5</td>
<td>+4.8</td>
</tr>
<tr>
<td>Countries with lower Ginis (20)</td>
<td>40.5</td>
<td>37.7</td>
<td>-2.7</td>
</tr>
</tbody>
</table>

From final-complete3.dta and key_variables_calcul2.do

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Ginis in 1988 and 2008

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From key_variables_calcul3.do
Ginis in 1988 and 2008 (population-weighted countries)

From key_variables_calcul3.do
Inequality and income, 1950-2012

Use `finance_and_development\figure2.do`
Use `gdpppppreg4.dta`
Issues raised by growing national inequalities

• Inequality as one of the causes of the global financial crisis.
• Real inequality greater than measured inequality because rich people refuse to participate in surveys and hide their income and assets (growing issue)
• Perception of inequality outstrips real increase because of globalization, role of social media and political (crony) capitalism (example of Egypt)
• The effect on the political system
Difficult to explain developments using a single theory
No downward portion plotted against time or income: example of China 1964-2007

Against time

Against income

Based on giniall.dta

From global_new2.dta
No downward portion plotted against time or income: example of the USA, 1950-2010

twoway (scatter Gini all year if contcod=="USA", connect(l) ylabel(30(5)45)) (qfit Gini all year if contcod=="USA" & year>1960, legend(off))
From allginis.dta.

twoway (scatter Gini all gdpppp if contcod=="USA", connect(l) ylabel(30(5)50)) (qfit Gini all gdpppp if contcod=="USA", legend(off))
Using gdpppcreg4.dta.
B. Between national inequalities increased (if unweighted) or decreased (if population weighted—the role of China)
Unweighted GDP per capita (in $PPP) in rich world and Sub-Saharan Africa

twoway (scatter aa year if contcod=="USA", yscale(log) ylabel(1000 5000 20000 40000) legend(off) text(2000 2000 "Africa") text(40000 2000 "WENAO"))
(scatter bb year if contcod=="NGA", xline(1976, lpattern(dash)) xline(2000, lpattern(dash)))
Using interyd.dta
Different countries and income classes in global income distribution in 2008

From calcu08.dta
C. Global inequality is the product of within- and between-county inequalities
How did it change in the last 25 years?
Essentially, global inequality is determined by three forces

• What happens to within-country income distributions?
• Is there a convergence or not of country mean incomes?
• Are mean incomes of populous & large countries (China, India) growing faster or slower that the rich world?
Global inequality 1950-2012: three concepts

China moves in

Divergence begins

Divergence ends

Concept 1

Concept 2

Concept 3

Gini coefficient

Year

1950
1960
1970
1980
1990
2000
2010

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International unweighted and population-weighted inequality, 1952-2010

Graph in interyd\dofiles\defines.do; using gdpppreg.dta

Concept 2
Concept 2 without China
Concept 1

Gini coefficient in percent

India as new engine of equalization

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year
<table>
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## Population coverage

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<tr>
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<td>92</td>
<td>92</td>
<td>94</td>
<td>93</td>
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Non-triviality of the omitted countries (Maddison vs. WDI)
## GDI (US dollar) coverage

<table>
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<td>95</td>
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</tbody>
</table>

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What does Gini of 70 mean?

Using data_voter_checked.dta to which I added the world from my global data
Large countries and the world, from 1950-60s to today

China
United States
Brazil
Russia
World

GDP per capita in PPP dollars

Gini coefficient
How many people (ranked from the poorest to the richest) you need to get to each $1/5^{th}$ of global income?

From forpogge.xls

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Concept 3 inequality with survey data rescaled by various means

Concept 3 inequality with survey data rescaled to various means

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summary08.xls
Discrepancy between NA and HS

• Normalization by GDP per capita is wrong because GDP includes non-welfare components like retained π, investments
• Normalization by NA consumption biases Gini down because we know that missed income is concentrated among the rich (not proportional across income distribution)*
• “True” allocation of missing income will probably result in a medium position btw. HH survey and cons. lines (because missed income is particularly high in countries like India)

*With Pareto distribution of non-compliance Ginis are not affected, but means are biased downward (Deaton). The between component of global inequality may be overestimated with low compliance among the rich (counter-intuitive result).

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D. How has the world changed between the fall of the Berlin Wall and the Great Recession
Global Lorenz curves in 1988 and 2008
Generalized Lorenz curve: second-order dominance of 2008 over 1988 (average cumulative income at any percentile greater in 2008 than in 1988)
Ginis 1988-2008

Ginis, 1988-2008 with one-standard error band

20-year Summary_data.dta
Conclusions

• At any percentile, income level is 2008 greater than in 1988 (first-order dominance)
• At any percentile, cumulative average income greater in 2008 than in 2008 (second-order dominance; implied by the 1st)
• No Lorenz dominance
• Gini slightly lower in 2008 than in 1988: 70.7 instead of 72.2
Distribution of the global absolute gains in income, 1988-2008: more than ½ of the gains went to the top 5%

From summary_data.xls
Quasi non-anonymous GIC: Average growth rate 1988-2008 for different percentiles of the 1988 global income distribution

Quasi-non-anonymous growth incidence curve, 1988-2008

Solid line shows predicted value from kernel-weighted local polynomial regression (bw=0.05, epanechnikov, cube polynomial). The horizontal line shows growth rate in mean of 1.72%. Only countries observed in 1988 & 2008 (N=63) included.
Quasi non-anonymous growth between 1988 and 2008: real absolute per capita gains at different fractiles of 1988 distribution
Global income distributions in 1988 and 2008

Emerging global “middle class” between $3 and $15

twoway (kdensity logRRinc [w=pop] if logRRinc>2 & bin_year==2008 & keep==1 & mysample==1) (kdensity logRRinc [w=pop] if logRRinc>2 & bin_year==1988 & keep==1 & mysample==1, legend(off) xtitle(log of annual PPP real income) ytitle(density) text(0.95 2.5 "1988") text(0.85 3 "2008"))

Or using adding_xlabel.do; always using final_complete7.dta
Asian income distributions in 1988 and 2008

The explosion of the Asian “global middle class”

twoway (kdensity logRRinc [w=pop] if logRRinc>2 & region_old==2 & bin_year==2008 & keep==1 & mysample==1) (kdensity logRRinc [w=pop] if logRRinc>2 & bin_year==1988 & keep==1 & region_old==2 & mysample==1, legend(off) xtitle(log of annual PPP real income) ytitle(density) text(0.35 2.5 "2008") text(0.3 2.2 "1988"))

Using final_complete7.dta
Between-country inequality still by far the most dominant type but in future it might decline

The share of the between component (using Theil 0)
Global inequality of opportunity

• Regressing (log) average incomes of 118 countries’ percentiles (11,800 data points) against country dummies “explains” 77% of variability of income percentiles

• Where you live is the most important determinant of your income; for 97% of people in the world: birth=citizenship.

• Citizenship rent.
Global Ginis in Real World, Rawlsian World, Convergence World…and Shangri-La World (Theil 0; year 2008)

<table>
<thead>
<tr>
<th>Mean country incomes</th>
<th>All equal</th>
<th>Different (as now)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual incomes within country</td>
<td>All equal</td>
<td>Different (as now)</td>
</tr>
<tr>
<td>All equal</td>
<td>0</td>
<td>68 (all country Ginis=0)</td>
</tr>
<tr>
<td>Different (as now)</td>
<td>30 (all mean incomes same; all country Ginis as now)</td>
<td>98</td>
</tr>
</tbody>
</table>
E. The pattern of global inequality change differed from the pattern of national inequality changes
Shape of global growth vs. US growth

World 1988-2008

US 1986-2008

Real income growth vs. Percentile of income distribution

summary_data.xls
US pattern is not unusual: in most countries increasing gains for the rich

Philippines and Bangladesh

Mexico and Colombia

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Increasing gains for the rich with a widening urban-rural gap

Urban and rural China

Urban and rural Indonesia

From key_variables_calcul2.do
The contradiction of inequality changes during Globalization II

• Most countries displayed an upward sloping GIC (US, China, India urban, Indonesia...)
• Perception that the rich are doing better than anybody else (true)
• But growth rates of countries are uneven; those that grew the fastest were in the lower middle of global income distribution, and they were also most populous
• This led to the humped (more exactly, reclining $S$) shape of the global GIC and decreasing global inequality

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Back to Mandeville...

• Can something that is bad nationally (increased inequality) be good globally (decreased inequality)?

• Can national vices produce global virtue?
Political implications

• Possible crowding out of national middle classes, and the creation of a global one
• But the middle class is presumably a force for stability when there is a political community. There is no political community at the global level. What does global middle class mean?
• Would global middle class create a global polity?
• Or, global plutocracy: in the longer-term, reversal to the pre World War I situation
Or are we at the end of capitalism’s long “período especial”?  

- Three challengers to global capitalism were beaten off in the 20th century: depression (by reinventing gov’t), war (by marshalling resources), Communism (through Welfare State)  
- Neither of these threats is any longer present; so why can’t capitalism go back to what it once was?  
- Was the 1930-1980 period capitalism’s long detour?  
- Do we have to get used to permanently higher levels of inequality?
Who gained and who lost?
Income levels of Chinese urban and US median (fifth) decile, 1988-2008

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Global percentile position of US median and Chinese urban middle decile

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twoway (scatter percentile bin_year if group==6 & contcod=="CHN-U" & keep==1 & mysample==1, msize(vlarge) lwidth(thick) connect(l) mlabel(percentile)) (scatter percentile bin_year if group==5 & contcod=="USA" & keep==1 & mysample==1, msize(vlarge) lwidth(thick) connect(l) mlabel(percentile)), legend(off) ylabel(50(10)100)
Who is now around the global median which grew the most?

- **The gainers**
  - Chinese 8-9 rural deciles (2.5-2.7x)
  - Chinese 3-4 urban deciles (2.7-2.8x)
  - India median urban decile (1.6X)
  - Brazil 3 decile (1.9x)

- **Some who lost of stagnated**
  - Philippines 7-8 decile (gained 30%)
  - Mexico 3rd decile (lost 25%)
F. Global inequality over the long-run of history
Global income inequality, 1820-2008
(Source: Bourguignon-Morrisson and Milanovic; 1990 PPPs)

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A non-Marxist world

- Over the long run, decreasing importance of within-country inequalities despite some reversal in the last quarter century
- Increasing importance of between-country inequalities (but with some hopeful signs in the last five years, before the current crisis),
- Global division between countries more than between classes
Composition of global inequality changed: from being mostly due to “class” (within-national), today it is mostly due to “location” (where people live; between-national)

G. Gaps between countries today: *Les jeux sont faits* when you are born?
The importance of global vs. national locational inequalities

<table>
<thead>
<tr>
<th>Unit (year)</th>
<th>Number of units</th>
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<tbody>
<tr>
<td>World (08)</td>
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</tr>
<tr>
<td>USA (08)</td>
<td>50</td>
<td>0.01</td>
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<tr>
<td>India (08)</td>
<td>35</td>
<td>0.20</td>
</tr>
<tr>
<td>EU27 (08)</td>
<td>27</td>
<td>0.28</td>
</tr>
<tr>
<td>EU15 (08)</td>
<td>15</td>
<td>0.09</td>
</tr>
<tr>
<td>Egypt (05)</td>
<td>27</td>
<td>0.12</td>
</tr>
</tbody>
</table>

Always calculated as average income of national/state percentile = fct (mean national/state income)
The XXI century trilema

A. Globalization of ideas, knowledge, Communication, awareness of others’ living standards

B. Increasing differences in mean incomes among countries

C. No movement of people

If A and B, then no C. Migration is the outcome of current unequal globalization.
If B and C, then no A. Unequal globe can exist if people do not know much about each other’s living conditions or costs of transport are too high.
If A and C, then no B. Under globalization, people will not move if income differentials are small.
Growing inter-country income differences and migration:
Key seven borders today

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H. Should there be a global equality of opportunity or not?
Is citizenship a rent?

- If most of our income is determined by citizenship, then there is little equality of opportunity *globally* and citizenship is a rent (unrelated to individual desert, effort)

- **Key issue:** *Is global equality of opportunity something that we ought to be concerned or not?*

- Does national self-determination dispenses with the need to worry about GEO?
The logic of the argument

• Citizenship is a morally-arbitrary circumstance, independent of individual effort
• It can be regarded as a rent (shared by all members of a community)
• Are citizenship rents globally acceptable or not?
• Political philosophy arguments pro (social contract; statist theory; self-determination) and contra (cosmopolitan approach)
Rawls from *A Theory of Justice*

- “Injustice is...simply inequalities that are not to the benefit of all...and in particular to the poor” (p. 54)
- But this is the rule enounced for a single nation-state? Will it be valid for the world as a whole?
- As we shall see: No, it won’t be!
Rawls on (a) inequality between countries and (b) global inequality

- Neither of them matters
- **Income divergence** is irrelevant if countries have liberal institutions; it *may* be relevant for liberal vs. burdened societies
- Irrelevance rooted in two key assumptions: (i) political institutions of liberalism are what matters; (ii) acquisition of wealth immaterial for both individuals and countries
- **Global inequality** between individuals similarly irrelevant once the background conditions of justice exist in all societies
- But **within-national inequalities** matter because the difference principle applies within each people (note however that the DP may allow for high inequality)

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The Rawlsian world

• For Rawls, global optimum distribution of income is simply a sum of national optimal income distributions

• Why Rawlsian world will remain unequal?
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Global Ginis in Real World, Rawlsian World, Convergence World...and Shangri-La World (Theil 0; year 2008)
Why *pace* Rawls' global inequality matters?

- *Because* the world is becoming globalized and global inequality will come to matter more and more despite the absence of global government (analogy with national vs. village inequality)

- *Because* it is associated with migration which is fast becoming a prime political issue

- *Because* it raises the issue of global equality of opportunities
5. Conclusion and emerging issues
Conclusion and 21st century policy issues

• To reduce significantly global inequality (and poverty) and citizenship rent there are two ways:

• A slow and sustainable way: higher growth rate of poorer countries

• A fast and possibly politically tumultous way: increase migration

• Either poor countries will have to become richer or poor people will move to rich countries.

• Should migrants be taxed additionally to pay native population’s losers and those remaining in their countries of origin?
A new view of development

• Development is increased income for poor people regardless of where they are, in their countries of birth or elsewhere

• Migration and LDC growth thus become the two equivalent instruments for development
A key difficulty

How to manage:

1. Possible contradiction between the rise of the emerging market economies and rich world’s middle class

2. Rising domestic inequalities

3. Migration, while recognizing its potential for global poverty alleviation

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How China climbed up global income distribution

From key_calcul3.do
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