Trends in global income inequality and their political implications

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A. National inequalities mostly increased
### Ginis in the late 1980s and around now

<table>
<thead>
<tr>
<th></th>
<th>1985-90</th>
<th>After 2008</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Gini</td>
<td>36.3</td>
<td>38.8</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</td>
<td>32.0</td>
<td>36.2</td>
<td>+4.5</td>
</tr>
<tr>
<td>Countries with lower Ginis</td>
<td>42.8</td>
<td>39.5</td>
<td>-3.3</td>
</tr>
</tbody>
</table>

From final-complete3.dta and key_variables_calcul2.do (lines 2 and 3; rest from AlltheGinis)

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Ginis in the late 1980s and around now

```
twoway (scatter bbb aaa if year==2000, mlabel(contcod) msize(vlarge)) (function y=x, range(20 60) legend(off) xtitle(Gini between 1985 and 1990) ytitle(Gini after 2008)) using allginis.dta
```
Ginis in 1988 and 2008 (population-weighted countries)

From twenty_years/... key_variables_calcul3.do
Convergence of countries’ Ginis: an empirical observation without theoretical explanation

```
twoway (scatter change_gini gini_pre1980 if nvals==1, mlabel(contcod)) (lfit change_gini gini_pre1980, yline(0, lpattern(dash)) ytitle(change in Gini after 1980) legend(off))
Using Allthe Ginis.dta
```
Market, gross and disposable income Ginis in the US and Germany

Define_variables.do using data_voter_checked.dta

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Issues raised by growing national inequalities

• Social separatism of the rich
• Hollowing out of the middle classes
• Inequality as one of the causes of the global financial crisis
• **Perception** of inequality outstrips real increase because of globalization, role of social media and political (crony) capitalism (example of Egypt)
• Hidden assets of the rich
Some long-term examples set in the Kuznets framework
Inequality (Gini) in the USA 1929-2009
(gross income across households)

From ydisrt/us_and_uk.xls
Kuznets and Piketty “frames”

Ginis for England/UK and the United States in a very long run

From uk_and_usa.xls
Contemporary examples of Brazil and China: moving on the descending portion of the Kuznets curve

Brazil 1960-2010

China, 1967-2007

twoway (scatter Giniall lngdpppp if contcod=="BRA", connect(l) ylabel(40(10)60) xtitle(ln GDP per capita)) (qfit Giniall lngdpppp if contcod=="BRA", lwidth(thick))
From gdppppreg4.dta

twoway (scatter Giniall lngdpppp if contcod=="CHN" & year>1960, connect(l) ylabel(40(10)60) xtitle(ln GDP per capita)) (qfit Giniall lngdpppp if contcod=="CHN" & year>1960, lwidth(thick))
From gdppppreg4.dta
B. Between national inequalities remained very high even if decreasing
Distribution of people by income of the country where they live: emptiness in the middle (year 2013; 2011 PPPs)

- India, Indonesia
- Brazil, Mexico, Russia
- W. Europe, Japan
- USA
- China

GDP per capita in 2005 PPP

From defines.do in interyd
Different countries and income classes in global income distribution in 2008

From calcu08.dta
Countries with more than 1% of their population in top global percentile (above $PPP 72,000 per capita in 2008 prices)

From summary_data.xls
C. Global inequality is the product of within- and between-county inequalities

How did it change in the last 60 years?
Essentially, global inequality is determined by three forces

• What happens to within-country income distributions?
• Is there a catching up of poor countries?
• Are mean incomes of populous & large countries (China, India) growing faster or slower that the rich world?
Global and international inequality after World War II

Concept 2: 1960-1980 from Bourguignon & Morrisson

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Graph showing the Gini coefficient from 1950 to 2010, with three concepts labeled as Concept 1, Concept 2, and Concept 3.
Concept 2 inequality with 2011 PPPs and without China and India

Gini coefficient in percent

<table>
<thead>
<tr>
<th>Year</th>
<th>All Countries</th>
<th>Without China</th>
<th>Without India and China</th>
</tr>
</thead>
<tbody>
<tr>
<td>1940</td>
<td>0.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1960</td>
<td>0.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>0.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>0.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>0.65</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Defines.do using gdppppreg5.dta
## Population coverage

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>48</td>
<td>76</td>
<td>67</td>
<td>77</td>
<td>78</td>
<td>78</td>
<td>71</td>
</tr>
<tr>
<td>Asia</td>
<td>93</td>
<td>95</td>
<td>94</td>
<td>96</td>
<td>94</td>
<td>98</td>
<td>89</td>
</tr>
<tr>
<td>E.Europe</td>
<td>99</td>
<td>95</td>
<td>100</td>
<td>97</td>
<td>93</td>
<td>92</td>
<td>87</td>
</tr>
<tr>
<td>LAC</td>
<td>87</td>
<td>92</td>
<td>93</td>
<td>96</td>
<td>96</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>WENAO</td>
<td>92</td>
<td>95</td>
<td>97</td>
<td>99</td>
<td>99</td>
<td>97</td>
<td>95</td>
</tr>
<tr>
<td>World</td>
<td>87</td>
<td>92</td>
<td>92</td>
<td>94</td>
<td>93</td>
<td>94</td>
<td>88</td>
</tr>
</tbody>
</table>
Three important technical issues in the measurement of global inequality

- The ever-changing PPPs in particular for populous countries like China and India
- The increasing discrepancy between GDP per capita and HS means, or more importantly consumption per capita and HS means
- Inadequate coverage of top 1% (related also to the previous point)
The issue of PPPs
The effect of the new PPPs on countries’ GDP per capita (compared to the US level)
## The effect of new PPPs

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP per capita increase (in %)</th>
<th>GDP per capita increase population-weighted (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>90</td>
<td>---</td>
</tr>
<tr>
<td>Pakistan</td>
<td>66</td>
<td>---</td>
</tr>
<tr>
<td>Russia</td>
<td>35</td>
<td>---</td>
</tr>
<tr>
<td>India</td>
<td>26</td>
<td>---</td>
</tr>
<tr>
<td>China</td>
<td>17</td>
<td>---</td>
</tr>
<tr>
<td>Africa</td>
<td>23</td>
<td>32</td>
</tr>
<tr>
<td>Asia</td>
<td>48</td>
<td>33</td>
</tr>
<tr>
<td>Latin America</td>
<td>13</td>
<td>17</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>WENAO</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>
The gap between national accounts and household surveys
Both the level and change: Use of GDP per capita gives a lower lever and a faster decrease of global inequality.

GDPs pc countries in HS sample
HS means--countries in HS sample
.45 .5 .55 .6 .65
Gini
year
How global inequality changes with different definitions of income
Step 1 driven by low consumption shares in China and India
(although on an unweighted base C/GDP decreases with GDP)

C/GDP from national accounts in year 2008

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Step 2. No clear (weighted) relationship between survey capture and NA consumption

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```
twoway scatter scale2 gdpppp if group==1 & scale2<1.5 [w=totpop], xscale(log) xtitle(GDP per capita in ppp) xlabel(1000 10000 50000) ytitle(survey mean over NA consumption) title(survey mean/consumption from national account in year 2008)```

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The issue of top understimation
Rising HS/NA gap and top underestimation

• If these two problems are really just one & the same problem.

• Assign the entire positive (NA consumption – HS mean) gap to national top deciles

• Use Pareto interpolation to “elongate” the distribution

• No *a priori* guarantee that global Gini will increase
## Gini: accounting for missing top incomes

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Surveys only</td>
<td>72.5</td>
<td>71.8</td>
<td>71.9</td>
<td>71.9</td>
<td>69.6</td>
</tr>
<tr>
<td>NAC instead of survey mean</td>
<td>71.5</td>
<td>70.5</td>
<td>70.6</td>
<td>70.7</td>
<td>67.6</td>
</tr>
<tr>
<td>NAC with Pareto</td>
<td>71.8</td>
<td>70.8</td>
<td>71.0</td>
<td>71.1</td>
<td>68.0</td>
</tr>
<tr>
<td>NAC with top-heavy Pareto</td>
<td>76.3</td>
<td>76.1</td>
<td>77.2</td>
<td>78.1</td>
<td>75.9</td>
</tr>
</tbody>
</table>

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The results of various adjustments

• Replacing HS survey mean with private consumption from NA reduces Gini by 1 to 2 points
• Elongating such a distribution (that is, without changing the consumption mean) adds less than ½ Gini point
• But doing the top-heavy adjustment (NA-HS gap ascribed to top 10% only) adds between 5 and 7 Gini points
• It also almost eliminates the decrease in global Gini between 1988 and 2008
How Global Gini in 2008 changes with different adjustments

Increase in global Gini with each “marginal” adjustment

- Allocate the gap proportionally along each national income distributions
- Allocate the gap proportionately and add a Pareto “elongation”
- Allocate the gap to top 10% and add Pareto “elongation”
With full adjustment (allocation to the top 10% + Pareto) Gini decline almost fully disappears.
D. How has the world changed between the fall of the Berlin Wall and the Great Recession
Real income growth at various percentiles of global income distribution, 1988-2008 (in 2005 PPPs)

Estimated at mean-over-mean

From twenty_years\final\summary_data

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Per centile of global income distribution

Real PPP income change (in percent)

$PPP2

$PPP4.5

$PPP12

“China’s middle class”

“US lower middle class”
Real income gains (in $PPP) at different percentile of global income distribution 1988-2008

- **World**
- **Without China**

### Graph Details
- **Y-axis**: Real PPP income change (in percent)
- **X-axis**: Percentile of global income distribution

The graph shows the real income gains in PPP for different percentiles of the global income distribution from 1988 to 2008, with a comparison between the world as a whole and without China.
Quasi non-anonymous GIC: Average growth rate 1988-2008 for different percentiles of the 1988 global income distribution

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.
Growth incidence curve (1988-2008) estimated at percentiles of the income distribution

Using my_graphs.do

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Mean-on-mean
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

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Annual per capita after-tax income in international dollars

US 2nd decile

Chinese 8th urban decile

From summary_data.xls
Global income distributions in 1988 and 2008

Emerging global “middle class” between $3 and $16

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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
E. Issues of justice and politics

1. Citizenship rent
2. Migration
3. Hollowing out of the middle classes
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.

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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)
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?
<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>0</td>
<td>68 (all country Ginis=0)</td>
</tr>
<tr>
<td>All equal</td>
<td>30 (all mean incomes same; all country Ginis as now)</td>
<td></td>
</tr>
<tr>
<td>Different (as now)</td>
<td>98</td>
<td></td>
</tr>
</tbody>
</table>
Conclusion

• Working on equalization of within-national inequalities will not be sufficient to significantly reduce global inequality

• Faster growth of poorer countries is key and also...
Migration: a different way to reduce global inequality and citizenship rent

- 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 migrant point of view: trade-off between country’s mean income and its inequality

How much is one Gini point change worth in terms of mean country income?

Percent of income

Ventile

Decrease in Gini

Increase in Gini

From interyd..\ventil_vs_country.xls

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Political issue: Global vs. national level

• Our income and employment is increasingly determined by global forces
• But political decision-making still takes place at the level of the nation-state
• If stagnation of income of rich countries’ middle classes continues, will they continue to support globalization?
• Two dangers: populism and plutocracy
• To avert both, need for within-national redistributions: those who lose have to be helped
Final conclusion

• To reduce global inequality: fast growth of poor countries + migration

• To preserve good aspects of globalization: redistribution within rich countries
Additional slides
H. Global inequality over the long-run of history
Global income inequality, 1820-2008
(Source: Bourguignon-Morrisson and Milanovic; 1990 PPPs)
Shares of global income received by top 10% and bottom 60% of world population

- Top 10% (B-M data)
- Top 10% (L-M data)
- Bottom 60% (B-M data)
- Bottom 60% (L-M data)
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)

Very high but decreasing importance of location in global inequality

Share of the between component in global Theil (0)

Between component, in percent

Year

1800 1850 1900 1950 2000 2050

From thepast.xls under c:\history

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