Putting the Gini back in the bottle: The Palma as a new inequality measure

Alex Cobham, Center for Global Development in Europe
Andy Sumner, CGD and Kings College London
Point of departure: UN consultation

- Inequality not just a problem for those most directly affected: damage to all
- Post-2015 should have inequalities goal, plus targets and indicators across all goals
- Accountability critical; requires systematic disaggregation, participative assessment.

www.worldwewant2015/inequalities
Overview

1. Questions of the Gini
2. What is the Palma?
3. How stable is the middle?
   - Across countries
   - Across time
   - Across stages of the income distribution
4. Palma-Gini comparison
5. Palma and progress: Some initial findings
1. Questions of the Gini

- Does it support accountability?
- Is it consistent with proposed HI measures?
- Does it adequately capture (vtl) inequality?

“…without introducing [judgments about the level of inequality considered ‘fair’] it is impossible to measure the degree of inequality. That no such decision has to be made with the conventional measures simply obscures the fact that they embody quite arbitrary values about the distribution of income” (Atkinson, 1973).
2. What is the Palma?

- Ratio of national income shares: **top 10% to bottom 40%**
- Rests on Gabriel Palma finding: **stability of ‘middle’ deciles (5-9)**
- ‘Basically, it seems that a schoolteacher, a junior or mid-level civil servant, a young professional (other than economics graduates working in financial markets), a skilled worker, middle-manager or a taxi driver who owns his or her own car, all tend to earn the same income across the world — as long as their incomes are normalized by income per capita of respective country.’
2. What is the Palma?
2. What is the Palma?

Palma vs Gini
3. How stable is the middle?

- Across countries
- Across time
- Across income stages
3. How stable is the middle? Across countries
3. How stable is the middle?

Across time

- Argentina
- Brazil
- Chile
- Colombia
- Costa Rica
- Dominican Rep.
- Ecuador
- El Salvador
- Honduras
- Mexico
- Paraguay
- Peru
- Panama
- Venezuela
- UK
- Mexico
- Paraguay
- Peru
- Argentina

Top 10%
Middle 50%
Bottom 40%
3. How stable is the middle? Across income stages
4. Palma-Gini comparison

<table>
<thead>
<tr>
<th>Decile</th>
<th>Income shares (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.25 4.17 3.13 2.50 2.08 1.79 1.56 1.39 1.25 1.14</td>
</tr>
<tr>
<td>2</td>
<td>6.25 4.17 3.13 2.50 2.08 1.79 1.56 1.39 1.25 1.14</td>
</tr>
<tr>
<td>3</td>
<td>6.25 4.17 3.13 2.50 2.08 1.79 1.56 1.39 1.25 1.14</td>
</tr>
<tr>
<td>4</td>
<td>6.25 4.17 3.13 2.50 2.08 1.79 1.56 1.39 1.25 1.14</td>
</tr>
<tr>
<td>5</td>
<td>10 10 10 10 10 10 10 10 10 10</td>
</tr>
<tr>
<td>6</td>
<td>10 10 10 10 10 10 10 10 10 10</td>
</tr>
<tr>
<td>7</td>
<td>10 10 10 10 10 10 10 10 10 10</td>
</tr>
<tr>
<td>8</td>
<td>10 10 10 10 10 10 10 10 10 10</td>
</tr>
<tr>
<td>9</td>
<td>10 10 10 10 10 10 10 10 10 10</td>
</tr>
<tr>
<td>10</td>
<td>25.00 33.33 37.50 40.00 41.67 42.86 43.75 44.44 45.00 45.45</td>
</tr>
<tr>
<td>Palma</td>
<td>1 2 3 4 5 6 7 8 9 10</td>
</tr>
<tr>
<td>Gini</td>
<td>0.23 0.35 0.41 0.45 0.48 0.49 0.51 0.52 0.53 0.53</td>
</tr>
</tbody>
</table>
2. What is the Palma?

Palma vs Gini

\[ y = 0.2141e^{0.0541x} \]

\[ R^2 = 0.9415 \]
4. Palma-Gini comparison

<table>
<thead>
<tr>
<th>Gini</th>
<th>Palma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure of entire distribution (but…)</td>
<td>Ratio of top 10% and bottom 40%</td>
</tr>
<tr>
<td>Over-sensitive to the middle of the distribution</td>
<td>Insensitive to the middle of the distribution</td>
</tr>
<tr>
<td>Intuitively unclear (except 0 and 1?), so meaning of given value may be opaque</td>
<td>Does what it says on the tin, so meaning of given value is explicit</td>
</tr>
<tr>
<td>Meets most common axioms for measures of full distribution, commonly used by technical experts</td>
<td>Doesn’t, isn’t…</td>
</tr>
</tbody>
</table>
4. Palma-Gini comparison: Moldova

- Palma: up 60%
- Gini: down 4%

Bottom 40% | Middle 50% | Top 10%
---|---|---
1990 | 2010

[Bar chart showing the comparison of Palma and Gini indices for different income groups (Bottom 40%, Middle 50%, Top 10%) in 1990 and 2010.]
4. Palma-Gini comparison: Mexico

- Palma: up 250%
- Gini: down 5%

Bottom 40% | Middle 50% | Top 10%
---|---|---
1990 | 2010

Graph showing the comparison between Palma and Gini indices for Mexico in 1990 and 2010.
### 4. Palma-Gini comparison

<table>
<thead>
<tr>
<th></th>
<th>Gini</th>
<th>Palma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suitable for political accountability?</td>
<td>?</td>
<td>+</td>
</tr>
<tr>
<td>Consistent with group inequality measures?</td>
<td>?</td>
<td>+</td>
</tr>
<tr>
<td>Adequate to capture vertical inequality?</td>
<td>-</td>
<td>?</td>
</tr>
</tbody>
</table>
5. Palma and progress
How many times more if Palma falling?

- **1A**: Halve the proportion of people living on less than $1 a day***
- **1C**: Halve the proportion of people who suffer from hunger**
- **4**: Reduce by two-thirds the under-five mortality rate*
- **7C(i)**: Halve the proportion of people without sustainable access to safe drinking water ***
Conclusions

- Palma should be considered for post-2015
- Gini should be reconsidered
- There is room for multiple measures
Thank you
cgdev.org/europe

@AlexCobham
@AndyPSumner
UN consultation (p.7):

*Inequalities are not just problems for the people whose lives are most directly affected* – those most disadvantaged and excluded. They have deep consequences for everyone in society. Inequalities harm us all. Among these consequences are: reductions in the pace and sustainability of economic growth; diminishment of the productive potential of all who are harmed and excluded, and the loss of this potential to society; the worsening of existing fragilities and vulnerabilities, including to conflict and disasters; and the weakening of social cohesion and of security for all.
UN consultation (p.9):

A self-standing global goal on inequalities should be included in the post-2015 development framework. This should not be limited to economic inequalities but should also address other key dimensions, including gender inequalities and discrimination. A self-standing goal on inequalities should be complemented, across all goal areas of the framework, by targets and indicators that focus on the situation of the most disadvantaged groups, and on the major drivers of inequalities in the economic, social, environmental, cultural and/or political domains. In these ways, success will be gauged by sustainability and by the progress made among all groups and individuals.
UN consultation (p.9):

Addressing inequalities will also depend on measures to [inter alia] allow for truly participative assessment of these measures; enable much more systematic disaggregation of information for equity-focused targets and indicators; and provide mechanisms for locally-led citizen monitoring and feedback on progress and performance… Last and not least: accountability among decision-makers and public institutions, supported by systems such as those above, will be an essential feature of just and equitable human progress and the realization of human rights.