L8: Inequality, Poverty and Development: The Evidence

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We reviewed conceptual and statistical issues in measuring living standards of households.

Given data on living standards of each household, we obtain a frequency distribution.

Poverty measured by head count ratio or poverty gap ratio, given a poverty line (international standard of $1.25 a day).

Inequality measurement is more complex.

Lorenz curves provide partial, graphical measure; Gini coefficient and CV are numerical, scalar measures.
This Lecture: Facts Concerning How Inequality and Poverty Vary with Development

- Cross-section: how do inequality, poverty vary between poor, middle income and rich countries? Spatially?
- Time-series/longitudinal: how do they change for a given country as it develops?
- What policy-relevant inferences can we draw from these facts?
Poverty-Development Correlation

- **Poverty Fact 1:** There is a robust negative correlation between poverty rates and PCI.
- Both across countries at a point of time, and over time.
- Irrespective of how poverty is measured: HCR, PGR, different poverty lines.
Cross-Country HCR-PCI Regression, 2008 data, 48 Low and Middle Income Countries
Cross-Country PGR-PCI Regression, 2008 data, 48 Low and Middle Income Countries

![Poverty Gap and GDP Per Capita Graph](image-url)

- Poverty gap at $1.25 a day (PPP) (%)
- GDP per capita (constant 2005 US$)
Poverty HCR, World Average, Changes Since 1980

Figure 1: Evolution of poverty measures over time, 1981-2004
(a) Headcount indices

Note: The series labeled "u+r" incorporates the urban-rural poverty line differential.
Poverty Facts, contd.

- **Poverty Fact 2:** *Despite sharp fall in poverty since 1980, one in six people in the world still live below $1/day*

- Reduction in absolute number in poverty has been much less sharp than in HCR

- So there is still some way to go in eliminating poverty
Absolute Number of People in Poverty, Changes Since 1980

Figure 1: Evolution of poverty measures over time, 1981-2004

(a) Headcount indices

(b) Number of people below poverty lines

Note: The series labeled “u+r” incorporates the urban-rural poverty line differential.
Poverty Facts, contd.

- **Poverty Fact 3**: Poverty is highly concentrated geographically: in Sub-Saharan Africa and South Asia
- China has achieved impressive reduction in poverty rates since 1980
Poverty HCR By Region, Changes Since 1980

Figure 2: Poverty measures by region 1981-2004
(a) Headcount index

Note: LAC=Latin America and the Caribbean; ECA=Eastern Europe and Central Asia; SSA=Sub-Saharan Africa; SAS=South Asia; MNA=Middle-East and North Africa; EAP=East Asia and Pacific.
Poverty Facts, contd.

- **Poverty Fact 4:** Within countries, poverty is much higher in rural areas, compared with urban areas.

- Hence poverty reduction strategies have to focus on rural population in SS Africa and S Asia.
**Table: Urban and Rural Poverty (HCR), 2002**

<table>
<thead>
<tr>
<th>Region</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Asia &amp; Pacific</td>
<td>2.2</td>
<td>19.8</td>
</tr>
<tr>
<td>of which, China</td>
<td>0.8</td>
<td>22.4</td>
</tr>
<tr>
<td>South Asia</td>
<td>34.6</td>
<td>40.3</td>
</tr>
<tr>
<td>of which, India</td>
<td>39.3</td>
<td>43.6</td>
</tr>
<tr>
<td>S-S Africa</td>
<td>40.4</td>
<td>50.9</td>
</tr>
<tr>
<td><strong>Total, World</strong></td>
<td>13.2</td>
<td>29.7</td>
</tr>
</tbody>
</table>
Reasons why Poverty Declines with Rising PCI

- Most of the poor have no assets (land, education, financial assets), apart from their labor power
- Poverty rates are thus related closely to employment and wage rates of unskilled workers
- Rising PCI raises demand for unskilled workers
- while shrinking their supply (reducing population growth rates, raising education and urbanization)
- *In absolute terms*, the poor become better off
- How about in relative terms — inequality development relation? Much more complex
In 1953, Simon Kuznets proposed an inverted-U relation between inequality and development. He used the Kuznets ratio: share of richest 20% relative to poorest 60%. Data for 18 countries showed an inverted-U relationship with p.c.i. E.g., Sri Lanka 1.67, India 1.96, Puerto Rico 2.33, US 1.39, UK 1.25.
KUZNETS CURVE, 2008 data, 48 Low and Middle Income countries

GINI Index and GDP Per Capita

GINI
Linear
Quadratic

DM (BU) 320 Lect 8 Sept 25, 2014 16 / 1
Kuznets also referred to historical evidence for 19th century US, UK

This was subsequently confirmed by detailed historical analysis of Lindert and Williamson

And then by detailed cross-sectional evidence (Ahluwalia, Deininger-Squire, Paukert) using different inequality measures (Gini, CV, Lorenz curves) for 50+ countries

Suggested that inequality has an innate tendency to rise in early stages of development, and fall later
Some hypotheses to explain the Kuznets curve:

- Early stages of development involve poor people moving from low income occupations (e.g., rural, uneducated) to medium/high income occupations (urban, educated), while many still remain poor.
- Once the majority of the population transits to modern occupations, further movements reduce inequality.
- Compounded by other factors in later development stages: extension of franchise, education and health services, progressive taxation, slowdown of population growth.
Interpreting the Kuznets curve

- The Kuznets curve acquired the aura of a law of development
- And bred an attitude that increasing inequality has to be accepted in early stages as an inevitable by-product of development
- A problem which would self-correct later on
- More fundamentally, an implicit belief in one-way causation from PCI growth to inequality
Perils of Interpreting Cross-sectional Correlations

- First problem: interpreting cross-sectional evidence as what we would expect any given country to experience over time
- Assumes different countries are fundamentally the same
- Analogy: diet-health correlations
- Can be addressed by longitudinal/panel studies
Whats the Longitudinal Evidence for the Kuznets Curve?

- Earlier historical evidence for 19th century for US and UK (Lindert-Williamson)
- Piketty argues that 20th century evidence does not bear out the Kuznets curve story:
  - inequality declines in 20th century France, UK, US resulted from wars and rise in progressive taxation
  - inequality has been rising in these countries since 1980s
- Longitudinal evidence for LDCs finds no evidence of a Kuznets curve: instead a U-pattern!
Direction of Causation?

- The popular interpretation of the Kuznets curve presumed the direction of causality to run from development to inequality.
- Couldn’t it be the other way around: middle income countries with high inequality develop slower, remain stuck in a state of underdevelopment?
- As in the historical accounts of the divergence between North and South America?
- Never forget: **correlations establish nothing about direction of causation, or about existence of any causation either way.**
Could High Inequality Retard Development?

- Reverse causation view would lead to a radically different interpretation: need to reduce inequality to promote development
- Various ways that high inequality can retard development:
  - low education, health of workers
  - low productivity agriculture
  - lack of access to credit for new entrepreneurs
  - elites block pro-development policies
  - Populist pressure for highly redistributive policies that lower growth
  - high crime, conflict, corruption

They control for some of the Solow-determinants of growth.

Two inequality measures: Gini for income, and for land, in a year close to 1960.
Table: Dependent Variable: pci growth rate 1960-85

<table>
<thead>
<tr>
<th>Regressor</th>
<th>Coefficient (t-value)</th>
<th>Coefficient (t-value)</th>
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<tbody>
<tr>
<td>1960 pci</td>
<td>-0.58 (3.47)</td>
<td>-0.38 (2.95)</td>
</tr>
<tr>
<td>1960 Prim Educ Enrol Rate</td>
<td>3.70 (3.72)</td>
<td>2.65 (2.56)</td>
</tr>
<tr>
<td>1960 Income Gini</td>
<td>-12.93 (3.12)</td>
<td>-3.47 (1.80)</td>
</tr>
<tr>
<td>1960 Land Gini dropped</td>
<td>dropped</td>
<td>-5.21 (4.19)</td>
</tr>
<tr>
<td>Democracy dropped dummy</td>
<td></td>
<td>0.02 (0.05)</td>
</tr>
<tr>
<td>Constant</td>
<td>6.48 (2.93)</td>
<td>6.21 (4.61)</td>
</tr>
</tbody>
</table>

n, $\bar{R}^2$ 70, 0.26 41, 0.51
While poverty rates tend to fall with growth in pci, it is hard to draw any general conclusions concerning effects on inequality.

Caution against interpreting correlations, particularly cross-sectional correlations, as reflecting causal relations.

Correlations could result from causality in different directions, or reflect effect of omitted variables.

Summary
In particular, inequality and poverty could affect growth, as well as the other way around. Hence policy measures to reduce poverty and inequality could be important ways to raise PCI growth rates. We shall examine sector-specific evidence later in this course: pro-growth effects of health, education, land reform, financial sector policies.