Horizontal Inequality and Social Mobility

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Given what we know about social mobility, horizontal inequality – in developing countries in particular - can be expected to be persistent, possibility indefinitely, without activist, targeted policy intervention.
Why does this matter?

**Normative:** Differences in well-being and status linked systematically to ‘ethnic’ attributes such as skin color, maternal language, and indigenous status are at odds with basic principles of equality, justice, and fairness.


Also: gaps in the research literature on horizontal inequality as an outcome (Canelas & Gisselquist 2018)
I. Core concepts

Intergenerational (income) mobility
• Relative mobility or ‘positional movement’
  – 1 - intergenerational elasticity of income (IGE)
  – Measurement using a rank-rank specification (Chetty et al 2014, 2018)
• Absolute mobility

Horizontal inequality (HI) – ‘in economic, social, or political dimensions or cultural status between culturally defined groups’ (Stewart 2008).
• Contrast: vertical inequality (VI) between individuals or households
• $GGini$ compares the mean in the outcome variable of every group with that of every other group
**Ethnic groups** are socially constructed with membership based on attributes generally inherited at birth, including skin colour, maternal language, tribe, caste, religion, and sometimes region (Chandra 2004; Horowitz 1985).

Proto-typical ethnic group characteristics include (Fearon 2003):
- members derive normative and psychological value from membership
- Some shared cultural features, such as language, religion, and customs
- A homeland or memory of one
- A sense of shared collective history

Examples:
- **Hindus/Muslims** (Varshney, 2007) & scheduled castes in India (Chandra, 2004)
- **African/White/‘Coloured/Indian** in South Africa (see Ferree, 2010)
- **Bemba/Nyanja/Tonga/Lozi speakers** in Zambia (Posner, 1998)
- **Indigenous/non-indigenous populations** in Latin America (Htun, 2004; Van Cott, 2007)
II. A conceptual framework

• Consider a standard approach to intergenerational income persistence with a regression-to-the-mean model (Becker & Tomes 1979):

\[ y_{i,t} = \alpha + \beta y_{i,t-1} + \varepsilon_{i,t} \]

• Following Chetty et al. (2018), we adapt this so that an individual’s income is modelled as an ethnic group specific linear function of their parent’s income:

\[ y_{i,t} = \alpha_r + \beta_r y_{i,t-1} + \varepsilon_{i,t} \]

We assume they do not vary across generations.
• Under the linear specification, the mean rank of individuals of each ethnic group in generation $t$ is thus:
  
  \[ \bar{y}_{r,t} = \alpha_r + \beta_r \bar{y}_{r,t-1} \]

• Over the long-run, the mean rank of group $r$ converges to:
  
  \[ \bar{y}_{r,t} = \bar{y}_{r,t-1} = \bar{y}_{r}^{SS} = \frac{\alpha_r}{1 - \beta_r} \]

• We can then consider HI using the GGini measure:
  
  \[ \text{GGini} = \frac{1}{2y} \sum_r R \sum_s S p_r p_s \left| \bar{y}_r - \bar{y}_s \right| \]
3 expectations

1a. If rates of absolute and relative mobility are the same across groups, a horizontally unequal society will eventually become horizontally equal.

• Over the long-run, given that $\overline{y}_r^{SS} = \frac{\alpha_r}{1-\beta_r}$, $GGini_{t+n}$ becomes:

  - $GGini_{t+n} = \frac{1}{2y} \sum R \sum S p_r p_s \left| \frac{\alpha_r}{1-\beta_r} - \frac{\alpha_s}{1-\beta_s} \right|

• If $\alpha_r = \alpha_s$ and $\beta_r = \beta_s$ for all groups, we can see that $GGini_{t+n} = 0$, which is perfect horizontal equality.
1b. **Horizontal inequality can be persistent over multiple generations when initial HI is high and overall mobility is low.**

<table>
<thead>
<tr>
<th>Generation</th>
<th>Year starting in 1960</th>
<th>Advantaged group (50%)</th>
<th>Disadvantaged group (50%)</th>
<th>GGINI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Income % above mean</td>
<td>Income</td>
<td>Income % above mean</td>
</tr>
<tr>
<td>First</td>
<td>1960</td>
<td>100.00%</td>
<td>2,000</td>
<td>-100.00%</td>
</tr>
<tr>
<td>Second</td>
<td>1985</td>
<td>60.00%</td>
<td>1,600</td>
<td>-60.00%</td>
</tr>
<tr>
<td>Third</td>
<td>2010</td>
<td>36.00%</td>
<td>1,360</td>
<td>-36.00%</td>
</tr>
<tr>
<td>Fourth</td>
<td>2035</td>
<td>21.60%</td>
<td>1,216</td>
<td>-21.60%</td>
</tr>
<tr>
<td>Fifth</td>
<td>2060</td>
<td>12.96%</td>
<td>1,130</td>
<td>-12.96%</td>
</tr>
<tr>
<td>Sixth</td>
<td>2085</td>
<td>7.78%</td>
<td>1,078</td>
<td>-7.78%</td>
</tr>
<tr>
<td>Seventh</td>
<td>2110</td>
<td>4.67%</td>
<td>1,047</td>
<td>-4.67%</td>
</tr>
</tbody>
</table>
2. HI will be persistent over multiple generations – possibly permanent – when mobility varies across ethnic groups and is lowest for disadvantaged groups.
Scenario 1 – relative mobility is constant, absolute mobility varies across groups
Empirical work shows that such variation exists:

- India: Asher, Novosad & Rafkin 2018; Hnatkovska, Lahiri & Paul 2013
- U.S.: Chetty et al. 2018
- South Africa: Nimubona & Vencatachellum 2007, Piraino 2015
- Brazil: Osorio 2008
What we know about the determinants of mobility suggests such variation should be found elsewhere as well:

- Iversen, Krishna & Sen (2019)’s consideration of determinants of mobility in developing countries:
  - Human capital investment and parental endowments
  - Credit constraints
  - Neighborhood effects
  - Peer influence and role model effects

- Several of their arguments with respect to low-income countries can be extended straightforwardly to low-income groups within low-income countries
Group-based discrimination

In the labor market: ethnic disparities and discrimination in callback rates, hiring, and in career advancement. U.S. (Bertrand and Mullainathan 2004, Pager, Bonikowski, and Western 2009) and Peru (Galarza and Yamada 2014) but not India (Banerjee, Bertrand, Datta, and Mullainathan 2009).

In education: ethnic disparities in educational outcomes traced to the quality of schools in minority neighborhoods and how teachers respond to different children.

In credit markets: disadvantaged groups are more likely to be credit constrained, to be turned down for loans, to receive less favorable loan terms.

In housing markets: minority home-seekers receive less favorable treatment than white home-seekers.

In the distribution of public resources: minority neighborhoods may receive lower public resources; government officials may be less responsive to members of disadvantaged groups.
• Discrimination can be linked with **formal or informal** institutions

• It can be either **intentional or unintentional** (e.g. implicit biases affect the behavior of preschool educators – Gilliam et al. 2016)

• It can be **current or historical**.
Ethnic discrimination (and favoritism) may be more problematic in developing countries

State capacity and the rule of law tend to be weaker
→ discrimination in personalized informal institutions/practice
→ more limited possibilities for legal recourse
→ capacity challenges in the implementation of the law

Ethnic divisions seem to be more apparent in developing countries

– Standard measures of ethnic fractionalization are higher (e.g. Alesina et al 2003)
– Ethnic parties, ethnic conflict, and ethnic balancing are comparatively more important in work
– Links between processes of modernization and the salience of ethnic networks (e.g. Lipset 1960, Bates 1974, Hechter 1974)
Other ethnic factors

- Ethnic **geography**, residential patterns, and remoteness: e.g. via neighborhood effects
- Ethnic **social networks**: e.g. via peer influence and role models
- **Culture**: e.g. diverse preferences across groups regarding language of instruction in schools and the ‘fit’ of public services provided for cultural minorities
- **Representation**: e.g. minorities have fewer role models ‘like them’ in high status occupations and positions of influence
In summary

(1) Long-term persistence in horizontal inequality comes about when

- Initial levels of horizontal inequality are high;
- Overall social mobility is low; and
- Mobility varies across ethnic groups and disadvantaged groups lower rates than others.

(2) Variation in social mobility across ethnic groups is not uncommon and stems from a variety of factors.

(3) Persistent horizontal inequality is probably a larger problem in the Global South than the Global North.
Implications and next steps

For research:
• Extensions of the framework & empirical testing
• Consideration of different types of horizontal inequalities (e.g. recent migrants versus ‘established’ minorities)
• Levers of change and country experiences in dealing with reform

For policy:
• Universalist policies may not be enough; targeted policies may be needed
• Timing and risks
The Great Gatsby Curve revisited
Using GGINI in educational attainment (EIC 2015) & mobility data from GDIM 2018

Absolute mobility & HI

Ethnic Group Horizontal Inequality
Abs. Mobility = 0.519 - 0.94108 HI  \( R^2 = 25.0\% \)

\[ \text{Absolute Mobility (Probability)} \]
\[ \text{Group Gini (Ethnic)} \]
\[ n = 56 \quad \text{RMSE} = 0.146 \]

Religious Group Horizontal Inequality
Abs. Mobility = 0.479 - 0.91846 HI  \( R^2 = 14.5\% \)

\[ \text{Absolute Mobility (Probability)} \]
\[ \text{Group Gini (Religion)} \]
\[ n = 59 \quad \text{RMSE} = 0.159 \]

IGE (relative mobility) & HI

Ethnic Group Horizontal Inequality
IGP = 0.386 + 0.92515 HI  \( R^2 = 44.6\% \)

\[ \text{Intergenerational Education Persistence} \]
\[ \text{Group Gini (Ethnic)} \]
\[ n = 56 \quad \text{RMSE} = 0.092 \]

Religious Group Horizontal Inequality
IGP = 0.414 + 0.89060 HI  \( R^2 = 24.4\% \)

\[ \text{Intergenerational Education Persistence} \]
\[ \text{Group Gini (Religion)} \]
\[ n = 59 \quad \text{RMSE} = 0.112 \]