Intergenerational mobility around the world

Roy van der Weide

Empirical research underpinning “Fair Progress?” report, co-led with Ambar Narayan
Team members: Sandu Cojocaru, Christoph Lakner, Silvia Redaelli, Daniel G. Mahler, Rakesh G. N. Ramasubbaiah, Stefan Thewissen
Policy Research Talk, May 22, 2018
Absolute upward intergenerational mobility
Offspring are better off than their parents

Relative intergenerational mobility
Offspring of parents who are relatively poor can become middle class or upper class among their generation
Motivation & objectives

• **Fairness argument**: When (relative) mobility is low, individuals are not operating on a level playing field

• **Economic argument**: Low mobility yields a waste of human capital, as talented individuals may not be given the opportunity to reach their full potential

• **Objectives**: Provide estimates of mobility on a global scale and identify factors associated with higher mobility to draw implications for policy
Measures of mobility used

Absolute mobility:
The share of adults with more education than (max) parental education

Relative mobility:
*Intergenerational persistence (regression coefficient):* Impact of one more year of parental education on offspring’s expected years of education

*Correlation:* Correlation b/w adult’s years of schooling and (max) parental years of schooling

Transition matrix based measures:

<table>
<thead>
<tr>
<th>Parent: Lower half</th>
<th>Child: Lower half</th>
<th>Child: Top quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent: Top quarter</td>
<td>“Privilege to poverty”</td>
<td>Intergenerational “privilege”</td>
</tr>
<tr>
<td>Parent: Lower half</td>
<td>Intergenerational “poverty”</td>
<td>“Poverty to privilege”</td>
</tr>
</tbody>
</table>
Global Database of Intergenerational Mobility

- **148 countries** representative of **96 percent** of the world’s population
  - Largest study of intergenerational mobility previously covered 42 countries
- For **111 countries**, estimates of mobility span a period of 5 decades: from those born in 1940s to those born in 1980s

<table>
<thead>
<tr>
<th>Income group, region</th>
<th>Number of economies covered</th>
<th>% of population covered</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With retrospective data</td>
<td>Total</td>
</tr>
<tr>
<td>High-income economies</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>Developing economies</td>
<td>74</td>
<td>111</td>
</tr>
<tr>
<td>East Asia and the Pacific</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Eastern Europe and Central Asia</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Middle East and North Africa</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>South Asia</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>20</td>
<td>41</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>111</td>
<td>148</td>
</tr>
</tbody>
</table>
Key findings

• Mobility, both absolute and relative, is on the average lower in developing countries than in high-income countries

• Girls, while historically disadvantaged, are becoming more upwardly mobile than boys

• Public investments are associated with enhanced mobility
Clear signs of progress, but is it fair...?
Absolute mobility is lower in developing countries
Harder to surpass more educated parents...
Also hard to get an education when poor...
Daughters are becoming more upwardly mobile than sons
Relative mobility is lower in developing countries
Mobility in FCV countries is lower still

a. Absolute mobility

b. Intergenerational persistence

Cohort (which decade individuals are born in)

- Developing economies
- FCV
Absolute mobility around the world
Relative mobility around the world
The world as a whole is very immobile
Relative upward mobility is low everywhere... particularly in developing countries.
Daughters’ upward mobility is on the rise

"Poverty to privilege": Share of the bottom half who make it to the top quartile

Developing economies

High-income economies

Cohort (decade individuals are born in)

Son  Daughter  All
Estimates of income mobility for 75 countries

- GDIM includes estimates of income mobility for 75 countries
- Estimates for 42 countries are borrowed from existing literature
- Estimates for remaining 33 countries are obtained by authors
- Using Two-Sample Two-Stage Least-Squares (TSTSLS) estimation
Income mobility versus education mobility

Intergenerational income elasticity

Intergenerational persistence in education

Correlation = .49
Income mobility too is low in developing world
Relative income mobility around the world
Mobility increases with national income

Intergen. persistence in education

Intergen. persistence in income
In most countries, but not all...
Also within countries, across provinces
Should mobility be expected to increase as national income increases?

• In models a la Becker et al., where parents optimize utility ft. child future income & own consumption, private investment into child human capital is an increasing function of parent human capital and parent income

• Children born to educated parents are twice fortunate, they benefit:
  • From higher private investment into their development
  • And from exposure to parents’ higher human capital

• This is particularly true when parental education and private investment complement each other

• Higher incomes (all else equal) are then predicted to yield higher intergenerational persistence (i.e. lower mobility)…
Should mobility be expected to increase as national income increases?

• **Credit market imperfections** further strengthen the intergenerational transmission of human capital, most notably among the poor

• If rising national income is accompanied by reductions in credit constraints, then this predicts an increase in mobility...

• When incomes rise further, former channel will eventually dominate, predicting an inverse-U relationship between mobility and income

• This is **not** what we see in the data...
Should mobility be expected to increase as national income increases?

• **Public interventions** that aim to **equalize opportunities** denote a plausible channel via which mobility increases as countries develop.

• As countries become richer they have more fiscal space to finance and implement policies that level the playing field.

• Effect of public spending may only “kick in” above certain level of national income, which would predict an increasing or U pattern.

• Policies more likely to improve mobility when:
  • Investments are sufficiently large
  • Targeted to benefit disadvantaged families and/or neighborhoods
  • Focus on early childhood
Total public expenditure and mobility
Public education expenditure and mobility

Public spending on education vs. GDP per capita

Intergenerational persistence vs. public spending on education (when cohort entered school)
Equalize opportunities at different stages of life

• Early in life:
  • Invest in maternal health
  • Nutrition
  • Access to clean drinking water and sanitation
  • Health care

• School age:
  • Address credit constraints (also helps earlier in life)
  • Equalize access to good quality schooling
  • Expose children and parents to information that influences their aspirations
  • Resolve segregation

• Later in life:
  • Tackle discrimination
  • “Second chance” interventions
Annex: Grandparents also matter

Grandparents matter, but less so than parents

Grandparents matter less in richer economies

- Developing economies: $\gamma$ not significant at 5% level
- High-income economies: $\gamma$ not significant at 5% level
- Developing economies: $\gamma$ significant at 5% level
- High-income economies: $\gamma$ significant at 5% level

Coefficient vs. GDP per capita (logarithmic scale)
Annex: Absolute mobility for next generations
Annex: Relative mobility for next generations
Annex: Other measures of absolute mobility
Annex: Trend in relative mobility: beta vs. cor
Annex: Girls breaking through the diagonal...
Annex: Gender gap not closing everywhere...
Annex: Income IGM < education IGM in ...
Annex: Adding countries relying on co-residence