Intergenerational Income Mobility: Persistence in income between parents and children

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Why Inequality and Mobility

• During the period of economic growth:
  - People more or less received “fruit of growth.”
  - Better life for children than parents’ generation.
  - People moved across regions and occupations.

• In matured and stagnant economy:
  - Allocation increasingly matters for people.
  - Children might not be better-off than parents.
  - Tertiary education heavily financed by household.
Studies of Intergenerational Mobility

(Sociology) “Social Mobility”
Persistence in social class between parents and children

(Economics) “Mobility of Economic Status”
Persistence in life-time economic status
(represented by income)
between parents and children
Inter-Generational Elasticity (IGE)

IGE is measured by Slope of the fitted line:

- IGE is between 0 and 1. When slope=0.5, child’s income rises 5% with a 10% increase in parent’s income.
- High IGE indicates low mobility, or high persistence.
Estimation issues

Analyzing household survey data:

➢ “Life-long” income is preferable but not observed.
  ➢ One-time incomes are adjusted by age.

➢ Incomes for parent-child pairs are rarely observed.
  ➢ Parents’ incomes are estimated from their education, occupation, or social status.

➢ Other issues: measurement errors, ages at the point of observation, personal income or family income, …
International Studies in IGE in Economics

• High mobility (low persistence): IGE ≈ 0.2
  Nordic countries, Canada, Australia

• Low mobility (high persistence): IGE ≈ 0.4 - 0.5
  USA, Britain, Italy

• Very low mobility (very high persistence) :
  Chile, Brazil  IGE ≈ 0.6 - 0.7

East Asian societies

• Japan, Korea, Taiwan:  IGE ≈ 0.3 - 0.4

• China: IGE ≈ 0.4 - 0.7
IGE in Japan

IGE estimates on Japan:

- Ueda (2009)
  Japan Panel Survey of Consumers (JPSC)
  0.41-0.46 (married sons), 0.3-0.38 (daughters)

- Lefranc et al. (2013)
  Japanese Social Stratification and Mobility Survey
  0.35 (both sons and daughters)

- Ueda (2015, current work)
  Japan Household Panel Survey by Keio Univ.
  0.32-0.34 (father-son relation)
  0.22 (parents-daughters, couple’s total income)
New result from JHPS data

Children in the thirties (born in the 1970s)

<table>
<thead>
<tr>
<th>Income type</th>
<th>Estimate (st.err.)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Father - son</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor income</td>
<td>0.340 (0.078)</td>
<td>302</td>
</tr>
<tr>
<td>Total income</td>
<td>0.321 (0.088)</td>
<td>352</td>
</tr>
<tr>
<td><strong>Father - married son</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor income</td>
<td>0.386 (0.082)</td>
<td>251</td>
</tr>
<tr>
<td>Total income</td>
<td>0.353 (0.094)</td>
<td>289</td>
</tr>
<tr>
<td><strong>Parents - married daughter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor income</td>
<td>0.223 (0.087)</td>
<td>307</td>
</tr>
<tr>
<td>Total income</td>
<td>0.146 (0.094)</td>
<td>403</td>
</tr>
</tbody>
</table>

* Total income includes non-labor incomes.
IGE differs between poor and rich families?

Nonlinear relationship according to parent’s income

Linear type (US, UK)  Non-linear type (Nordic)
Support poorest families?
High income inequality, Less mobility

Figure 1
The Great Gatsby Curve: More Inequality is Associated with Less Mobility across the Generations

M. Corak (J. of Econ. Persp. 2013, Figure 1)
High returns to education; Less mobility

Figure 4
Higher Returns to Schooling are Associated with Lower Intergenerational Earnings Mobility

M. Corak (J. of Econ. Persp. 2013, Figure 4)
Low education expenditure in GDP, Low mobility

J.Blanden (J. of Econ. Surveys 2013, Figure 7)
Channels of Intergenerational Transmission

“Nature or Nurture”?

- Genetic inheritances (cognitive and other abilities)
- Family background (home education, neighborhood, blood and social connection, etc.)
- School education

Accounting studies indicate that school education accounts for $1/3$ to $1/2$ of the transmission.
### Intergenerational Relation in Education (JHPS)

<table>
<thead>
<tr>
<th>Father's education</th>
<th>Junior high school</th>
<th>Senior high school</th>
<th>Junior college</th>
<th>University</th>
<th>Graduate school</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior high school</td>
<td>(33.8%)</td>
<td>2.9%</td>
<td>58.2%</td>
<td>9.0%</td>
<td>26.6%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Senior high school</td>
<td>(47.0%)</td>
<td>1.5%</td>
<td>41.9%</td>
<td>12.1%</td>
<td>41.3%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Junior college</td>
<td>(1.9%)</td>
<td>0.0%</td>
<td>42.9%</td>
<td>0.0%</td>
<td>50.0%</td>
<td>7.1%</td>
</tr>
<tr>
<td>University and more</td>
<td>(17.3%)</td>
<td>0.0%</td>
<td>10.4%</td>
<td>10.4%</td>
<td>70.4%</td>
<td>8.8%</td>
</tr>
</tbody>
</table>

Notes: Calculated from JHPS. Marginal distributions are in parentheses. Sample size is 722.
### Channels of Intergenerational Transmission: Japan’s Result

<table>
<thead>
<tr>
<th></th>
<th>(A) IGE</th>
<th>(B)without</th>
<th>(B)/(A)</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor</td>
<td>30-49</td>
<td>0.321</td>
<td>0.218</td>
<td>32.2%</td>
</tr>
<tr>
<td>income</td>
<td>30-39</td>
<td>0.340</td>
<td>0.214</td>
<td>37.1%</td>
</tr>
<tr>
<td>Total</td>
<td>30-49</td>
<td>0.267</td>
<td>0.157</td>
<td>41.1%</td>
</tr>
<tr>
<td>income</td>
<td>30-39</td>
<td>0.321</td>
<td>0.163</td>
<td>49.2%</td>
</tr>
</tbody>
</table>
Thank you.