New Estimates of Intergenerational Economic Mobility Using Administrative Data

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Measuring intergenerational economic mobility

Intergenerational Elasticity (IGE):

Percent increase in income a child can expect to secure for each one percent increase in the income of his or her parents.

\[ IGE = \frac{\partial \log E(y_c)}{\partial \log y_p} \]

Typically between 0 and 1, interpreted as the share of inequality between families persisting from one generation to the next.

Higher IGE \rightarrow Lower mobility
Statistics of Income Mobility Panel (SOI-M)

• Represented population:
  • Children born 1972-1975 who were living in U.S. in 1987

• Track children from age 26 to TY2010, when they were 35-38
  • Panel of children with 10 to 13 years of tax return and other administrative information (1998 – 2010)
    • Address lifecycle bias by observing children in their late 30s
  • Linked to parent tax returns from 1987 to 1998
    • Address attenuation bias by using 9 years of parental information (when children are 15 to 23 years old)

• Three income concepts: Total income, After-tax income, Earnings
Three approaches to estimating IGEs

Constant elasticity PPML model

Log expected children's income

Log average parental income

PPML model with linear spline

Log expected children's income

Log average parental income

p10  p50  p90

Nonparametric model

Log expected children's income

Log average parental income
# Key IGE estimates

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<thead>
<tr>
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<th>CE PPML</th>
<th>Spline PPML</th>
<th>Nonparametric</th>
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<tbody>
<tr>
<td></td>
<td>Point Estimate</td>
<td>CI</td>
<td>Point Estimate</td>
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<tr>
<td><strong>Total Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>0.47</td>
<td>(0.43 - 0.52)</td>
<td>0.51</td>
</tr>
<tr>
<td>Women</td>
<td>0.45</td>
<td>(0.41 - 0.49)</td>
<td>0.46</td>
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<tr>
<td><strong>After-tax Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>0.46</td>
<td>(0.42 - 0.51)</td>
<td>0.49</td>
</tr>
<tr>
<td>Women</td>
<td>0.44</td>
<td>(0.40 - 0.48)</td>
<td>0.46</td>
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<tr>
<td><strong>Earnings</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>0.49</td>
<td>(0.43 - 0.55)</td>
<td>0.54</td>
</tr>
<tr>
<td>Women</td>
<td>0.27</td>
<td>(0.22 - 0.33)</td>
<td>0.31</td>
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Total Income Nonparametric Curve (Men)

Log of men's expected total income as a function of log parental total income

IGE 0.32
IGE 0.43
IGE 0.68
IGE 0.41

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Total Income Nonparametric Curve (Women)

Log of women's expected total income as a function of log parental total income

<table>
<thead>
<tr>
<th>P10</th>
<th>P50</th>
<th>P90</th>
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<tr>
<td>IGE 0.50</td>
<td>IGE 0.36</td>
<td>IGE 0.63</td>
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<tr>
<td>IGE 0.25</td>
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Total and After-tax Nonparametric Curves (Men)

Log of men's expected total and after-tax income as a function of log parental income

- Total Income
- After tax Income
Total and After-tax Nonparametric Curves (Women)

Log of women's expected total and after-tax income as a function of log parental income

- Total Income
- After tax Income

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Earnings Nonparametric Curves

Log of expected earnings as a function of log parental after-tax income

Constant IGE:
M: 0.49 (0.43 - 0.55)
W: 0.27 (0.22 - 0.33)

Spline IGE:
M: 0.54 (0.49 - 0.61)
W: 0.31 (0.25 - 0.37)

Nonpar IGE:
M: 0.56 (0.49 – 0.62)
W: 0.32 (0.27 - 0.38)
The Role of Marriage

Probability of being married at age 35 as a function of parental after-tax income, by gender

- Women
- Men

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Spousal Earnings Nonparametric Curves

Log of expected earnings from spouse as a function of log parental after-tax income

Nonpar. IGE:
Men: 0.26
Women: 0.34
Key findings

• Total income IGEs reveal high persistence of income differences
  • About half are passed from parents to children

• IGEs are heterogeneous across the parental income distribution
  • About two-thirds of income differences are transmitted from parents to children in the upper-middle region of the parental distribution

• After-tax income IGEs are slightly lower than total income IGEs
  • Total and after-tax income curves have similar shapes
  • Total income IGE provides good representation of economic mobility

• Women’s lower earnings IGE is compensated by
  • Higher marriage probability
  • Higher spousal earnings IGE