’And Yet, It Moves’: Intergenerational Mobility in Italy

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Intergenerational Mobility: A Definition

- **Intergenerational mobility** refers to the degree to which individual socio-economic outcomes are associated with the outcomes and characteristics of their parents.

- Stronger association $\rightarrow$ lower intergenerational mobility

- In our study: *outcome* = *income*
Intergenerational Mobility: An Example

Acciari-Polo-Violante, "Intergenerational Mobility in Italy"
Intergenerational Mobility: An Example

Distribution of Parental Income

- Tiziano
- Silvio

Distribution of Child Income

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Intergenerational Mobility: An Example

Distribution of Parental Income

Distribution of Child Income

Tiziano → Matteo
Silvio → Marina

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Intergenerational Mobility: An Example

A society with low (upward and downward) mobility
Intergenerational Mobility: An Example

A society with high (upward and downward) mobility

Acciari-Polo-Violante, "Intergenerational Mobility in Italy"
The Study of Intergenerational Mobility (IGM)

- Why is measuring intergenerational mobility interesting?
  - IGM is considered an indicator of a *fluid and equitable* society
  - Stagnant economy $\rightarrow$ immobile society?
  - Only few country-studies based on large administrative data
The Study of Intergenerational Mobility (IGM)

• Why is measuring intergenerational mobility interesting?
  ► IGM is considered an indicator of a fluid and equitable society
  ► Stagnant economy → immobile society?
  ► Only few country-studies based on large administrative data

• We use administrative records on tax returns to measure intergenerational income mobility for two recent cohorts of Italians
  ► First study using direct measures of income for Italy
  ► Existing studies, so far, have mostly focused on education and occupation as measures of ‘status’, or imputed income
Outline

1. Description of the data

2. Define measures of intergenerational mobility (IGM)

3. Results
   
   (a) National statistics
   
   (b) IGM in Italy compared to other countries
   
   (c) Geographical variation across Italian provinces
   
   (d) Ask what socio-economic variables correlate with IGM
DATA
What made this study possible

We can link SSN of parents and children from tax returns

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Sample Selection

• **650,000** parents-children records
• For each cohort, information on income for 2 consecutive years
Sample Selection

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- Two shortcomings of these data:
  1. Noisy proxy for individual lifetime income
  2. Tax evasion
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→ our estimates could overstate the true level of mobility
# Descriptive statistics

## Parents in 1998

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Father’s age</td>
<td>51</td>
</tr>
<tr>
<td>Mother’s age</td>
<td>48</td>
</tr>
<tr>
<td>% Families top-earner = father</td>
<td>87.5%</td>
</tr>
<tr>
<td>Parental income</td>
<td>34,633</td>
</tr>
<tr>
<td>Father’s income</td>
<td>26,473</td>
</tr>
<tr>
<td>Mother’s income</td>
<td>11,642</td>
</tr>
</tbody>
</table>

## Children in 2012

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>37</td>
</tr>
<tr>
<td>Son’s income</td>
<td>25,016</td>
</tr>
<tr>
<td>Daughter’s income</td>
<td>18,290</td>
</tr>
<tr>
<td>% for whom major income component is:</td>
<td></td>
</tr>
<tr>
<td>Dependent labor</td>
<td>72%</td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td>14%</td>
</tr>
<tr>
<td>Self-employment</td>
<td>10%</td>
</tr>
<tr>
<td>Capital</td>
<td>4%</td>
</tr>
</tbody>
</table>

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INDICATORS OF INTERGENERATIONAL MOBILITY

Acciaro-Polo-Violante, "Intergenerational Mobility in Italy"
Two Types of Indicators

1. **Absolute Upward Mobility**
   - It measures how easy it is, for children who grew up in poor families, to improve their position in the income distribution
   - Indicator of a fluid society

Acciari-Polo-Violante, "Intergenerational Mobility in Italy"
Two Types of Indicators

1. **Absolute Upward Mobility**
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   - Indicator of a **fluid** society

2. **Relative Mobility**
   - It measures **the gap** in the likelihood of economic success across children with different family background
   - Indicator of **equal opportunities** in society

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Upward Mobility Index (Q1Q5)

• Take children from parents at the bottom of the distribution

• Ask: how many of them will reach the top of the distribution?
Upward Mobility Index (Q1Q5)

- Take children from parents at the bottom of the distribution
- Ask: how many of them will reach the top of the distribution?
- Climb from lowest quintile (Q1) to highest quintile (Q5)
  - Bottom quintile (lowest 20%): father earns less than €15,000
  - Top quintile (highest 20%): child earns more than €50,000

Acciari-Polo-Violante, "Intergenerational Mobility in Italy"
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  - Bottom quintile (lowest 20%): father earns less than €15,000
  - Top quintile (highest 20%): child earns more than €50,000
- It’s the fraction of children who come from poor families, but as adults become well-off (some of them affluent)

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Relative Mobility

Mean Child Rank vs. Parental Rank

Each percentile contains 1 percent of the population
Relative Mobility

Mean Child Rank vs. Parental Rank

For each parental percentile, collect positions of their children

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Relative rank persistence: the slope of the red line

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Relative Rank Persistence

Mean Child Rank vs. Parental Rank

Maximum Relative Mobility

Acciari-Polo-Violante, "Intergenerational Mobility in Italy"
Relative Rank Persistence

Mean Child Rank vs. Parental Rank

Minimum Relative Mobility

Maximum Relative Mobility

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Relative Rank Persistence

Mean Child Rank vs. Parental Rank

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Maximum Relative Mobility

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Comparison between Regions/Countries

Flatter line $\rightarrow$ more relative mobility $\rightarrow$ egalitarian society

Acciari-Polo-Violante, "Intergenerational Mobility in Italy"
Comparison between Regions/Countries

Flatter line → more relative mobility → egalitarian society

Higher line → more absolute mobility → upward mobile society

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Upward Mobility in Italy (Q1Q5)

- Fraction of children from families in bottom quintile (less than \(\欧元15,000\)) moving up to top quintile (more than \(\欧元50,000\))
Upward Mobility in Italy (Q1Q5)

- Fraction of children from families in bottom quintile (less than €15,000) moving up to top quintile (more than €50,000)

<table>
<thead>
<tr>
<th>Parental Quintile</th>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>27</td>
<td>26</td>
<td>21</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>2nd</td>
<td>21</td>
<td>23</td>
<td>23</td>
<td>19</td>
<td>14</td>
</tr>
<tr>
<td>3rd</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
<td>18</td>
</tr>
<tr>
<td>4th</td>
<td>17</td>
<td>17</td>
<td>20</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>5th</td>
<td>15</td>
<td>14</td>
<td>15</td>
<td>21</td>
<td>35</td>
</tr>
</tbody>
</table>

- Only 10 children out of 100 born from poor parents make it to top
- As a comparison, 35 out of 100 born at the top stay at the top
Subgroups of the population

• We find that upward mobility is:
  
  ► Higher for **sons** compared to daughters
  
  ► Higher for **first-born** among siblings
  
  ► Higher for children of **foreign-born parents**
Subgroups of the population

- We find that upward mobility is:
  - Higher for sons compared to daughters
  - Higher for first-born among siblings
  - Higher for children of foreign-born parents
  - Higher for children who, once adults, migrate from the province where they grew up

→ geographical mobility begets upward mobility
Relative Rank Persistence in Italy

- **Linear relationship**, but it bends upward at the top
- **More rank-persistence at the top** (above 95th pct: €100,000)

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Relative Rank Persistence in Italy

Mean Child Rank vs. Parental Rank

- A straight line approximates well the data

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• Slope = 0.23: parents distant 90-10 → children distant 60-40
• Initial income gap narrows significantly, but remains noticeable
INTERNATIONAL COMPARISON

Italy vs

United States and Sweden
Upward Mobility Across Countries

• Q1Q5: fraction of children rising from bottom to top quintile
Upward Mobility Across Countries

• Q1Q5: fraction of children rising from bottom to top quintile
  ▶ Italy: 10%
  ▶ United States: 8%
  ▶ Sweden: 11%

• Are they really so similar? What’s going on?
Upward Mobility Across Countries

- Q1Q5: fraction of children rising from bottom to top quintile
  - Italy: 10%
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  - Sweden: 11%

- Are they really so similar? What’s going on?

- Income inequality in US is much higher than in Italy and Sweden
  → distributional ranks are further apart in monetary terms

- Using positional mobility measures in cross-country comparisons can be problematic

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Upward Mobility: Italy vs United States

- Probability that son’s income is 50 pct higher than father’s income

- In Italy: more upward mobility at the bottom, but less for the middle class, compared to the United States

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Relative Mobility Across Countries

- Sweden is the most egalitarian and the US the least
- Italy is in between

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GEOGRAPHICAL VARIATION IN INTERGENERATIONAL MOBILITY

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Variation in Upward Mobility Across Provinces

• Take two children born from parents in the same position of the national income distribution...

• ...but residing in different provinces when their children grew up

• What is the position of the children in their own national income distribution, when they become adults?

• Attempt to isolate the impact of growing up in a particular province

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Upward Mobility Across Italian Provinces

Darker colors mean more mobility

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For given parental rank, some of the variation in child outcome is explained by the province where she grew up.

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## Top-10 and Bottom-10 Provinces

<table>
<thead>
<tr>
<th>Rank</th>
<th>Top 10</th>
<th>Q1Q5</th>
<th>Rank</th>
<th>Bottom 10</th>
<th>Q1Q5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bolzano</td>
<td>0.389</td>
<td>101</td>
<td>Cosenza</td>
<td>0.061</td>
</tr>
<tr>
<td>2</td>
<td>Lecco</td>
<td>0.273</td>
<td>102</td>
<td>Olbia - Tempio</td>
<td>0.060</td>
</tr>
<tr>
<td>3</td>
<td>Monza-Brianza</td>
<td>0.252</td>
<td>103</td>
<td>Trapani</td>
<td>0.059</td>
</tr>
<tr>
<td>4</td>
<td>Milano</td>
<td>0.241</td>
<td>104</td>
<td>Medio Campidano</td>
<td>0.058</td>
</tr>
<tr>
<td>5</td>
<td>Mantova</td>
<td>0.233</td>
<td>105</td>
<td>Vibo Valentia</td>
<td>0.057</td>
</tr>
<tr>
<td>6</td>
<td>Varese</td>
<td>0.227</td>
<td>106</td>
<td>Palermo</td>
<td>0.055</td>
</tr>
<tr>
<td>7</td>
<td>Cremona</td>
<td>0.223</td>
<td>107</td>
<td>Carbonia - Iglesias</td>
<td>0.053</td>
</tr>
<tr>
<td>8</td>
<td>Bologna</td>
<td>0.222</td>
<td>108</td>
<td>Nuoro</td>
<td>0.053</td>
</tr>
<tr>
<td>9</td>
<td>Como</td>
<td>0.221</td>
<td>109</td>
<td>Agrigento</td>
<td>0.048</td>
</tr>
<tr>
<td>10</td>
<td>Aosta</td>
<td>0.217</td>
<td>110</td>
<td>Oristano</td>
<td>0.042</td>
</tr>
</tbody>
</table>

Probability of **climbing from the bottom to the top** of income distribution

Acciari-Polo-Violante, "Intergenerational Mobility in Italy"
**Large Provinces (around 1M residents or more)**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Province</th>
<th>Q1Q5</th>
<th>Rank</th>
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<th>Q1Q5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Milano</td>
<td>0.241</td>
<td>10</td>
<td>Firenze</td>
<td>0.135</td>
</tr>
<tr>
<td>2</td>
<td>Bologna</td>
<td>0.222</td>
<td>11</td>
<td>Roma</td>
<td>0.125</td>
</tr>
<tr>
<td>3</td>
<td>Brescia</td>
<td>0.213</td>
<td>12</td>
<td>Napoli</td>
<td>0.086</td>
</tr>
<tr>
<td>4</td>
<td>Treviso</td>
<td>0.212</td>
<td>13</td>
<td>Caserta</td>
<td>0.076</td>
</tr>
<tr>
<td>5</td>
<td>Bergamo</td>
<td>0.210</td>
<td>14</td>
<td>Bari</td>
<td>0.071</td>
</tr>
<tr>
<td>6</td>
<td>Verona</td>
<td>0.201</td>
<td>15</td>
<td>Salerno</td>
<td>0.068</td>
</tr>
<tr>
<td>7</td>
<td>Padova</td>
<td>0.197</td>
<td>16</td>
<td>Catania</td>
<td>0.065</td>
</tr>
<tr>
<td>8</td>
<td>Genova</td>
<td>0.166</td>
<td>17</td>
<td>Cosenza</td>
<td>0.061</td>
</tr>
<tr>
<td>9</td>
<td>Torino</td>
<td>0.161</td>
<td>18</td>
<td>Palermo</td>
<td>0.055</td>
</tr>
</tbody>
</table>

Probability of **climbing from the bottom to the top** of income distribution

*Acciari-Polo-Violante, "Intergenerational Mobility in Italy*
Where Would You Want to Grow Up?

Milano vs Bari

- Milano is both more egalitarian (flatter line) and more upward mobile (higher line) than Bari

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Socio-Economic Factors Associated with Mobility

• Upward mobility varies dramatically across provinces

• Also many key socio-economic indicators vary across provinces

• Which ones are more strongly associated with upward mobility?
Socio-Economic Factors Associated with Mobility

- Upward mobility varies dramatically across provinces

- Also many **key socio-economic indicators** vary across provinces

- Which ones are more strongly **associated with upward mobility**?

1. Local labor market conditions
   - i.e., youth unemployment

2. Indicators of school quality

3. Social capital
   - i.e., measures of trust, reciprocity, cooperation

4. Self-efficacy (individual empowerment) among children

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Indicators of School Quality

- Tuttoscuola report (2007): over 100 indicators of school quality
Indicators of School Quality

- **Tuttoscuola report (2007):** over 100 indicators of school quality

- 4 areas: resources, organization, teachers, and test scores

  1. **Teachers’ composition and working conditions**
     
     - Share of young teachers (+), share of temporary (precari) teachers (-), turnover rate (-)

  2. **Test scores**
Indicators of School Quality

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- 4 areas: resources, organization, teachers, and test scores
  1. **Teachers’ composition and working conditions**
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  2. **Test scores**

- 4 school levels: kindergarten, primary, middle, and secondary
  1. **Quality of kindergarten**
     - Consistent with literature stressing importance of childhood development for economic outcomes of adults

*Acciari-Polo-Violante, "Intergenerational Mobility in Italy"*
Conclusions

1. Intergenerational mobility in Italy may be higher than we thought

2. But very low at the top of distribution, where ranks persist more

3. In terms of relative mobility, Italy is between Scandinavia and US
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4. Striking geographical differentials between North and South.
   - North-East: land of abundant and equal opportunities.
   - South: land where social status persists across generations.
Conclusions

1. Intergenerational mobility in Italy may be **higher than we thought**

2. But **very low at the top of distribution**, where ranks persist more

3. In terms of relative mobility, Italy is between **Scandinavia and US**

4. Striking **geographical differentials** between North and South
   - North-East: land of abundant and equal opportunities
   - South: land where social status persists across generations

5. Correlates → **policy prescriptions**:
   - Improving quality of schooling
   - Improving youth access to labor market
THANKS!