Mobility Report Cards:
The Role of Colleges in Intergenerational Mobility

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The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors and do not necessarily represent the views of the U.S. Department of Treasury.
The Fading American Dream
Percent of Children Earning More than Their Parents, by Year of Birth

Source: Chetty, Grusky, Hell, Hendren, Manduca, Narang (Science 2017)
College Mobility Report Cards

• Use de-identified tax data and Pell records covering all college students aged 18-22 from 1999-2013 (30 million students)
  – Construct statistics based on college attendance (not completion)

• We show how colleges shape upward mobility by constructing mobility report cards for every college in America
  – Statistics on parents’ incomes and students’ earnings outcomes at each college (building on the College Scorecard)
Caveat: we do not identify the causal effects ("value added") of colleges

Instead, our descriptive analysis highlights the colleges that deserve further study as potential engines of mobility

- Certain colleges (e.g., Cal State LA, City Univ. of New York) have excellent outcomes while providing low-income access
Income Definitions

- **Parent Income**: mean pre-tax household income during five year period when child is aged 15-19

- **Child Income**: individual labor earnings in 2014 (ages 32-34)

- Focus on **percentile ranks**, ranking children relative to other children in same birth cohort
  - Rank parents relative to other parents with children in the same cohort
Outline

1. Access: Parents’ Income Distributions

2. Outcomes: Students’ Earnings Distributions

3. Differences in Mobility Rates Across Colleges

4. Trends Since 2000
Access: Parents’ Income Distributions
Parent Income Distribution at Harvard
1980-82 Child Birth Cohorts

<table>
<thead>
<tr>
<th>Parent Income Quintile</th>
<th>Percent of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.0%</td>
</tr>
<tr>
<td>2</td>
<td>5.3%</td>
</tr>
<tr>
<td>3</td>
<td>8.1%</td>
</tr>
<tr>
<td>4</td>
<td>13.2%</td>
</tr>
<tr>
<td>5</td>
<td>70.3%</td>
</tr>
</tbody>
</table>
Parent Income Distribution at Harvard
1980-82 Child Birth Cohorts

Percent of Students

Parent Income Quintile

1 2 3 4 5

3.0% 5.3% 8.1% 13.2% 70.3%

15.4%

Top 1%
Probability of attending an Ivy-Plus college is **77 times** higher for children in the top 1% compared to the bottom 20%.
Harvard University
Parent Income Distributions by Quintile for 1980-82 Birth Cohorts
At Selected Colleges

Harvard University
UC Berkeley
Parent Income Distributions by Quintile for 1980-82 Birth Cohorts
At Selected Colleges

- Harvard University
- UC Berkeley
- SUNY-Stony Brook

Parent Income Distributions by Quintile for 1980-82 Birth Cohorts
At Selected Colleges
Parent Income Distributions by Quintile for 1980-82 Birth Cohorts
At Selected Colleges

Harvard University
UC Berkeley
SUNY-Stony Brook
Glendale Community College
Parent Income Distributions by Quintile for 1980-82 Birth Cohorts
At Selected Colleges

Income Segregation Across Colleges is Comparable to Segregation Across Census Tracts in Average American City
Outcomes: Students’ Earnings Distributions
Children’s Outcomes: percentage of students who reach Top 20%
Differences in Mobility Rates Across Colleges
Mobility Report Cards
Columbia vs. SUNY-Stony Brook

Percent of Students

Parent Income Quintile

Columbia
SUNY-Stony Brook
Mobility Report Cards
Columbia vs. SUNY-Stony Brook

Access: $P(\text{Parent in Q1}) = 16.4\%$

Outcomes: $P(\text{Child in Q5}|\text{Parent in Q1}) = 51.2\%$
Mobility Rates

- Define a college’s *mobility rate* (MR) as the fraction of its students who come from bottom quintile and end up in top quintile

- Observe that:

  \[
  \text{Mobility Rate} = \text{Access} \times \text{Outcomes}
  \]

  At SUNY:  \[8.4\% = 51.2\% \times 16.4\%\]
Mobility Rates: Outcomes vs. Access by College

Outcomes: \( P(\text{Child in Q5} \mid \text{Par in Q1}) \)

Access: Percent of Parents in Bottom Quintile

- Columbia
- SUNY-Stony Brook
Mobility Rates: Outcomes vs. Access by College

Outcomes: $P(\text{Child in Q5 | Par in Q1})$

Access: Percent of Parents in Bottom Quintile

- Columbia
- SUNY-Stony Brook
### Top 10 Colleges in America By Bottom-to-Top Quintile Mobility Rate

Fraction of Students who come from Bottom Fifth and End up in Top Fifth

<table>
<thead>
<tr>
<th>College</th>
<th>Mobility Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cal State-Los Angeles</td>
<td>9.9%</td>
</tr>
<tr>
<td>Pace University</td>
<td>8.4%</td>
</tr>
<tr>
<td>SUNY-Stony Brook</td>
<td>8.4%</td>
</tr>
<tr>
<td>Technical Career Institutes</td>
<td>8.0%</td>
</tr>
<tr>
<td>U. Texas-Pan American</td>
<td>7.6%</td>
</tr>
<tr>
<td>CUNY System</td>
<td>7.2%</td>
</tr>
<tr>
<td>Glendale Comm. Coll.</td>
<td>7.1%</td>
</tr>
<tr>
<td>South Texas College</td>
<td>6.9%</td>
</tr>
<tr>
<td>Cal State Poly-Pomona</td>
<td>6.8%</td>
</tr>
<tr>
<td>U. Texas-El Paso</td>
<td>6.8%</td>
</tr>
<tr>
<td>Columbia</td>
<td>3.1%</td>
</tr>
<tr>
<td>Ivy Plus Colleges</td>
<td>2.2%</td>
</tr>
<tr>
<td>Avg. College in the U.S.</td>
<td>1.9%</td>
</tr>
</tbody>
</table>
Outcomes: $P(\text{Child in Q5 | Par in Q1})$

Access: Percent of Parents in Bottom Quintile

SD of MR = 1.30%
SD of MR within Area = 0.97%
Share of Majors At Top Mobility Rate Schools vs. Other Schools

- STEM = 14.9% in All Other Schools
- STEM = 17.9% in Top Decile of Mobility Rates
- Business = 20.1% in All Other Schools
- Business = 19.9% in Top Decile of Mobility Rates

Majors: STEM, Business, Trades and Personal Services, Social Sciences, Multi/Interdisciplinary Studies, Public and Social Services, Health and Medicine, Arts and Humanities.
Upper-Tail Outcomes

- Now examine mobility rates for upper-tail incomes: fraction of students who come from bottom quintile and reach top 1%
Access and Upper-Tail Outcomes Across Colleges

Upper-Tail Outcomes: $\text{P}(\text{Top 1% | Bottom 20%})$

Access: Percent of Parents in Bottom Quintile

### Top 10 Colleges in America By **Upper-Tail** (Top 1%) Mobility Rate

<table>
<thead>
<tr>
<th>College</th>
<th>Mobility Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC Berkeley</td>
<td>0.76%</td>
</tr>
<tr>
<td>Columbia</td>
<td>0.75%</td>
</tr>
<tr>
<td>MIT</td>
<td>0.68%</td>
</tr>
<tr>
<td>Stanford</td>
<td>0.66%</td>
</tr>
<tr>
<td>Swarthmore</td>
<td>0.61%</td>
</tr>
<tr>
<td>John Hopkins</td>
<td>0.54%</td>
</tr>
<tr>
<td>NYU</td>
<td>0.52%</td>
</tr>
<tr>
<td>Univ. Penn</td>
<td>0.51%</td>
</tr>
<tr>
<td>Cornell</td>
<td>0.51%</td>
</tr>
<tr>
<td>Chicago</td>
<td>0.50%</td>
</tr>
<tr>
<td><strong>Ivy Plus Colleges</strong></td>
<td><strong>0.48%</strong></td>
</tr>
<tr>
<td><strong>Avg. College in the U.S.</strong></td>
<td><strong>0.06%</strong></td>
</tr>
</tbody>
</table>

Note: Among colleges with 300 or more students per class
Two Educational Models for Mobility

- Two distinct models associated with different types of mobility
  - **Top-quintile** mobility: some (but not all) mid-tier public schools, such as Cal-State and CUNY
  - **Upper-tail** mobility: elite private colleges
Trends in Access Since 2000
Policy Lessons

1. Low-income students admitted to selective colleges do not appear over-placed, based on their earnings outcomes

   – Provides support for policies that seek to bring more such students to selective colleges
Policy Lessons

1. Low-income students admitted to selective colleges do not appear over-placed, based on their earnings outcomes

2. High-mobility-rate colleges identified here may provide a more scalable model for upward mobility than elite schools
   - Median instructional expenditures: $87,000 at Ivy-Plus vs. $6,500 at highest-mobility-rate colleges
Policy Lessons

1. Low-income students admitted to selective colleges do not appear over-placed, based on their earnings outcomes.

2. High-mobility-rate colleges identified here may provide a more scalable model for upward mobility than elite schools.

3. Recent unfavorable trends in access call for a re-evaluation of policies at the national, state, and college level.
   - Ex: changes in admissions criteria, expansions of transfers from the community college system, interventions at earlier ages.
Directions for Future Work

• How can we expand access to colleges that may be “engines of upward mobility”?

• How can we increase access to elite colleges to provide more pathways to upper-tail success?

• Partnering with institutions will be critical in this research!

Download data for every college from the Equality of Opportunity Project