Improving Equality of Opportunity in America
New Evidence and Policy Lessons

Alex Olssen
Harvard University

The opinions expressed in this paper are those of the authors alone and do not necessarily reflect the views of the Internal Revenue Service or the U.S. Treasury Department. This work is a component of a larger project examining the effects of eliminating tax expenditures on the budget deficit and economic activity. Results reported here are contained in the SOI Working Paper “The Economic Impacts of Tax Expenditures: Evidence from Spatial Variation across the U.S.,” approved under IRS contract TIRNO-12-P-00374.
Is America the Land of Opportunity?

- U.S. is traditionally thought of as the “land of opportunity”
  - Does it live up to this reputation?
  - How can we improve disadvantaged children’s chances of success?
  - In particular how can we increase intergenerational mobility?
New Evidence from Big Data

- Analyze a large dataset with anonymous records on the earnings of 40 million children and their parents
  - Every child born in the U.S. between 1980-82

- Study children’s chances of moving up in the income distribution
Intergenerational Mobility in the United States

Parent Income Ranks

Average Child Income Rank

U.S. $Y_{25} = 41.5$

Source: Chetty, Hendren, Kline, Saez 2013
Intergenerational Mobility in the United States vs. Denmark

U.S. \( Y_{25} = 41.5 \)

Denmark \( Y_{25} = 46.0 \)

Parent Income Ranks vs. Average Child Income Rank
People typically focus on differences across countries.

But social mobility varies a lot across cities within the U.S.

Illustrate by comparing two cities with vibrant economies: Salt Lake City, UT and Charlotte, NC.
Intergenerational Mobility in Salt Lake City

Salt Lake City $Y_{25} = 46.1 = $29,300
Intergenerational Mobility in Salt Lake City vs. Charlotte

Parent Rank in National Income Distribution

Child Rank in National Income Distribution

Salt Lake City $Y_{25} = 46.1 = $29,300
Charlotte $Y_{25} = 36.3 = $21,400
The Geography of Intergenerational Mobility in the United States
Average Child Percentile Rank for Parents at 25th Percentile

Note: Lighter Color = More Absolute Upward Mobility
The Geography of Upward Mobility in and Around New York
Mean Child Percentile Rank for Parents at 25th Percentile ($Y_{25}$)

- New York (43.8)
- Philadelphia (40.8)
- Pittsburgh (45.2)
- Columbus (37.7)

Note: Lighter Color = More Absolute Upward Mobility
## Highest Upward Mobility in the 50 Largest Cities

<table>
<thead>
<tr>
<th>Upward Mobility Rank</th>
<th>CZ Name</th>
<th>Absolute Upward Mobility</th>
<th>Odds of Reaching Top Fifth Starting from Bottom Fifth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Salt Lake City, UT</td>
<td>46.2</td>
<td>10.8%</td>
</tr>
<tr>
<td>2</td>
<td>Pittsburgh, PA</td>
<td>45.2</td>
<td>9.5%</td>
</tr>
<tr>
<td>3</td>
<td>San Jose, CA</td>
<td>44.7</td>
<td>12.9%</td>
</tr>
<tr>
<td>4</td>
<td>Boston, MA</td>
<td>44.6</td>
<td>10.5%</td>
</tr>
<tr>
<td>5</td>
<td>San Francisco, CA</td>
<td>44.4</td>
<td>12.2%</td>
</tr>
<tr>
<td>6</td>
<td>San Diego, CA</td>
<td>44.3</td>
<td>10.4%</td>
</tr>
<tr>
<td>7</td>
<td>Manchester, NH</td>
<td>44.2</td>
<td>10.0%</td>
</tr>
<tr>
<td>8</td>
<td>Minneapolis, MN</td>
<td>44.2</td>
<td>8.5%</td>
</tr>
<tr>
<td>9</td>
<td>Newark, NJ</td>
<td>44.1</td>
<td>10.2%</td>
</tr>
<tr>
<td>10</td>
<td>New York, NY</td>
<td>43.8</td>
<td>10.5%</td>
</tr>
<tr>
<td>...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Philadelphia, PA</td>
<td>40.8</td>
<td>7.4%</td>
</tr>
</tbody>
</table>
## Lowest Upward Mobility in the 50 Largest Cities

<table>
<thead>
<tr>
<th>Upward Mobility Rank</th>
<th>CZ Name</th>
<th>Absolute Upward Mobility</th>
<th>Odds of Reaching Top Fifth Starting from Bottom Fifth</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>Cleveland, OH</td>
<td>38.2</td>
<td>5.7%</td>
</tr>
<tr>
<td>42</td>
<td>New Orleans, LA</td>
<td>38.2</td>
<td>5.1%</td>
</tr>
<tr>
<td>43</td>
<td>Cincinnati, OH</td>
<td>37.9</td>
<td>5.1%</td>
</tr>
<tr>
<td>44</td>
<td>Columbus, OH</td>
<td>37.7</td>
<td>4.9%</td>
</tr>
<tr>
<td>45</td>
<td>Jacksonville, FL</td>
<td>37.5</td>
<td>4.9%</td>
</tr>
<tr>
<td>46</td>
<td>Detroit, MI</td>
<td>37.3</td>
<td>5.5%</td>
</tr>
<tr>
<td>47</td>
<td>Indianapolis, IN</td>
<td>37.2</td>
<td>4.9%</td>
</tr>
<tr>
<td>48</td>
<td>Raleigh, NC</td>
<td>36.9</td>
<td>5.0%</td>
</tr>
<tr>
<td>49</td>
<td>Atlanta, GA</td>
<td>36.0</td>
<td>4.5%</td>
</tr>
<tr>
<td>50</td>
<td>Charlotte, NC</td>
<td>35.8</td>
<td>4.4%</td>
</tr>
</tbody>
</table>
Why Does Upward Mobility Differ Across Areas?

- Eventual policy goal: change characteristics of cities with low rates of upward mobility

- What are the characteristics that predict upward mobility?
Race and Upward Income Mobility

- Start by exploring racial differences

- Most obvious pattern from map: areas with a large African-American population have less upward mobility
Upward Mobility vs. Fraction Black in Area

Correlation = -0.580 (0.066)
Race and Upward Income Mobility

- But *white* Americans also have lower rates of upward mobility in areas with a large African-American share.

- Stronger correlate is racial and income *segregation*.
  - Segregation affects both low-income blacks and whites.
Upward Mobility vs. Racial Segregation

Theil Index of Racial Segregation in 2000 (log scale)

Correlation = -0.361 (0.068)
Upward Mobility vs. Income Segregation

Correlation = -0.393 (0.065)
Upward Mobility vs. Commuting Time to Work

Correlation = 0.605

Philadelphia: 24.6%
U.S.: 29.5%
Upward Mobility vs. Population-weighted Density (Krugman)
Upward Mobility vs. Neighborhood Accessibility (Talen et al.)

Figure 1. Accessibility vs. Odds of Reaching Top Fifth Starting from Bottom Fifth

Note: Accessibility measure from walkscore.com
Factor 2: Income Inequality

Upward Mobility vs. Gini Coefficient

Correlation = -0.578

(0.093)
Factor 3: Social Capital

Upward Mobility vs. Putnam Social Capital Index

Correlation = 0.641
(0.091)
Factor 4: Family Structure

Upward Mobility vs. Fraction of Single Mothers in Area

Correlation = -0.764
(0.074)
Upward Mobility vs. Fraction of Single Mothers in Area

Children with Married Parents Only

Correlation = -0.662 (0.087)
Factor 5: School Quality
Upward Mobility vs. Dropout Rates

Correlation = -0.574
(0.089)
Five Strongest Correlates of Upward Mobility

1. Segregation

2. Income Inequality (size of middle class)

3. Social Capital

4. Family Structure

5. School Quality
Broader Lessons for Economic and Social Policy

1. Harnessing big data can provide a scientific evidence base for designing many policies

2. Simply collecting and disseminating performance data can spark social change

3. Understanding the causal determinants of the differences in upward mobility across cities could have large benefits
An Opportunity and a Challenge

<table>
<thead>
<tr>
<th>Commuting Zone</th>
<th>Odds of Rising from Bottom to Top Fifth</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco, CA</td>
<td>12.2%</td>
</tr>
<tr>
<td>Boston, MA</td>
<td>10.5%</td>
</tr>
<tr>
<td>Philadelphia, PA</td>
<td>7.4%</td>
</tr>
<tr>
<td>Chicago, IL</td>
<td>6.5%</td>
</tr>
<tr>
<td>Columbus, OH</td>
<td>4.9%</td>
</tr>
<tr>
<td>Memphis, TN</td>
<td>2.6%</td>
</tr>
</tbody>
</table>
Intergenerational Persistence

Child's Birth Cohort

Trends in Mobility in the United States