Moved to Opportunity: The Long-Run Effect of Public Housing Demolition on Labor Market Outcomes of Children

Eric Chyn
University of Virginia

2017 Policy Summit on Housing, Human Capital, and Inequality
Federal Reserve Bank of Cleveland

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How does growing up in a disadvantaged neighborhood affect child outcomes?

- **Motivation:**
  - 20 million children live in high-poverty areas (Bishaw, 2014)
  - $40 billion spent on housing programs which affect exposure to neighborhood poverty (OMB, 2016)
    - Project-based public housing
    - Section-8 housing vouchers
Overview of This Paper

[Text extracted from the document]

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Overview of This Paper

- Provide new evidence on long-run neighborhood effects for children by studying public housing demolitions in Chicago
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- Provide new evidence on long-run neighborhood effects for children by studying public housing demolitions in Chicago

Identification: Displacement unrelated to resident characteristics (Jacob, 2004)
Children displaced due to public housing demolition:

- Move to areas with lower poverty and less crime
- Have notably better labor market outcomes in adulthood:
  - More likely to work
  - Higher earnings
- Have fewer arrests for violent crime

Suggests large benefits of voucher-based relocation for children living in high-rise public housing

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Preview of Results

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Background: Public Housing in Chicago

Overview:
1. Third largest public housing system during the 1990s
2. Average household income: $7,000
3. 20% of units have more than 5 people
4. Nearly all residents are African-American
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Background: Public Housing Demolition in Chicago

- Reaction to serious management and infrastructure problems
  - Buildings built during the 50s and 60s cheaply
  - Few believed the Chicago Housing Authority (CHA) could deal with maintenance issues
  - Local politicians proposed demolition and expanding voucher assistance
  - Limited funding for demolition
    ⇒ selection of buildings based on specific maintenance issues (Jacob, 2004)
  - Initial demolitions motivated by specific crises
    - Ex. Pipes burst in Robert Taylor high-rise buildings
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Figure 1: Demolition at Stateway Gardens
Data Construction Overview

1. Demolition sample:
   - CHA data on building addresses
   - Jacob (2004) sample of buildings ($N = 54$)
   - Social assistance (TANF/AFDC, Foodstamps, Medicaid) files
     - 5,250 displaced (treated) and non-displaced (control) children

2. Link this sample to administrative data on outcomes:
   - Quarterly earnings from unemployment insurance records
   - Arrest records from the Illinois State Police
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Estimating Equation

- Reduced form:

\[ Y_{it} = \alpha + \beta D_{b(i)} + X_i' \theta + \psi_{p(i)} + \delta_t + \epsilon_{it} \]

where \( i \) is an individual; \( t \) indexes years; \( b \) is a building and \( p \) is a project.

- \( D \) is an indicator equal to 1 if \( i \) lived in a demolished building

- \( \psi_{p(i)} \) and \( \delta_t \) are project and year fixed effects, respectively

- **Key**: Identification comes from within project comparison
Threats to Identification
## Threats to Identification

### Displaced and Non-displaced Adults Prior to Demolition

<table>
<thead>
<tr>
<th>Adults</th>
<th>Control Mean</th>
<th>Diff: Treated–Control, Within Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>28.851</td>
<td>0.810**</td>
</tr>
<tr>
<td>Male (=1)</td>
<td>0.128</td>
<td>-0.001</td>
</tr>
<tr>
<td>Past Arrests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent</td>
<td>0.185</td>
<td>-0.017</td>
</tr>
<tr>
<td>Property</td>
<td>0.156</td>
<td>0.016</td>
</tr>
<tr>
<td>Drugs</td>
<td>0.166</td>
<td>0.031</td>
</tr>
<tr>
<td>Other</td>
<td>0.230</td>
<td>-0.018</td>
</tr>
<tr>
<td>Labor Market Activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed (=1)</td>
<td>0.173</td>
<td>-0.006</td>
</tr>
<tr>
<td>Earnings (Rank)</td>
<td>1,493.75</td>
<td>-45.91</td>
</tr>
<tr>
<td>N (Individuals)</td>
<td>4,331</td>
<td></td>
</tr>
</tbody>
</table>

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Where did households relocate?

## Relocation Effects on Neighborhood Quality Measured After 3 Years

<table>
<thead>
<tr>
<th></th>
<th>Control Mean</th>
<th>Difference: Treated–Control, Within Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>HH Has Addr. (=1)</td>
<td>0.777</td>
<td>0.010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[0.020]</td>
</tr>
<tr>
<td>Restricted to HH with Addr.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Black</td>
<td>94.897</td>
<td>-2.563**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[1.125]</td>
</tr>
<tr>
<td>% Below Poverty Line</td>
<td>64.208</td>
<td>-12.929**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[2.531]</td>
</tr>
<tr>
<td>% on Public Assistance</td>
<td>57.153</td>
<td>-18.365**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[2.164]</td>
</tr>
<tr>
<td>Violent Crime per 10,000K</td>
<td>68.855</td>
<td>-23.426**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[4.371]</td>
</tr>
<tr>
<td>N (Households with Address)</td>
<td>2,162</td>
<td></td>
</tr>
</tbody>
</table>

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## Long-Run Effects of Demolition: Labor Market Activity

<table>
<thead>
<tr>
<th></th>
<th>Panel Model Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1) (2)</td>
</tr>
<tr>
<td></td>
<td>Control Mean</td>
</tr>
<tr>
<td>Employed (=1)</td>
<td>0.419</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed Full Time (=1)</td>
<td>0.099</td>
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<tr>
<td></td>
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</tr>
<tr>
<td>Earnings</td>
<td>$3,713.00</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Earnings (&gt; 0)</td>
<td>$8,856.91</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>N (Obs.)</td>
<td>35,382</td>
</tr>
<tr>
<td>N (Individuals)</td>
<td>5,246</td>
</tr>
</tbody>
</table>
## Long-Run Effects of Demolition: Crime

<table>
<thead>
<tr>
<th></th>
<th>Panel Model Results</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td></td>
</tr>
<tr>
<td>Control Mean</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Arrests</td>
<td>0.362</td>
<td>-0.035</td>
<td>-0.035 ([0.024])</td>
</tr>
<tr>
<td>Violent Arrests</td>
<td>0.072</td>
<td>-0.010**</td>
<td>-0.010 ([0.004])</td>
</tr>
<tr>
<td>Property Arrests</td>
<td>0.034</td>
<td>0.006*</td>
<td>0.006* ([0.003])</td>
</tr>
<tr>
<td>Drug Arrests</td>
<td>0.103</td>
<td>-0.005</td>
<td>-0.005 ([0.011])</td>
</tr>
<tr>
<td>Other Arrests</td>
<td>0.154</td>
<td>-0.025**</td>
<td>-0.025** ([0.011])</td>
</tr>
<tr>
<td>N (Obs.)</td>
<td>56,629</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N (Individuals)</td>
<td>5,250</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Comparing Demolition Results to the Literature

- Relocation due to demolition has positive long-run effects
  - Effects detectable for both younger and older children (Chetty et al., 2016)
  - Results differ from:
    - Final MTO evaluation (Sanbonmatsu et al., 2011)
    - Public housing in Canada (Oreopolous, 2003)
- Possible explanations for heterogeneity:
  - Differences in sample:
    - Chicago versus public housing in other cities
    - Volunteer versus non-volunteer households
  - Differences in treatment:
    - Demolition may have larger impact on social ties
Summary and Conclusion

▶ Contributions:

▶ Demolition analysis provides additional evidence on the effects on neighborhoods on long-run child outcomes

▶ Policy Implications: Sheds light on debate over the merits of expanding voucher programs
  ▶ Back-of-the-envelope lifetime earnings gains \(\approx $45,000\) (present value)
  ▶ Reduction in violent crime