Employment Hysteresis from the Great Recession

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Motivation


- U.S. unemployment rate
- U.S. labor force participation rate
- U.S. employment rate (employment-population ratio)
Motivation


How to disentangle effect of Recession from secular trends?
Cross-Sectional Evidence

B. Severely Shocked States Minus Mildly Shocked States

Mean of severely shocked states minus mean of mildly shocked states (pp)

-2 -1 0 1 2


Unemployment rate
Labor force participation rate
Employment rate (employment-population ratio)
Possible sources of composition bias

1. Post-2007 sorting on labor supply
   - Areas hit hard by Recession may have attracted or retained those secularly out of the workforce (e.g. due to falling cost of living)
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Solution?
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Solution?
   - Use linked-employer-employee data in order to control for prominent dimensions of cross-area sorting
Empirical Design

\[ y_{i,2015} = \beta \text{SHOCK}_{c(i2007)} + \theta_{g(i2006)} + \epsilon_{i,2015} \]

- **SHOCK**: percentage-point change in the individuals 2007 Commuting Zone unemployment rate from 2007 to 2009.
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- **\( \theta_g \)**: 2006 age-earnings-industry fixed effects
- **Sample**: 2% random sample of individuals from de-identified federal income tax records
- **Identifying assumption**: individuals were as good as randomly assigned across local areas within groups
Local Shocks

Figure 3: Great Recession Local Shocks

[Map showing the distribution of local shocks across the United States, with shades indicating different ranges of shocks.]
A. Employment Impact of Great Recession Local Shocks
Impact Heterogeneity

A. Employment

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Overall</th>
<th>Migration Rate</th>
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<tbody>
<tr>
<td>Earnings $0</td>
<td></td>
<td>16%</td>
</tr>
<tr>
<td>Earnings $1-$15k</td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Earnings $15k-$45k</td>
<td></td>
<td>16%</td>
</tr>
<tr>
<td>Earnings $45k+</td>
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<td>15%</td>
</tr>
<tr>
<td>No LF attachment</td>
<td></td>
<td>18%</td>
</tr>
<tr>
<td>Low LF attachment</td>
<td></td>
<td>21%</td>
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<tr>
<td>High LF attachment</td>
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<td>14%</td>
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<tr>
<td>Age 30-34</td>
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<td>21%</td>
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<tr>
<td>Age 35-39</td>
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<tr>
<td>Age 40-44</td>
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</tr>
<tr>
<td>Age 45-49</td>
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<tr>
<td>Men</td>
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<td>17%</td>
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<tr>
<td>Women</td>
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<td>16%</td>
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<tr>
<td>Single</td>
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<td>19%</td>
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<tr>
<td>Married</td>
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<td>14%</td>
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<tr>
<td>0 kids</td>
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<td>20%</td>
</tr>
<tr>
<td>1 kid</td>
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<td>15%</td>
</tr>
<tr>
<td>2+ kids</td>
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<td>13%</td>
</tr>
<tr>
<td>Mortgage holder</td>
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<td>13%</td>
</tr>
<tr>
<td>Non-mortgage-holder</td>
<td></td>
<td>18%</td>
</tr>
</tbody>
</table>

Estimated employment impact of Great Recession local shocks (pp)
Economic Significance

- US unemployment rate increased 4.63% from 2007 to 2009
- One p.p. higher local unemployment induced 0.393 p.p. decline in 2015 employment
  \[4.63 \times 0.393 = 1.82\]
- Age-adjusted employment rate fell by 2.4% from 2009 to 2015
- So Great Recession caused 76% (= 1.82/2.40) of the decline