A CONSIDERATION OF UNANTICIPATED OUTCOMES

Michael Massoglia
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The expansion of the penal system

- My more recent work
  - Consider “breath” and unanticipated outcomes

Different outcomes

- 3 Caveats
  - Progress
  - Lots of co-authors
  - Style
Penal system as a social institution
- 1 in every 100 adults incarcerated
- All the students at UW, and Big-10, Pac-12, Big East, SEC, ACC, Big-12, IVY
- More black men in prison than college
  - Uneducated African-American men: ~ 60 percent lifetime risk

Focus often on returning home/community
- 700,000+
  - 678,281 (2008 NCES)

A defining part of American landscape
- Shapes life chances
  - Crime, jobs, wages, health, family functioning, neighborhood attainment, political outcomes, marriage, childhood outcomes
Beyond “Collateral Consequences”
A better understanding of processes
- Parental incarceration: Negative childhood outcomes
  - Incarceration?
  - Other factors that might co-occur
    - Absent father? Neglect? Poor Parenting?

Nuanced/balanced consideration of incarceration and contemporary American society
- Education system
Today

- Sensitive to the possibility that incarceration can
  - May be a beneficial intervention
    - Court mandated health care
      - State level health outcomes
  - Relocate individuals in “positive” ways
    - Incarcerated population: Remarkably disadvantaged
      - Residential outcomes
  - Speak to fundamental debates
    - Stratification, citizenship, and social control
      - Sentencing outcomes
Across all three areas

- Incarceration shown to be negative
  - Bad for health
  - Bad for residential location
  - Mechanism of stratification that disproportionately impacts minorities (African-Americans and Hispanics)

- Is that the “story” of incarceration on American Society?
Prison bad for health
  - Individual level: report worse health
    - What does this mean?
Prison exposure could spread to community
  - communicable diseases (tuberculosis, syphilis, chlamydia, HIV…)
But prisons could also improve community health
  - medical treatment (better/only) during incarceration
It might depend on what happens in prisons
  - testing and treatment
  - effects would be care-specific and disease-specific
    - Prisons routinely test for TB (95%), HIV (80%), Syphilis (77-83%)
    - People who might not otherwise get tested and treated
      - Chlamydia 20%
**hypotheses**

- **GENERAL H1**: The rate of former prisoners in a given state and year will be positively associated with the rates of infectious disease in that state and year.

- **CONDITIONAL H2**: The rate of former prisoners will be negatively correlated with the rate of infectious disease for diseases that are routinely tested or treated in prisons.
  - Data from CDC, our paper, government sources, Dartmouth health atlas
  - Note on interpretation
    - Fixed effects models
    - 1 percent increase (decrease)
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ex-Felons</strong></td>
<td>-.35* (.20)</td>
<td>- .12 (.28)</td>
<td>-2.28*** (.43)</td>
<td>-2.72*** (.48)</td>
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<tr>
<td><strong>Ex-Prisoners</strong></td>
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<tr>
<td><strong>Ex-Community</strong></td>
<td>.02 (.25)</td>
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<td>.32 (.23)</td>
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<tr>
<td><strong>Unemployment Rate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Percent African American Pop.</strong></td>
<td></td>
<td>.26***</td>
<td></td>
<td>.26***</td>
</tr>
<tr>
<td><strong>Percent Republican Legislature</strong></td>
<td></td>
<td>.003</td>
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<td>.003</td>
</tr>
<tr>
<td><strong>Percent Uninsured</strong></td>
<td></td>
<td></td>
<td>-1.5***</td>
<td>-1.7***</td>
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<tr>
<td><strong>Percent Age25+ with HS Degree</strong></td>
<td></td>
<td>-.05</td>
<td></td>
<td>-.05</td>
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<tr>
<td><strong>State Population</strong></td>
<td></td>
<td></td>
<td>.001***</td>
<td>.001***</td>
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<tr>
<td><strong>Year</strong></td>
<td>-58.35***</td>
<td>-63.40***</td>
<td>-27.93</td>
<td>-33.32*</td>
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<tr>
<td><strong>Year^2</strong></td>
<td>.02***</td>
<td>.02***</td>
<td>.01</td>
<td>.01*</td>
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<td><strong>Observations</strong></td>
<td>799</td>
<td>799</td>
<td>649</td>
<td>649</td>
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<tr>
<td><strong>R^2</strong></td>
<td>.51</td>
<td>.55</td>
<td>.54</td>
<td>.60</td>
</tr>
<tr>
<td><strong>Number of States</strong></td>
<td>50</td>
<td>50</td>
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</tbody>
</table>

Robust SEs in parentheses

*** p<.01, ** p<.05, * p<.1
### Syphilis and Chlamydia Rates per 100,000, 1984-2008 (1990-2005 in models 3 and 4)

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Syphilis</th>
<th>Chlamydia</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
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<tr>
<td>Total Ex-Felons</td>
<td>-5.17#</td>
<td>13.47</td>
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<td>(2.71)</td>
<td>(9.54)</td>
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<td>Ex-Prisoners</td>
<td>-24.58*</td>
<td>107.50**</td>
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<td></td>
<td>(9.30)</td>
<td>(34.09)</td>
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<tr>
<td>Ex-Community</td>
<td>1.44</td>
<td>-14.91</td>
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<tr>
<td></td>
<td>(2.39)</td>
<td>(10.18)</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>-.94</td>
<td>5.74*</td>
</tr>
<tr>
<td>Percent African American Pop.</td>
<td>-10.06</td>
<td>27.60**</td>
</tr>
<tr>
<td>Percent Republican Legislature</td>
<td>.03</td>
<td>-0.27**</td>
</tr>
<tr>
<td>Percent Uninsured</td>
<td>-1.34</td>
<td>3.51</td>
</tr>
<tr>
<td>Percent Age25+ with HS Degree</td>
<td>-3.00</td>
<td>3.59</td>
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<tr>
<td>State Population</td>
<td>-.01**</td>
<td>0.01</td>
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<tr>
<td>Observations</td>
<td>1,250</td>
<td>800</td>
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<tr>
<td>R²</td>
<td>.34</td>
<td>.54</td>
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<tr>
<td>Number of States</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

Robust SEs in parentheses

*** p<.01, ** p<.05, * p<.1
Two important questions*

- Some people so disadvantaged?
  - Prison provides a better level of treatment

- Is the prison population large enough?
  - Released inmates accounted for 35 percent Americans with active tuberculosis in 2000
    - The prevalence of active TB among inmates is between 6 and 17 times greater than among the average U.S. population.
      - WHO: 100 times
      - 989 per 100,000
    - If our number of ex-inmates AND CDC rates of infection are correct
      - 750 - 900 reduction for every 100,000 tested

- Other STD
  - More than 70% of released inmates had testing or treatment
  - During 2010, there were 45,834 new cases of syphilis
    - 2006: 56,000-76,000: Inmates had syphilis
Two important questions*

- Some people so disadvantaged?
  - Prison provides a better level of treatment

- Is the prison population large enough?
  - Released inmates accounted for 35 percent Americans with active tuberculosis in 2000
    - [https://www.aca.org/government/healthcare.asp](https://www.aca.org/government/healthcare.asp)
    - Important to note annual declines of 3-4 year percent over a decade (CDC)
  - The prevalence of active TB among inmates is between 6 and 17 times greater than among the average U.S. population.
    - WHO: 100 times
    - 989 per 100,000
      - [http://www.prisonpolicy.org/prisonindex/behindthewalls.html](http://www.prisonpolicy.org/prisonindex/behindthewalls.html)
  - If our number of ex-inmates AND CDC rates of infection are correct
    - 750 - 900 reduction for every 100,000 tested
  - More than 70% of released inmates had STD testing or treatment
    - [http://bjs.ojp.usdoj.gov/content/pub/pdf/mpji.pdf](http://bjs.ojp.usdoj.gov/content/pub/pdf/mpji.pdf)
  - During 2010, there were 45,834 new cases of syphilis
  - 2006: 56,000-76,000: Inmates had syphilis
Other “unanticipated” outcomes

- Long standing interest in health
- Last 3 years
  - Understand the impact of incarceration on residential location
  - Know very about the relationship
    - Knowing where people end up is only half the story
      - Where did they come from?
Residential Outcomes (3)

- Multi-year grant from National Science Foundation
  - Append the NLSY with residential data
    - Census tract level
    - 12,686 individuals over 30 years
      - ~ 650 went to prison

- First to account for neighborhood of origin
  - Incarceration significantly decreases neighborhood attainment – for white ex-inmates only
    - “More to lose” (Feb 2013)
  - No effect for minority ex-inmates
Residential segregation
- Associated range of negative life outcomes

The early 1970’s
- Start of prison boom
- Significant declines in residential segregation
  - All 85 largest metropolitan areas
  - All but 1 of 652 housing markets

Intersections?
Important to think about what segregation/integration mean in our context

Transfer principle:
- When an individual of group $m$ moves from neighborhood $i$ to neighborhood $j$, segregation is reduced when the proportion of persons of group $m$ is greater in $i$ than in $j$, and increased when the proportion of persons in group $m$ is smaller in group $i$ than in $j$

Do you move to a neighborhood with more (integrating) or less (segregating) people of the same race?

Across different races (African-American, Hispanic, White) and neighborhood destinations (AAHW) and time
- Too many
Integration?

A note on methods:
Fixed effects models, accounting for clustering. Accounting for micro-level trends over 25 years.

Net of Neighborhood of origin Change model

Incarceration pushes whites to more racially integrated neighborhoods after prison AND they stay there.

Strong(est) factor in the models

<table>
<thead>
<tr>
<th>Table 2: White Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed effects regression models predicting neighborhood racial composition.</td>
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<tr>
<td>% Black a</td>
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<tr>
<td>-------------------</td>
</tr>
<tr>
<td>** Incarceration measures **</td>
</tr>
<tr>
<td>Ex-inmate status</td>
</tr>
<tr>
<td>(Age)</td>
</tr>
<tr>
<td>Time out of prison</td>
</tr>
<tr>
<td>(Age)²</td>
</tr>
<tr>
<td>** Controls **</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>(Age)²</td>
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<tr>
<td>Number of moves</td>
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<td>(Number of moves)²</td>
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<tr>
<td>Educational attainment</td>
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<tr>
<td>(Number of moves)²</td>
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<tr>
<td>Family poverty status</td>
</tr>
<tr>
<td>(1=poor)</td>
</tr>
<tr>
<td>Homeownership</td>
</tr>
<tr>
<td>(1=homeowner)</td>
</tr>
<tr>
<td>Public housing residence</td>
</tr>
<tr>
<td>(1=public housing)</td>
</tr>
<tr>
<td>Marital status</td>
</tr>
<tr>
<td>(1=married)</td>
</tr>
<tr>
<td>Number of children</td>
</tr>
<tr>
<td>(1=employed)</td>
</tr>
<tr>
<td>Employment status</td>
</tr>
<tr>
<td>Constant</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

*p<.05; **p<.01; ***p<.001; (SE's)
Sample size: 102,336 person observations; 7,207 persons
a - All models include dummy variables for survey wave (wave 1 as reference)
Data: National Longitudinal Survey of Youth (1979) for years 1979-2008
Integration

Also integrates black ex-inmates

But the effect erodes over time.

Insights:
Incarceration re-shuffles individuals into more integrated neighborhoods

Whites ex-inmates tend to stay
Over time, African-Americans return to pre-incarceration neighborhood conditions

<table>
<thead>
<tr>
<th>Table 3: Black Respondents</th>
<th>Fixed effects regression models predicting neighborhood racial composition.</th>
<th>% Black</th>
<th>% Hispanic</th>
<th>% White</th>
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</thead>
<tbody>
<tr>
<td><strong>Incarceration measures</strong></td>
<td></td>
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<td></td>
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<tr>
<td>Ex-inmate status</td>
<td>4.45 *** 0.95 * 4.11 ***</td>
<td>1.16</td>
<td>.44</td>
<td>1.10</td>
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<tr>
<td>Time out of prison</td>
<td>0.82 *** -0.19 ** -0.60 ***</td>
<td>.18</td>
<td>.07</td>
<td>.17</td>
</tr>
<tr>
<td><strong>Controls</strong></td>
<td></td>
<td></td>
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<tr>
<td>Age</td>
<td>-1.05 ** 0.13 1.44 ***</td>
<td>.37</td>
<td>.14</td>
<td>.35</td>
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<tr>
<td>(Age)^2 x 100</td>
<td>0.14 -0.43 *** -1.08 ***</td>
<td>.29</td>
<td>.11</td>
<td>.27</td>
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<tr>
<td>Number of moves</td>
<td>-3.73 *** 0.58 *** 0.74 ***</td>
<td>.18</td>
<td>.07</td>
<td>.17</td>
</tr>
<tr>
<td>(Number of moves)^2</td>
<td>0.22 *** -0.03 *** -0.09 ***</td>
<td>.02</td>
<td>.01</td>
<td>.02</td>
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<td>Educational attainment</td>
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<td>.13</td>
<td>.05</td>
<td>.12</td>
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<td>Family poverty status</td>
<td>-1.19 *** 0.26 * -0.64 *</td>
<td>.28</td>
<td>.11</td>
<td>.26</td>
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<tr>
<td>(1=poor)</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Homeownership</td>
<td>1.47 *** -0.85 *** -0.28</td>
<td>.34</td>
<td>.13</td>
<td>.32</td>
</tr>
<tr>
<td>(1=homeowner)</td>
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<tr>
<td>Public housing residence</td>
<td>-2.08 *** 1.07 *** -0.70</td>
<td>.40</td>
<td>.15</td>
<td>.38</td>
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<tr>
<td>(1=public housing)</td>
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<td></td>
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<tr>
<td>Marital status</td>
<td>-2.35 *** -0.01 2.24 ***</td>
<td>.33</td>
<td>.12</td>
<td>.31</td>
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<tr>
<td>(1=married)</td>
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<tr>
<td>Number of children</td>
<td>-0.10 -0.27 *** 0.03</td>
<td>.14</td>
<td>.05</td>
<td>.14</td>
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<td>Employment status</td>
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<td>.25</td>
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<tr>
<td>(1=employed)</td>
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<td>Constant</td>
<td>78.18 *** 3.99 6.91</td>
<td>.65</td>
<td>.20</td>
<td>.54</td>
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</tbody>
</table>

*p<.05; **p<.01; ***p<.001; (SE's)
Sample size: 50,893 person observations; 3,078 persons
a - All models include dummy variables for survey wave (wave 1 as reference)
Data: National Longitudinal Survey of Youth (1979) for years 1979-2008
Complexity in understanding the social impact of incarceration

- Not surprising
- The size of the penal system
  - All sorts of contingencies
    - By race, gender, SES
  - Not systematically understood

Presents other opportunities

- More than the “consequences” of incarceration
- Debates on citizenship, stratification, immigrant(ion) threat
Historically

- The use of state social controls
  - Speaks to issues of stratification, inequality
    - African-Americans
    - 2000 ASR (Hispanic sentencing penalty)
      - Racial threat, immigration
  - Hispanic?
    - Work on immigration and criminal deportations (2012)
    - Large number of non-citizens in federal courts/prisons
      - 40 percent
      - Neglected in prior work
(No) Non-Citizens in U.S. Federal Courts

- White
- Black
- Hispanic

Non-Citizens in U.S. Federal Courts

- Non-Citizen
- White
- Black
- Hispanic

Why care about Citizenship?

- Stratification
  - Is Citizenship status not as salient as historical markers of stratification?

- Immigration
  - Documented or undocumented

- Citizenship
  - The meaning of citizenship in a globalized world
    - Post-national VS nation centered
Data

  - Removing “unlawful enterers”
  - “Fixed” District effects

- Dependent Variables:
  1. Incarceration  2. (ln) Sentence Length

- Independent Variables:
  - Presumptive sentence - Multiple Convictions
  - Criminal history - Offense Type
  - Trial - Education
  - Departures - Race/ethnicity
  - Citizenship Status - Sex
    - Legal Status - Age
### Table 2: Logistic Regression Models of Incarceration Decision for Federal Offenders, 2006-2008

<table>
<thead>
<tr>
<th>Measure</th>
<th>Model 1 Incarceration</th>
<th>Model 2 Incarceration</th>
<th>Model 3 Incarceration</th>
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<tbody>
<tr>
<td></td>
<td>b</td>
<td>OR</td>
<td>b</td>
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<tr>
<td>Non-U.S. Citizen</td>
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<td>1.381a</td>
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</tr>
<tr>
<td>Legal Alien</td>
<td></td>
<td>0.035</td>
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<tr>
<td>Illegal Alien</td>
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<td>--</td>
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<tr>
<td>Black</td>
<td>0.094</td>
<td>1.10 ***</td>
<td>0.083</td>
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<td>Hispanic</td>
<td>0.028</td>
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<td>Other Race</td>
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<td>0.035</td>
<td>0.032</td>
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<tr>
<td>Male</td>
<td>0.046</td>
<td>0.047</td>
<td>0.046</td>
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<tr>
<td>Age</td>
<td>-0.015</td>
<td>0.99 ***</td>
<td>-0.013</td>
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<tr>
<td>Less than High School</td>
<td>0.424</td>
<td>1.53 ***</td>
<td>0.323</td>
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<td>High School Graduate</td>
<td>0.001</td>
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<td>0.001</td>
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<td>Some College</td>
<td>0.036</td>
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<td>0.036</td>
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<tr>
<td>Trial</td>
<td>0.037</td>
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<td>Drug</td>
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<td>0.049</td>
<td>0.048</td>
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<td>Immigration</td>
<td>0.457</td>
<td>1.58 ***</td>
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<td>Violent</td>
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<td>Fraud</td>
<td>0.043</td>
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<td>Firearms</td>
<td>0.048</td>
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<td>Other Offense</td>
<td>0.049</td>
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<tr>
<td>Upward Departure</td>
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<td>0.049</td>
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<td>Substantial Assistance Dep.</td>
<td>-1.305</td>
<td>0.27 ***</td>
<td>-1.305</td>
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<td>Downward Departure</td>
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<td>Multiple Counts</td>
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<td>Criminal History</td>
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<td>Presumptive Sentence</td>
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<td>0.045</td>
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<td>2007</td>
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<td>0.026</td>
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<td>-2.573</td>
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<td>-2 log likelihood</td>
<td>59857.9</td>
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<td>Chi-square test</td>
<td>18991.5</td>
<td>1529.5 ***</td>
<td>1734.4</td>
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<tr>
<td>N</td>
<td>161,090</td>
<td>161,090</td>
<td>161,090</td>
</tr>
</tbody>
</table>

* p < .05     ** p < .01     *** p < .001

Note: Standard Errors are in parentheses. All models include controls for judicial district.

a Effect is significantly different from Hispanic coefficient based on Wald test (p < .001)
b Effect is significantly different from Legal Alien coefficient based on Wald test (p < .001)
Incarceration Decision by Race, Ethnicity, and Legal Status

- Black
- Hispanic
- Other Race
- Legal Alien
- Illegal Alien
Sentence Length by Race, Ethnicity, and Legal Status
Incarceration Decision – Joint Effects of Race and Citizenship

- Black
- Hispanic
- Other
- White
- Black
- Hispanic
- Other

U.S. Citizen
Non-U.S. Citizen
Citizenship matters

- The gap between citizens and noncitizens has grown considerably over time
- Citizenship effects are significantly larger than race/ethnicity
  - Emphasis on emergence of Hispanic penalty is questionable
Wrap-up

- Preliminary*
  - Some parts more than others
    - Nuance
      - IE Federal Court system is different

- The expansion of the prison system
  - Outcomes are complex
    - (“Bad” or “Good”)
  - Host of contingencies
  - But those contingencies reach into almost all aspects of American life
  - Inform fundamental debates about the human condition and social life

- Thank you!
Measures

- Residential Composition (US Census)
- Two incarceration measures (NLSY)
  - Ex-inmate status
  - Time out of prison
- Partial list of controls (NLSY)
  - Age, homeownership, number of moves, educational attainment, family poverty status, number of children, marriage and employment status
Individual data
- National Longitudinal Survey of Youth (NLSY79)
- 12,686 respondents interviewed regularly since 1979 (biannually since 1994)
  - Wealth of individual level data
    - Incarceration status
  - Residential locator at all waves (restricted)

Neighborhood data
- Census tract characteristics at 1980, 1990 and 2000
  - Standardized via Neighborhood Change Database (GeoLytics)

Data Set construction
- Spans approximately 30 years
  - Repeated data on individuals, incarceration, neighborhoods
Approximately 30 years of data

- Non-linearity in key processes
  - Number of moves squared, age squared
- Macro-level residential trends
  - Wave indicators that capture secular neighborhood (+/-) trends
- Census not yearly
  - Interpolation: Assume stability when there is change?
- Individuals shuffling in and out of prison at different and multiple points in the life course
  - First spell of incarceration
  - Omitted while in prison
- People are nested in neighborhoods
  - Clustered standard errors
Fixed effects regression models

- Data transformed into person-period observations to examine change over time
- Deviation from person-specific average
  - 0 state and 1 state (or 1 + t state)
  - Hypothetic example – 1 person, 14 waves in survey
    - 000000..111111
    - Individuals act as their own controls
  - Controls for time stable factors (spuriousness/not)
    - Eg. propensity toward crime, race, gender
- Key difference from OLS regression
  - Group levels (incarcerated/not) VS Individual change
Fixed state(s) [and year (y)] effects
- ex-prisoner growth relative to state-specific mean

1. \( \text{Chlamydia}_{sy} - \text{Chlamydia}_s = b_1(\text{Exfelon}_{sy-3} - \text{Exfelon}_s) + b_2(\text{Unemp}_{sy} - \text{Unemp}_s) + b_3(\text{AfAm}_{sy} - \text{AfAm}_s) + b_4(\text{Repub}_{sy} - \text{Repub}_s) + b_5(\text{Uninsured}_{sy} - \text{Uninsured}_s) + b_6(\text{Educ}_{sy} - \text{Educ}_s) + b_7(\text{Pop}_{sy} - \text{Pop}_s) + b_8(\text{Time specification}) + e_{it} \)

2. \( \text{Chlamydia}_{sy} - \text{Chlamydia}_s = b_1(\text{Exprison}_{sy-3} - \text{Exprison}_s) + b_2(\text{Excomm}_{sy-3} - \text{Excomm}_s) + b_3(\text{Unemp}_{sy} - \text{Unemp}_s) + b_4(\text{AfAm}_{sy} - \text{AfAm}_s) + b_5(\text{Repub}_{sy} - \text{Repub}_s) + b_6(\text{Uninsured}_{sy} - \text{Uninsured}_s) + b_7(\text{Educ}_{sy} - \text{Educ}_s) + b_8(\text{Pop}_{sy} - \text{Pop}_s) + b_9(\text{Time}) + e_{it} \)

- if prison affects health, we **should** see a larger \( b_1 \) estimate in model 2.
life table methodology

- number exiting prison, entering probation/jail since 1920s
  - data improve in 1948, mid-1970s
- reductions for recidivism
  - 66% lifetime rate for prisoners
  - 57% lifetime rate for probationers
  - race-specific adjustments
- reductions for mortality
  - felon multiplier \( \approx 1.5 \times \text{(black male rate)} \)
- simplifying assumptions
  - 300+ spreadsheets, 63 years of data
More specifically

- **Method:** We created *demographic life tables* based on annual cross-sections of conditionally and unconditionally released offenders to estimate the ex-offender population. These are estimates rather than precise head counts, but are useful as a starting point.

- We start with the **number exiting** prison each year, beginning in 1920s. We then use demographic life tables to compute the number of these releasees lost to recidivism and mortality annually.

- Based on national *recidivism* studies of probationers (1986) and parolees (1983), we assume that most ultimately return to prison (66%) and that their *mortality* rates are much higher than those of the general population. Our death rates are based on the median age at release in each state and year, multiplied by a felon multiplier (about 1.5) to reflect the higher death rates observed in a national recidivism study.

- Both groups are **removed** from the pool of ex-offenders, the recidivists because they would be counted among the “current” felon population (and we do not want to count the same person twice), and the deaths because they leave the pool permanently. Each cohort of releasees is thus successively reduced each year and joined by a new cohort of releasees, allowing us to compute the number of ex-felons no longer under supervision in each year.

- We made several **simplifying assumptions** to get race and sex breakdowns, extend recidivism rates over the life course, interpolate missing data and other important issues. Because of these potential sources of error, we also computed estimates with a 25% higher recidivism rate across all categories to give us a more conservative estimate of the “former offender” populations.
Incarceration Decision – Joint Effects of Race, Ethnicity and Citizenship
# Citizenship effect

**Table A1: Robustness Analyses - The Salience of Citizenship on Punishment Outcomes in U.S. Federal Courts, 2006-2008**

<table>
<thead>
<tr>
<th>Model</th>
<th>Non-U.S. Citizen</th>
</tr>
</thead>
<tbody>
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<td>In carriage</td>
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<tr>
<td><strong>Select Effects</strong></td>
<td>b</td>
</tr>
<tr>
<td>Model 1</td>
<td>1.363</td>
</tr>
<tr>
<td>Model 2</td>
<td>0.954</td>
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<tr>
<td>Model 3</td>
<td>1.439</td>
</tr>
<tr>
<td>Model 4</td>
<td>0.160</td>
</tr>
</tbody>
</table>

**BOLD** denotes *p < .001*

*Note*: All models include all variables reported in Tables 2 and 3, account for judicial district, the unique specification detailed below.

**Model Descriptions:**

- **Model 1**: Includes only Districts where noncitizens comprise at least 20% of all offenders (34 District Courts)
- **Model 2**: Includes only Districts where noncitizens comprise at least 30% of all offenders (16 District Courts)
- **Model 3**: Includes only Districts where noncitizens comprise at least 40% of all offenders (7 District Courts)
- **Model 4**: Includes a control for whether the defendant was detained prior to sentencing.
- **Model 5**: Excludes all offenders who received credit of "time-served."
- **Model 6**: Analysis of only college-educated fraud offenders.
- **Model 7**: Excluding all "Other Race" offenders.
- **Model 8**: Recoding of "Other Race" offenders into three separate categories: Indian, Asian, Other.
- **Model 9**: Using the logged measure of presumptive sentence for both the incarceration and sentence length decisions.
- **Model 10**: Tobit model of incarceration and sentence length decisions combined.