Jim Crow and Black Economic Progress After Slavery

Lukas Althoff (Princeton)    Hugo Reichardt (LSE)

December 2, 2022
Motivation: Racial inequality is a persistent feature of US society

• Large Black-white gaps today
• Slow narrowing over past 150 years
• Potential explanation: US’s history of institutionalized racial oppression
  – Slavery (until 1865)
  – Jim Crow (1877–1964)
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Research questions

1. Do Black families *enslaved until the Civil War* still have lower economic outcomes?

2. If so: persisting effect of *slavery* vs. exposure to *Jim Crow* in former slave states
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2. If so: persisting effect of *slavery* vs. exposure to *Jim Crow* in former slave states
Black families’ differential exposure to institutionalized oppression

More exposure: "Enslaved"
1. Enslaved until 1865
2. Concentrated in Lower South

Less exposure: "Free"
1. Free before 1865
2. Concentrated in Upper South & North
Black families’ differential exposure to institutionalized oppression

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Free-Enslaved gap closes conditional on 1865-ancestor state
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-70  -60  -50  -40  -30  -20  -10  0

1870 1880 1890 1900 1910 1920 1930 1940

Free-Enslaved gap cond. on 1865 state
Outline

1 Data

2 Empirical analysis
   Q1: Long-run effects of institutionalized oppression
   Q2: Relative importance of slavery and Jim Crow

3 Mechanisms

4 Conclusion
New method to track family’s exposure to slavery & Jim Crow

- Identify Black families freed before the Civil War (1861–1865)
  - Automated record linking for men (Abramitzky et al. 2019)
  - Census information on family relationships within household
  - Censuses of 1850 and 1860 only recorded free Black Americans
  → Variation in exposure to slavery

- Record linking also allows to observe where a family was freed
  → Variation in exposure to states’ Jim Crow institutions
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Measures of states’ Jim Crow intensity

1. Number of Jim Crow laws
   - *New database* on 800 Jim Crow laws*

2. Composite index for states’ racial oppression *(Baker 2022)*
   - “Historical Racial Regime (HRR) score”
   - Principal component of 4 proxies for institutionalized oppression (1860–1960)

*Sources: Murray 1951; Roback 1951 (employment laws); Walton, Puckett, Deskins 2012 (suffrage laws)
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1. Data

2. Empirical analysis
   - Q1: Long-run effects of institutionalized oppression
   - Q2: Relative importance of slavery and Jim Crow

3. Mechanisms

4. Conclusion
1. Data

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   Q1: Long-run effects of institutionalized oppression
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3. Mechanisms

4. Conclusion
Q: Is the socioeconomic status of Black families today associated with their historical exposure to institutionalized oppression?

A: Yes.
Q: Is the socioeconomic status of Black families today associated with their historical exposure to institutionalized oppression?

A: Yes.
Results: The Free-Enslaved gap (1870–1940)

Literacy

Occupational skill

Additional outcomes  Placebo for white Americans
### Results: The Free-Enslaved gap (1940)

<table>
<thead>
<tr>
<th>Ancestor Enslaved</th>
<th>Education (Years) Mean: 5.99</th>
<th>Wage Income (USD) Mean: 381.20</th>
<th>Homeownership (%) Mean: 29.25</th>
<th>House Value (USD) Mean: 1,371.95</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-1.59*** (0.05)</td>
<td>-145.92*** (6.13)</td>
<td>-7.24*** (0.62)</td>
<td>-694.69*** (65.85)</td>
</tr>
<tr>
<td>Observations</td>
<td>163,549</td>
<td>154,463</td>
<td>164,357</td>
<td>46,971</td>
</tr>
</tbody>
</table>

* * * indicates statistical significance: 
- ** indicates p < 0.01
- *** indicates p < 0.001

**Alternative income measures**

**Surname-based results**
Takeaway

Families who were more exposed to institutionalized oppression historically continue to have lower socioeconomic status today.

Free-Enslaved gap $\approx 40\%$ of Black-white gap
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1 Data

2 Empirical analysis
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3 Mechanisms

4 Conclusion
What factors explain the large Free-Enslaved gap?

Descendants of Enslaved's higher exposure to ongoing oppression in former slave states under Jim Crow.
Q: What factors explain the large Free-Enslaved gap?

A: Descendants of Enslaved’s higher exposure to ongoing oppression in former slave states under Jim Crow.
Drivers of persistence

1. Inherent disadvantage of being enslaved longer
2. Exposure to different locations
3. Potential differences in ability
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Drivers of persistence

1. Inherent disadvantage of being enslaved longer

2. **Exposure to different locations**
   
   2.a) Jim Crow regime
   
   2.b) Other location factors *(economic activity, climate, culture, ...)*

3. Potential differences in ability
Drivers of persistence

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3. Potential differences in ability
Strategy: Causal effects of exposure to state-specific factors

\[ y_i = \eta_{i,1865} + \phi' X_i + \epsilon_i \]

if \( s_i = 1 \), with

- \( y_i \) : 1940 outcome
- \( \eta_{i,1865} \) : fixed effect for enslaved ancestor’s state of birth \( \ell \)
Assumption:
Where an enslaved person was born is unrelated to their “innate ability”

Justification:
1. No free movement $\Rightarrow$ no self-selection
2. Forced migration implausible to have induced selection on inheritable traits

$\Rightarrow$ Strongly supported by RDD evidence
Strategy: Use enslaved ancestor’s state of birth to estimate place effect

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Result: Geography of Black economic progress

Causal pre-1865 state effect on years of education in 1940

Baseline mean: 5.91
**Takeaway**

State-specific factors played a critical role in perpetuating the Free-Enslaved gap in the long run

1. Distinct geography of Black economic progress after slavery
2. Enslaved’s high exposure to negative state effects explains gap
Drivers of persistence

1. Inherent disadvantage of being enslaved longer

2. **Exposure to different locations**
   - 2.a) Jim Crow regime
   - 2.b) Other location factors (economic activity, climate, culture, ...)

3. Potential differences in ability
Strategy: RDD to isolate role of state institutions

County’s distance to the closest border

Measures of Jim Crow intensity

1. Jim Crow laws
2. HRR score
Strategy: RDD to isolate role of state institutions

- County’s distance to the closest border

Measures of Jim Crow intensity:
1. Jim Crow laws
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Regression specification
Result: RD estimates across “policy borders”

Discontinuity: -0.70*** (0.13)

More oppressive ←    → Less oppressive

Years of education in 1940

County's Distance to Border (km)
Result: RD estimates by border differences in Jim Crow intensity
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<table>
<thead>
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<th>FL</th>
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RD: Years of education in 1940

Difference in Number of Jim Crow Laws

RD: Years of Education in 1940

Difference in HRR Score
Result: Jim Crow had no effect on white Americans

RD: Years of Education in 1940

Difference in HRR Score

(a) White

(b) Black

Difference in Jim Crow laws  Poor whites  Wealthy whites
Drivers of persistence

1. Inherent disadvantage of being enslaved longer

2. **Exposure to different locations**
   - 2.a) **Jim Crow regime**
   - 2.b) Other location factors (economic activity, climate, culture, ...)

3. Potential differences in ability
Result: Geography of Black economic progress = Geography of Jim Crow
Takeaway

Jim Crow single-handedly perpetuated Free-Enslaved gap

1. Entire Free-Enslaved gap explained by Enslaved’s concentration in states with most negative effects

2. State’s Jim Crow regime shaped state’s long-run effects
Outline

1 Data

2 Empirical analysis
   Q1: Long-run effects of institutionalized oppression
   Q2: Relative importance of slavery and Jim Crow

3 Mechanisms

4 Conclusion
Education was a key target of Jim Crow

- Education
- Transport
- Employment
- Facilities
- Marriage
- Suffrage
- Other

Horserace: Place-specific factors
Q: Did access to education mediate Jim Crow’s effect?

A: Yes, large fractions of it.
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A: Yes, large fractions of it.
Strategy: Quasi-experimental school access – Rosenwald program (1914–31)

Number of Rosenwald schools in 1931 (Aaronson & Mazumder 2011)

Regression specification
Empirical innovations
Result: School access mediated gap in education caused by Jim Crow

Effects of the Rosenwald schools

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<thead>
<tr>
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<th>Baseline</th>
<th>Placebo</th>
<th>Heterogeneity</th>
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<tr>
<td></td>
<td>Sample mean: 5.26</td>
<td>Movers</td>
<td>Stayers</td>
</tr>
<tr>
<td>Exposure (0.11)</td>
<td>0.30*** (0.11)</td>
<td>0.16 (0.13)</td>
<td>0.61*** (0.19)</td>
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<td>Observations</td>
<td>107,141</td>
<td>74,287</td>
<td>32,799</td>
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Rosenwald program closed 80% of gap caused by high Jim Crow exposure

* Difference in years of education in High/Low HRR states is 0.80. Difference in Rosenwald effect is 0.65.
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- Rosenwald program closed 80% of gap caused by high Jim Crow exposure

*Difference in years of education in High/Low HRR states is 0.80. Difference in Rosenwald effect is 0.65.*
Result: School access had large intergenerational effects

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<th>Father's Rosenwald exposure</th>
<th>HS Degree (%)</th>
<th>College Degree (%)</th>
<th>Income (USD)</th>
<th>House Value (USD)</th>
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<tr>
<td></td>
<td>Mean: 69.33</td>
<td>Mean: 12.15</td>
<td>Mean: 28,831.25</td>
<td>Mean: 95,986.10</td>
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<tr>
<td></td>
<td>2.78 (3.06)</td>
<td>4.95** (2.10)</td>
<td>2,277.22** (1,120.35)</td>
<td>35,471.16** (16,917.63)</td>
</tr>
<tr>
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<td>6,420</td>
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Takeaway

Limiting access to education was a key mechanism through which Jim Crow harmed Black economic progress.

Rosenwald schools

- ↓ 80% of education gap caused by Jim Crow in 1940
- ↑ 40% in 2nd generation’s college completion in 2000
Outline

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2 Empirical analysis
   Q1: Long-run effects of institutionalized oppression
   Q2: Relative importance of slavery and Jim Crow

3 Mechanisms

4 Conclusion
Conclusion

1. Today, descendants of Enslaved have vastly lower socioeconomic outcomes
   → Racial-disparities have deep roots to historical institutions of oppression

2. Jim Crow single-handedly perpetuated the Free-Enslaved gap
   → Systemic discrimination is at the core of slavery’s persisting legacy

3. School provision increased human capital and mediated Jim Crow’s long-run effects
   → Targeted efforts can be effective in mediating harm of oppressive institutions
Today, descendants of Enslaved have vastly lower socioeconomic outcomes

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Today, descendants of Enslaved have vastly lower socioeconomic outcomes → Racial-disparities have deep roots to historical institutions of oppression

Jim Crow single-handedly perpetuated the Free-Enslaved gap → Systemic discrimination is at the core of slavery’s persisting legacy

School provision increased human capital and mediated Jim Crow’s long-run effects → Targeted efforts can be effective in mediating harm of oppressive institutions
Thank you.
New Method to Identify Descendants of Enslaved and Free

1860 Census
0.5m obs.
[+4.0m Enslaved]

Isaac Smith
Ida Smith
Jonah Smith

1870 Census
4.8m obs.

Jonah Smith
Jemima Smith

Moses Brown
Abe Williams
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Jemima Smith

1860, NJ
Moses Brown

1860, AL
Abe Williams
New Method to Identify Descendants of Enslaved and Free

1860 Census
0.5m obs.
[+4.0m Enslaved]

1870 Census
4.8m obs.

1880 Census
6.6m obs.

Isaac Smith
Ida Smith
Jonah Smith

Jonah Smith
Jemima Smith

Moses Brown

Moses Brown
Mina Brown

Abe Williams
Ann Williams
Titus Williams

Emancipation
New Method to Identify Descendants of Enslaved and Free

1860 Census

0.5m obs. [+4.0m Enslaved]

1870 Census

4.8m obs.

1880 Census

6.6m obs.

Isaac Smith
Ida Smith
Jonah Smith

Jonah Smith
Jemima Smith

Jonah Smith
Jemima Smith
King Smith

Moses Brown
Mina Brown

Moses Brown
Mina Brown

Abe Williams
Ann Williams
Titus Williams

1860, NJ
1860, AL

Back
New Method to Identify Descendants of Enslaved and Free

1860 Census
- 0.5m obs. (+4.0m Enslaved)
  - Isaac Smith
  - Ida Smith
  - Jonah Smith

1870 Census
- 4.8m obs.
  - Jonah Smith
  - Jemima Smith
  - King Smith

1880 Census
- 6.6m obs.
  - Jonah Smith
  - Jemima Smith
  - Moses Brown
  - Mina Brown

1860, NJ
- Moses Brown

1860, AL
- Abe Williams
  - Ann Williams
  - Titus Williams
New Method to Identify Descendants of Enslaved and Free

1860 Census
- 0.5m obs.
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1870 Census
- 4.8m obs.

1880 Census
- 6.6m obs.

1940 Census
- 12.7m obs.
- 3.0m prime-age men
- 168.1k linked to 1850-80

Isaac Smith
Ida Smith
Jonah Smith
Jonah Smith
Jemima Smith
Moses Brown
Abe Williams

1860, NJ
Moses Brown
Mina Brown

1860, AL
Abe Williams
Ann Williams
Titus Williams

Emancipation

Kara Smith
King Smith
Moses Brown
Mina Brown
Titus Williams
New Method to Identify Descendants of Enslaved and Free

1860 Census
0.5m obs.
[+4.0m Enslaved]

Isaac Smith
Ida Smith
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Jonah Smith
Jemima Smith

Moses Brown

1860, NJ

1870 Census
4.8m obs.

Emancipation

Jonah Smith
Jemima Smith

Jonah Smith
Jemima Smith
King Smith

Moses Brown

Moses Brown
Mina Brown

1880 Census
6.6m obs.

1940 Census
12.7m obs.
3.0m prime-age men
168.1k linked to 1850-80

Free
6.9k
+
2.5k

Enslaved
158.8k

1860, AL

Abe Williams
Ann Williams
Titus Williams
Method Based on Last Names to Identify Descendants of Enslaved and Free

\[
P(Free_{it} = 1|Name_{it} = "Du Bois") \\
= \frac{P(Free_{it} = 1, Name_{it} = "Du Bois")}{P(Name_{it} = "Du Bois")} \\
= \frac{P(Free_{i,1860} = 1, Name_{i,1860} = "Du Bois")}{P(Name_{i,1870} = "Du Bois")} \\
= \frac{P(Name_{i,1860} = "Du Bois")}{P(Name_{i,1870} = "Du Bois")} \\
\]

\[
\hat{P} = \frac{\#("Du Bois")_{1860}/BlackPop_{1860}}{\#("Du Bois")_{1870}/BlackPop_{1870}}
\]
• Automated linking method designed to minimize false matches
  – Based on names (allowing for misspellings), year of birth, state of birth
  – Requires uniqueness of match by race within 5 years

• Adjacent and non-adjacent census decades
  – 12% linkable to adjacent decade
  – 20% linkable to any future decade
  – 10% linkable to from 1870 to 1940

Linking Rate from 1870 to 1940 by Origin County

Mean: 10.3%
## Linked Sample vs. Population

<table>
<thead>
<tr>
<th></th>
<th>Free (1860)</th>
<th></th>
<th>Enslaved (1870)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Linked</td>
<td>Population</td>
<td>Linked</td>
<td>Population</td>
</tr>
<tr>
<td>Literacy (%)</td>
<td>65.1</td>
<td>66.8</td>
<td>20.4</td>
<td>20.4</td>
</tr>
<tr>
<td>Occupation Score</td>
<td>6.0</td>
<td>6.1</td>
<td>3.7</td>
<td>3.8</td>
</tr>
<tr>
<td>Real property ($)</td>
<td>1,217</td>
<td>1,230</td>
<td>1,400</td>
<td>1,270</td>
</tr>
<tr>
<td>Personal property ($)</td>
<td>312</td>
<td>316</td>
<td>312</td>
<td>293</td>
</tr>
<tr>
<td>Lives in North (%)</td>
<td>45.1</td>
<td>52.1</td>
<td>7.8</td>
<td>8.2</td>
</tr>
<tr>
<td>Lives on Farm (%)</td>
<td>21.2</td>
<td>18.2</td>
<td>23.8</td>
<td>23.2</td>
</tr>
<tr>
<td>Observations</td>
<td>20,994</td>
<td>79,374</td>
<td>190,676</td>
<td>726,667</td>
</tr>
</tbody>
</table>
Assessing Potential Linking Bias

Average Outcomes in 1940 by Year of Earliest Linked Ancestor

- Total Income: 5.9, 6.2, 6.5, 6.8
- Years of Education: 1850-1830

Year of First Family-Link: 1850, 1870, 1890, 1910, 1930

Years of Education

Total Income
Historical Racial Regime (HRR) score (Baker 2022)

Principal component of 4 proxies for institutionalized oppression

1. Share of population enslaved (1860)
2. Share of sharecroppers Black (1930)
3. Number of disenfranchisement devices enacted
4. Share of congressional delegates who signed Southern Manifesto opposing public school desegregation (1956)
Free-Enslaved Gap in Other Outcomes (1870–1940)

Income Score (OCCSCORE)

Income Score (LIDO)

Homeownership

Back
**Table: Free-Enslaved Gap Conditional on Ancestor’s State of Birth (1940)**

<table>
<thead>
<tr>
<th>Ancestor Enslaved</th>
<th>Education (Years)</th>
<th>Wage Income (USD)</th>
<th>Home Ownership (%)</th>
<th>House Value (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean: 5.91</td>
<td>Mean: 388.01</td>
<td>Mean: 29.48</td>
<td>Mean: 1,412.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ancestor Enslaved</td>
<td>-1.49***</td>
<td>-137.00***</td>
<td>-6.76***</td>
<td>-574.06***</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(8.05)</td>
<td>(0.72)</td>
<td>(80.88)</td>
</tr>
<tr>
<td></td>
<td>-0.41***</td>
<td>(9.41)</td>
<td>(0.86)</td>
<td>(102.37)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1870 State of Birth-FE</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Controls (age, age²)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.04</td>
<td>0.04</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Observations</td>
<td>75,583</td>
<td>71,474</td>
<td>76,048</td>
<td>21,873</td>
</tr>
<tr>
<td>Ancestor Free</td>
<td>4,617</td>
<td>4,371</td>
<td>4,640</td>
<td>1,624</td>
</tr>
</tbody>
</table>

Ancestor Free

*Significance levels: **p < 0.01, *p < 0.05, *p < 0.1
Result: Free-Enslaved gap fully driven by Enslaved’s geographic distribution

Free-Enslaved gap in literacy (1940)

Baseline
-4.1 ppt.

+ Region$_{1865}$-FE
-3.2 ppt.

+ State$_{1865}$-FE
-0.2 ppt.

+ County$_{1870}$-FE
-0.2 ppt.
Jim Crow laws limiting the geographic mobility of Black Americans

- Enticement laws
- Contract enforcement laws
- Emigrant-agent
- Vagrancy laws
Rosenwald school exposure of child $i$

$$Rosenwald_{c(i,1870),y} = \frac{1}{10} \sum_{t=y+6}^{y+16} \frac{RosenwaldTeachers_{c(i,1870),t} \times 45}{BlackChildren_{c(i,1870),t}}$$

- $RosenwaldTeachers_{c,t} :$ Rosenwald teachers in county $c$ at time $t$
- $BlackChildren_{c,t} :$ Black children in school ages (6–16) in county $c$ at time $t$
Free-Enslaved Gap in Alternative Income Measures (1940)

<table>
<thead>
<tr>
<th>Ancestor Enslaved</th>
<th>OCCSCORE (1950-USD) Mean: 1,604.09</th>
<th>LIDO Score (1950-USD) Mean: 1,161.69</th>
<th>Wage Income (1940-USD) Mean: 381.20</th>
<th>Total Income (1940-USD) Mean: 793.47</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-148.39*** (10.31)</td>
<td>-279.00*** (7.51)</td>
<td>-145.92*** (5.75)</td>
<td>-204.29*** (9.59)</td>
</tr>
<tr>
<td>Controls (age, age^2)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Adjusted R^2</td>
<td>0.04</td>
<td>0.04</td>
<td>0.05</td>
<td>0.09</td>
</tr>
<tr>
<td>Observations</td>
<td>168,138</td>
<td>142,743</td>
<td>154,463</td>
<td>146,871</td>
</tr>
<tr>
<td>Ancestor Free</td>
<td>9,325</td>
<td>7,517</td>
<td>8,551</td>
<td>8,100</td>
</tr>
</tbody>
</table>

"***" indicates statistical significance at the 0.01 level.
### Free-Enslaved Gap (1940) Based on Last Name Based Method

<table>
<thead>
<tr>
<th>Ancestor Enslaved</th>
<th>Education (Years)</th>
<th>Wage Income (USD)</th>
<th>Home Ownership (%)</th>
<th>House Value (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean: 5.74</td>
<td>Mean: 384.95</td>
<td>Mean: 21.81</td>
<td>Mean: 1,630.05</td>
</tr>
<tr>
<td>Ancestor Enslaved</td>
<td>-0.72***</td>
<td>-91.25***</td>
<td>-1.88***</td>
<td>-1,140.60***</td>
</tr>
<tr>
<td></td>
<td>(0.02)</td>
<td>(2.98)</td>
<td>(0.27)</td>
<td>(417.72)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Controls (age, age²)</th>
<th>Y</th>
<th>Y</th>
<th>Y</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted R²</td>
<td>0.03</td>
<td>0.03</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Observations</td>
<td>2,787,383</td>
<td>2,628,581</td>
<td>2,769,682</td>
<td>584,420</td>
</tr>
</tbody>
</table>
Placebo Gaps for White Americans (1870–1940)

### Literacy
- **White (Placebo)**
- **Free-Enslaved Gap**

### Occupation Skill
- **White (Placebo)**
- **Free-Enslaved Gap**

---

**Back**
InterraceBetween the Free and Enslaved

- Free-Enslaved gap measures socioeconomic differences between individuals whose male ancestors were free vs. enslaved before Civil War ($s_i$).

- Another object of interest: gap between individuals all of whose ancestors were free vs. enslaved before Civil War
  - $s_i$ can be seen as a noisy proxy
  - Level of “noise” depends on rates of intermarriage between Free & Enslaved
  - We estimate that under plausible rates of intermarriage this gap is $1.5 \times$ Free-Enslaved gap.
Black Economic Progress Lower Under Intensive Jim Crow Regimes

1865-State Effects & Jim Crow Intensity

- Effect on Years of Education (1940) vs. Historical Racial Regime Score
  - \( R^2 = 0.87 \)

- Effect on Years of Education (1940) vs. Number of Jim Crow Laws
  - \( R^2 = 0.68 \)
Strategy: Regression discontinuity specification

\[ y_{i,b}^{1940} = \alpha_{b} + \beta_{b} \cdot \text{High}_{i,b}^{1870} + \nu_{b} \cdot \text{dist}_{i,b}^{1870} + \psi_{b} \cdot \text{dist}_{i,b}^{1870} \cdot \text{High}_{i,b}^{1870} + \varepsilon_{i,b} \]

for descendant \( i \) whose ancestors lived close to border \( b \) in 1870, where:

- \( y^{1940} \): socioeconomic outcomes in 1940
- \( \text{High}^{1870} \): Dummy = 1 if ancestors lived on more oppressive side of border \( b \) in 1870
- \( \text{dist}^{1870} \): distance from ancestors’ residence in 1870 to border \( b \)
Validation: RDD using pooled sample of all borders

**All borders**

Discontinuity: -0.28*** (0.09)

**Policy borders** (above-median diff. in Jim Crow regime)

Discontinuity: -0.70*** (0.13)

**Placebo borders** (Below-median diff. in Jim Crow regime)

Discontinuity: -0.09 (0.11)
Result: RD estimates by fraction of decades in origin state (1865–1940)

(a) Stayed 0–25%  \[ \beta = 0.03 \]

(b) Stayed 25–50%  \[ \beta = -0.28 \]

(c) Stayed 50–75%  \[ \beta = -0.58 \]

(d) Stayed 75–100%  \[ \beta = -0.85 \]
Result: RD estimates for families who stayed until 1920, then left

RD: Years of Education in 1940

Difference in HRR Score

-4 -3 -2 -1 0 1 1.5 2

-4 -3 -2 -1 0
Result: Jim Crow had no effect on white Americans.
Result: Jim Crow had no effect on poor white Americans.
Result: Jim Crow benefited wealthy white Americans (top-10%)
Validation: Results robust to including array of location-specific controls

1860-controls: farm share, wealth, population density, share Black, migration cost to the North, per-capita tobacco, cotton, and cane sugar output, farm values, share slaveholders
RDD With Alternative Bandwidths

150km

Discontinuity: -0.58*** (0.10)

More oppressive ← Less oppressive

200km

Discontinuity: -0.61*** (0.09)

More oppressive ← Less oppressive

250km

Discontinuity: -0.63*** (0.08)

More oppressive ← Less oppressive

Years of education in 1940

County's Distance to Border (km)

Years of education in 1940

County's Distance to Border (km)

Years of education in 1940

County's Distance to Border (km)
Validation: Gaps emerged with start of Jim Crow (1877-1964)

RD in Literacy

Pre-period: 1870

Discontinuity: -2.60 (3.77)

1900

Discontinuity: -4.31*** (1.26)

1930

Discontinuity: -4.59*** (0.95)
Validation: No differences in location characteristics under slavery

RD: 1860 Location Characteristics (Policy Borders)

- Slaves per capita
- Share Black
- Population density
- Occ. income score
- Mig. cost to North
- Cotton output
- Age of slaves
- Farm values

RD: Standard deviations
Strategy: Quasi-experimental school access – Rosenwald program (1914–31)

\[ y_{i,1940} = \beta \cdot \text{Rosenwald}_{c(i,1870),y} + \mu_{c(i,1870)} + \mu_{s(i,1870),y} + \epsilon_{i,1940} \]

- \( y_{i,1940} \): 1940-outcome of child \( i \)
- \( \text{Rosenwald}_{c,y} \): Fraction of children w/ access to Rosenwald school (county \( c \), cohort \( y \))
- \( \mu_{c(i,1870)} \): Ancestor county fixed effects
- \( \mu_{s(i,1870),y} \): Ancestor state \( \times \) cohort fixed effects
Relative to the seminal work of Aaronson & Mazumder 2011

1. **Mediate selection concerns** by measuring Rosenwald school exposure based on 1870 county (vs. child’s own county of birth)

2. **Analyze intergenerational effects** using panel’s reach until 2000

3. **Assess treatment effect heterogeneity** across Jim Crow regimes