

# Jim Crow and Black Economic Progress After Slavery

Lukas Althoff (Princeton)   Hugo Reichardt (LSE)

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## Motivation: Racial inequality is a persistent feature of US society

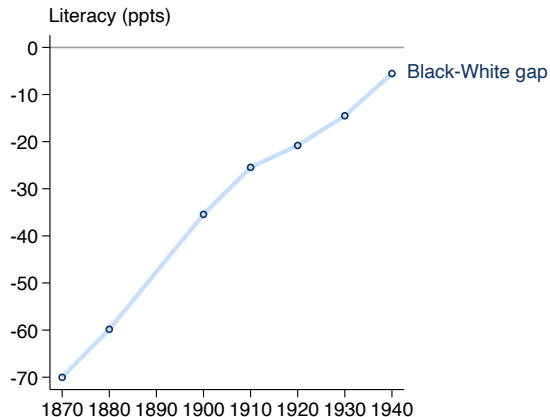
- Large Black-white gaps today
- Slow narrowing over past 150 years
- Potential explanation: US's history of institutionalized racial oppression
  - Slavery (until 1865)
  - Jim Crow (1877–1964)

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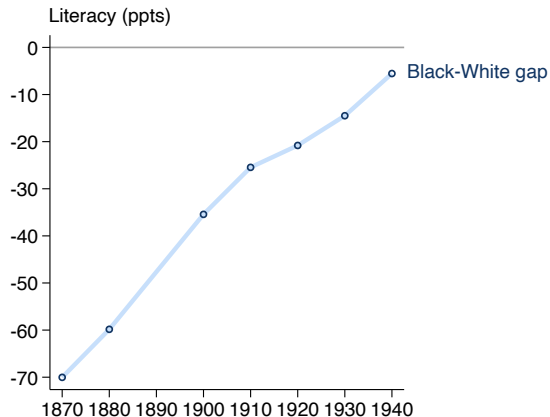
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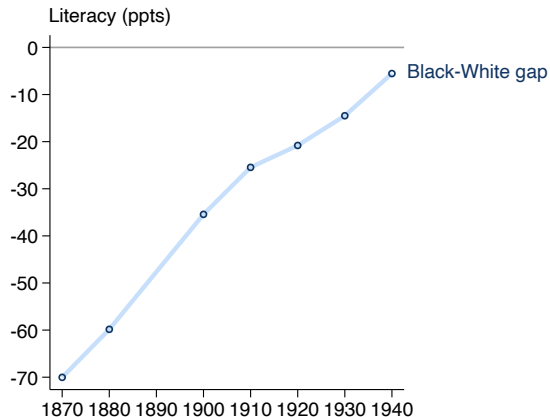
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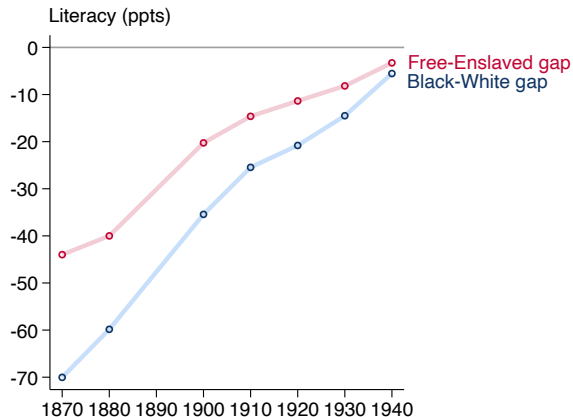
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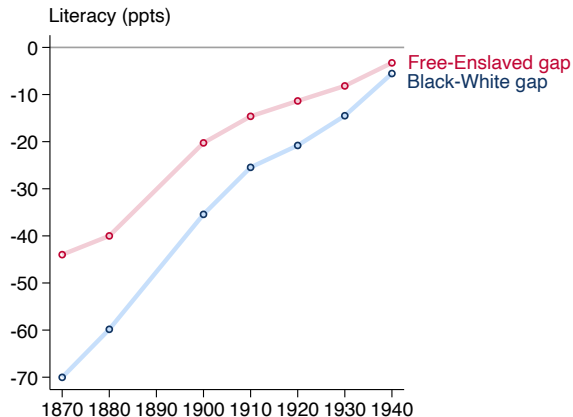
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## Research questions

- 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

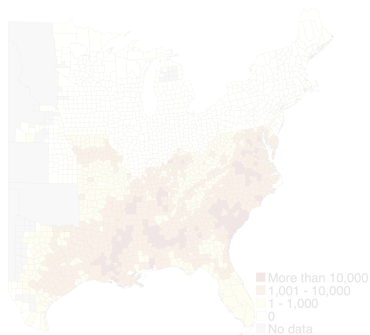
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# Black families' differential exposure to institutionalized oppression

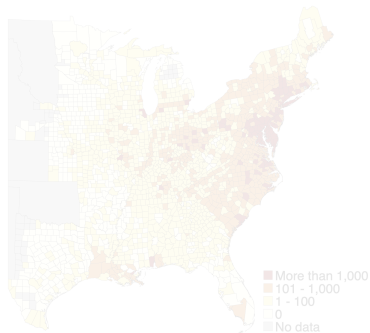
## More exposure: "Enslaved"

- 1 Enslaved until 1865
- 2 Concentrated in Lower South



## Less exposure: "Free"

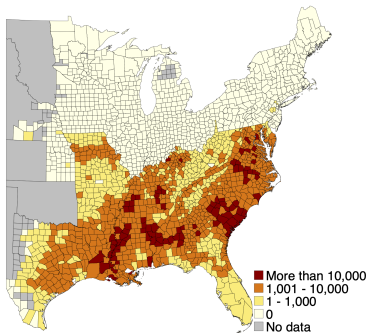
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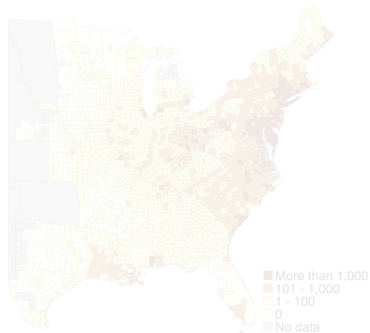
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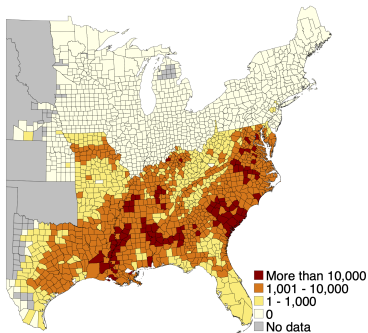




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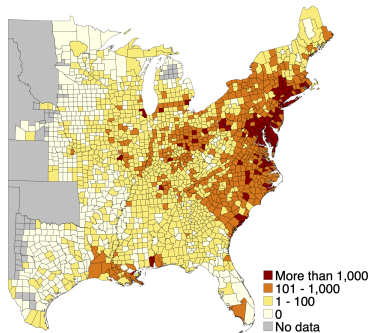
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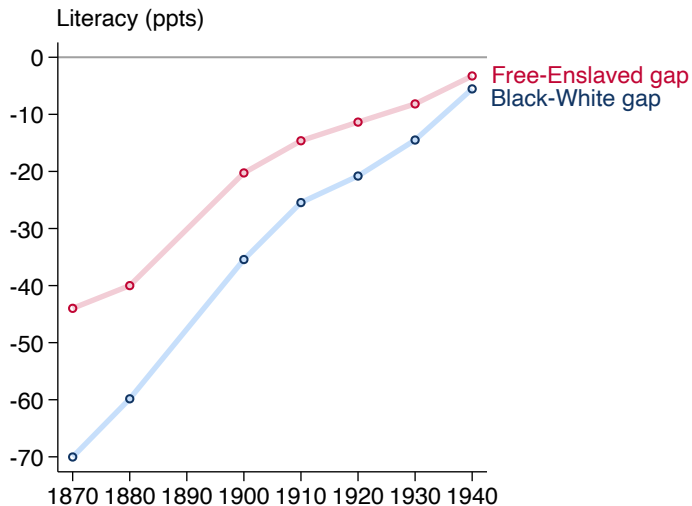


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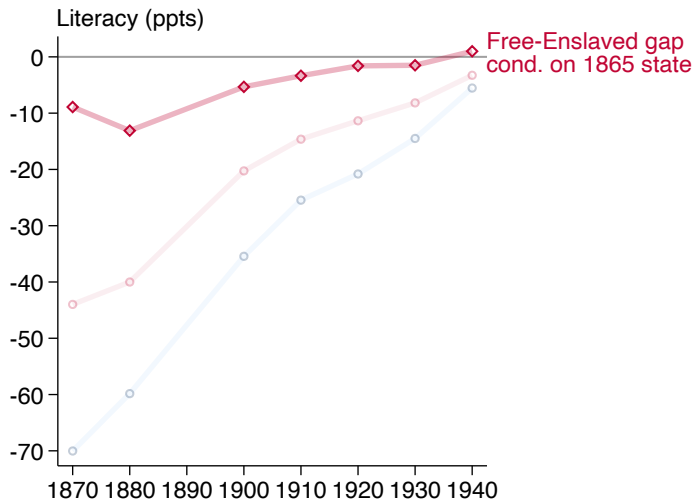
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## Free-Enslaved gap closes conditional on 1865-ancestor state



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# 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)
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→ Variation in exposure to slavery
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→ Variation in exposure to states' Jim Crow institutions

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# Measures of states' Jim Crow intensity

## ① Number of Jim Crow laws

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## ② Composite index for states' racial oppression (Baker 2022)

- “Historical Racial Regime (HRR) score”
- Principal component of 4 proxies for institutionalized oppression (1860–1960) [► Details](#)

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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



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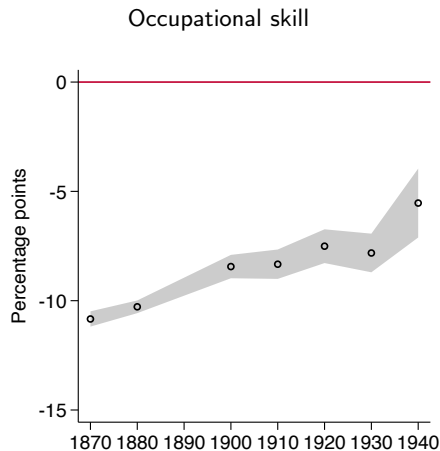
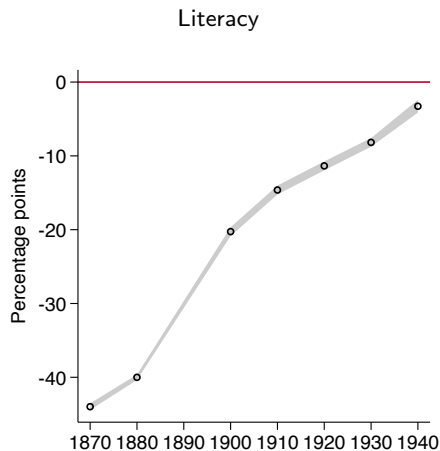
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**Q:** Is the socioeconomic status of Black families today associated with their historical exposure to institutionalized oppression?

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**A:** Yes.

## Results: The Free-Enslaved gap (1870–1940)



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

## 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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**Q:** What factors explain the large Free-Enslaved gap?

**A:**



**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

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- ② Exposure to different locations
- ③ Potential differences in ability

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# Drivers of persistence

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## Strategy: Causal effects of exposure to state-specific factors

$$y_i = \eta_{\ell(i,1865)} + \phi' X_i + \epsilon_i$$

if  $s_i = 1$ , with

- $y_i$  : 1940 outcome
- $\eta_{\ell(i,1865)}$  : fixed effect for enslaved ancestor's state of birth  $\ell$

**Strategy:** Use enslaved ancestor's state of birth to estimate place effect

**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

(Phillips 1918, Fogel & Engerman 1974, Pritchett 2001, 2019, Tadman 2008)

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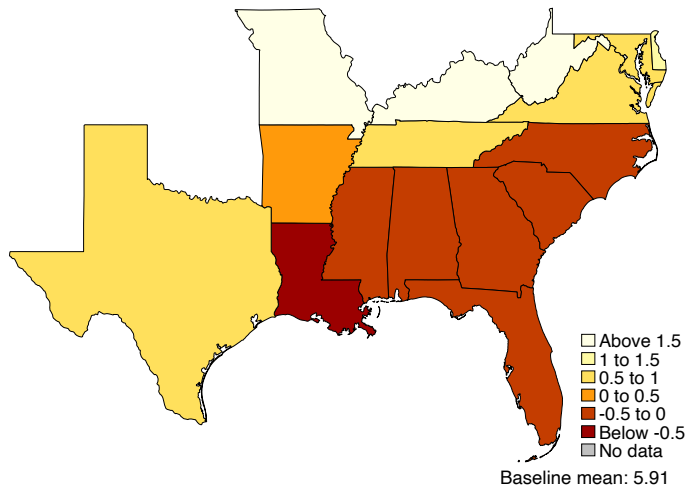
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## Result: Geography of Black economic progress

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



## Takeaway

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

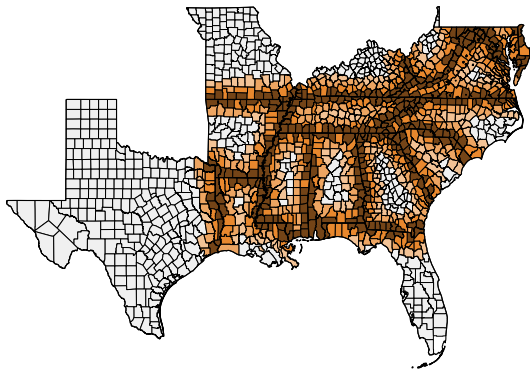
- ① Distinct geography of Black economic progress after slavery
- ② Enslaved's high exposure to negative state effects explains gap

# Drivers of persistence

- ① Inherent disadvantage of being enslaved longer
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  - 2.a) **Jim Crow regime** **Step 2: RDD**
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## Strategy: RDD to isolate role of state institutions

County's distance to the closest border

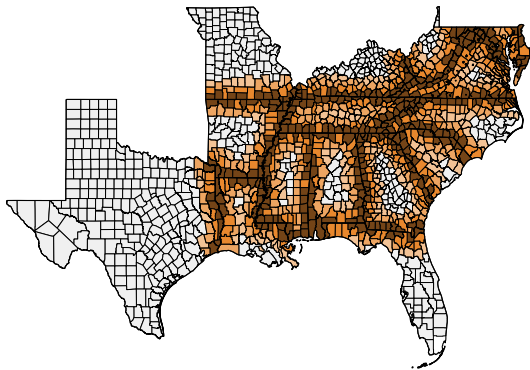


Measures of Jim Crow intensity

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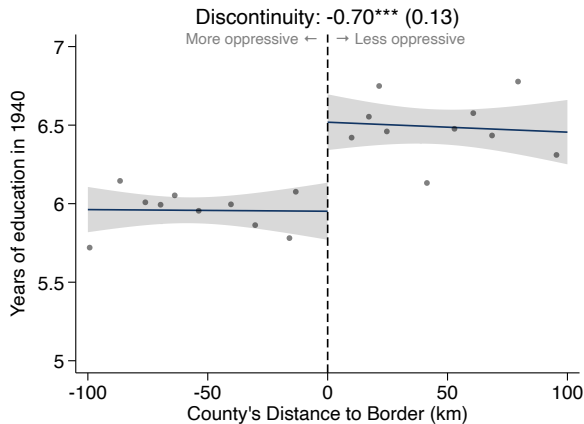


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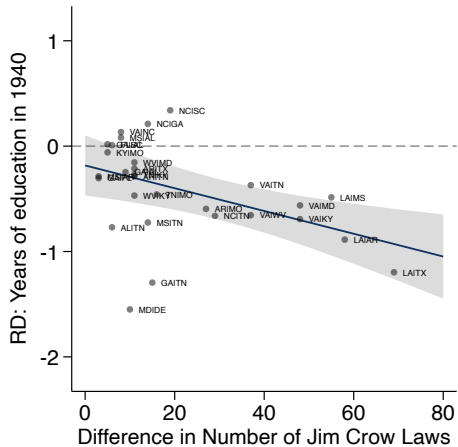
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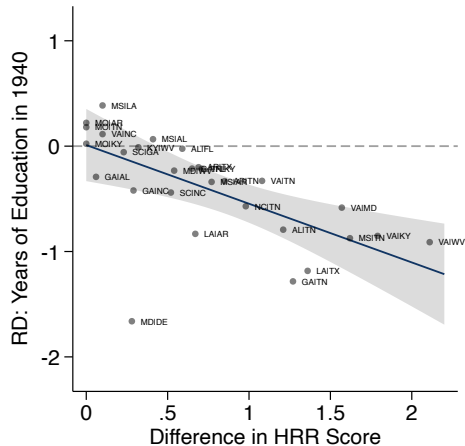
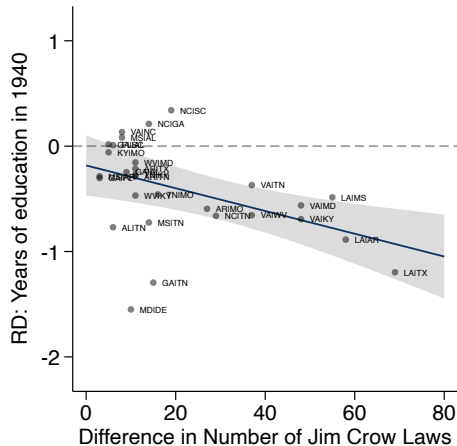
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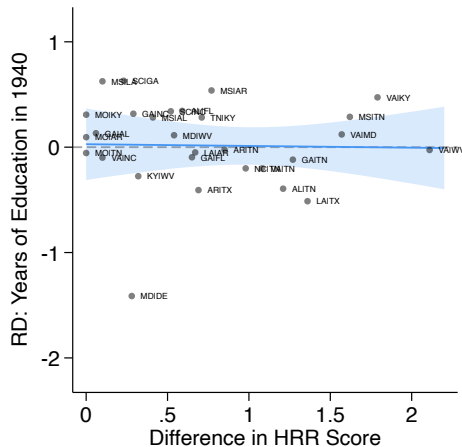


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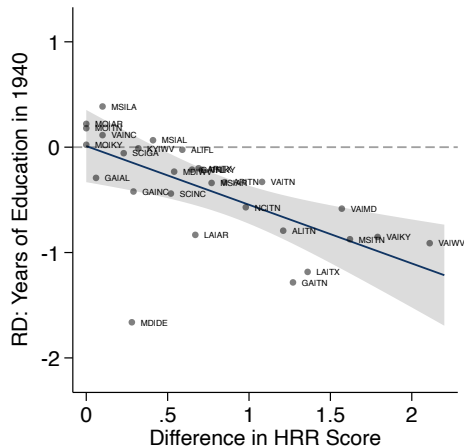


# Result: Jim Crow had no effect on white Americans

(a) White



(b) Black



► Difference in Jim Crow laws

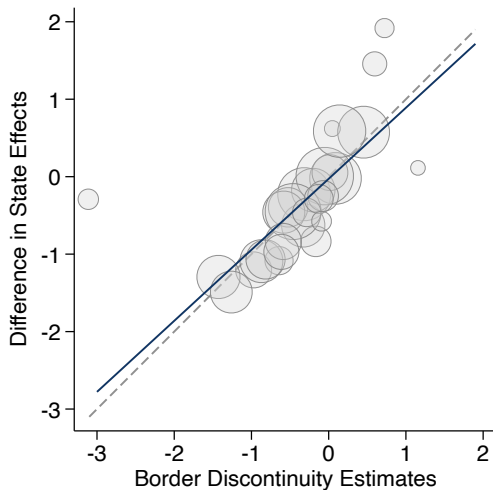
► Poor whites

► Wealthy whites

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- 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

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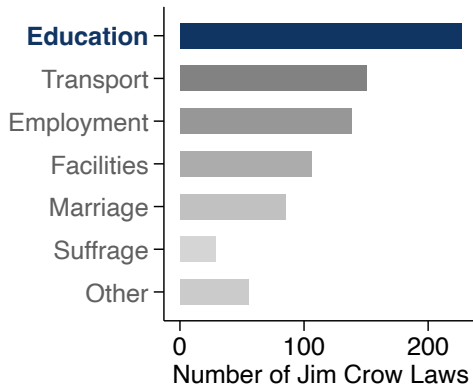
Q2: Relative importance of slavery and Jim Crow

## ③ Mechanisms

## ④ Conclusion



## Education was a key target of Jim Crow



**Q:** Did access to education mediate Jim Crow's effect?

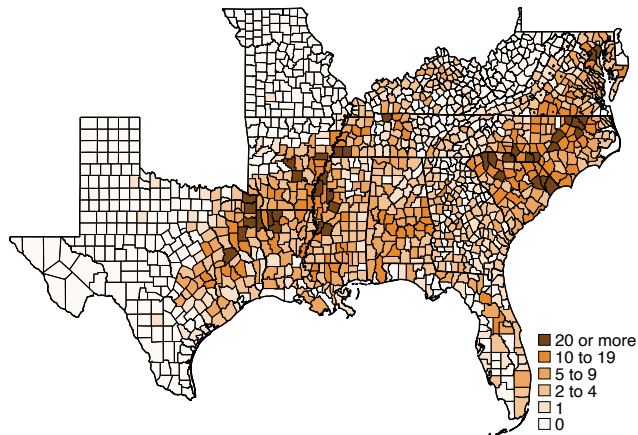
**A:**

**Q:** Did access to education mediate Jim Crow's effect?

**A:** Yes, large fractions of it.

## Strategy: Quasi-experimental school access – Rosenwald program (1914–31)

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



## Result: School access mediated gap in education caused by Jim Crow

### Effects of the Rosenwald schools

Years of Education in 1940 Sample mean: 5.26							
	Baseline	Placebo		Heterogeneity			
		Movers	Stayers	Few Laws	Many Laws	Low HRR	High HRR
Rosenwald exposure	<b>0.30***</b> (0.11)	<b>0.16</b> (0.13)	<b>0.61***</b> (0.19)	<b>0.24</b> (0.27)	<b>0.53***</b> (0.20)	<b>0.20</b> (0.15)	<b>0.85***</b> (0.23)
Observations	107,141	74,287	32,799	43,061	32,639	37,516	34,475

→ 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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## Result: School access had large intergenerational effects

### Intergenerational effects of the Rosenwald schools

	Children's Neighborhood Level Outcomes in 2000			
	HS Degree (%)	College Degree (%)	Income (USD)	House Value (USD)
	Mean: 69.33	Mean: 12.15	Mean: 28,831.25	Mean: 95,986.10
Father's Rosenwald exposure	<b>2.78</b> (3.06)	<b>4.95**</b> (2.10)	<b>2,277.22**</b> (1,120.35)	<b>35,471.16**</b> (16,917.63)
Observations	6,420	6,420	6,434	6,434

## 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 2<sup>nd</sup> generation's college completion in 2000



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# 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

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- 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

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

Emancipation

*1870 Census*

4.8m obs.

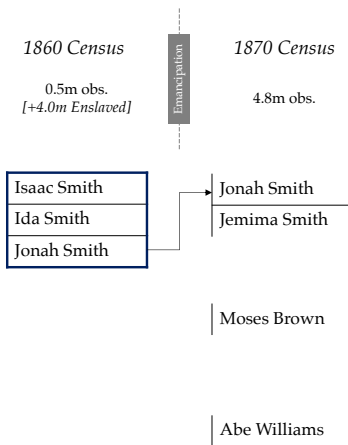
Jonah Smith

Jemima Smith

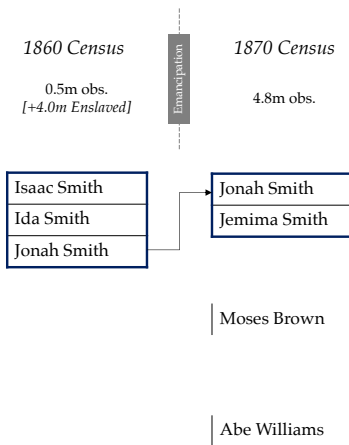
Moses Brown

Abe Williams

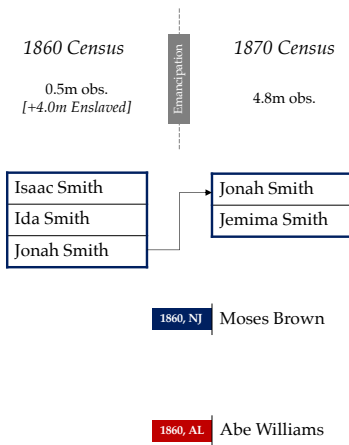
# New Method to Identify Descendants of Enslaved and Free



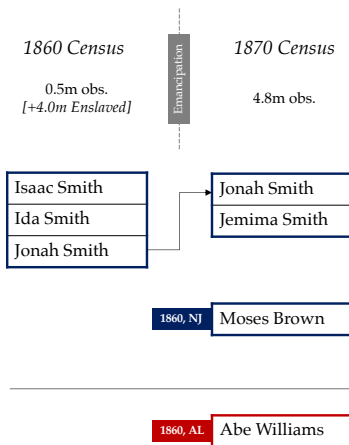
# New Method to Identify Descendants of Enslaved and Free



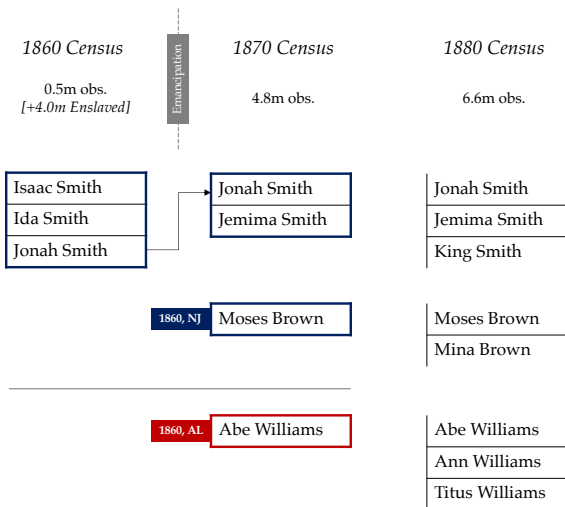
# New Method to Identify Descendants of Enslaved and Free



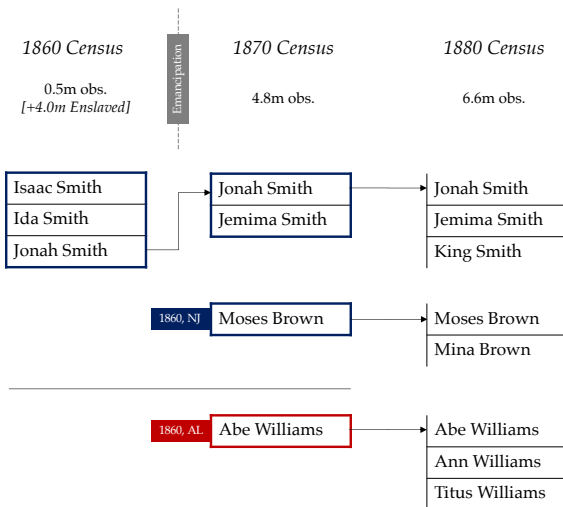
# New Method to Identify Descendants of Enslaved and Free



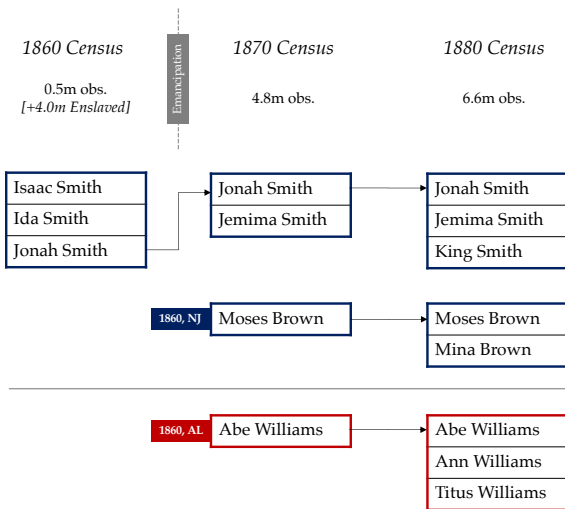
# New Method to Identify Descendants of Enslaved and Free



# New Method to Identify Descendants of Enslaved and Free

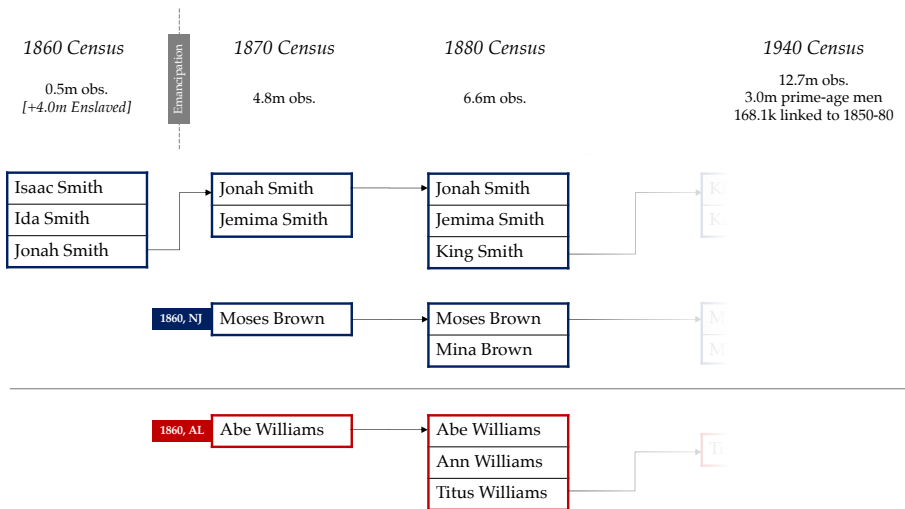


# New Method to Identify Descendants of Enslaved and Free

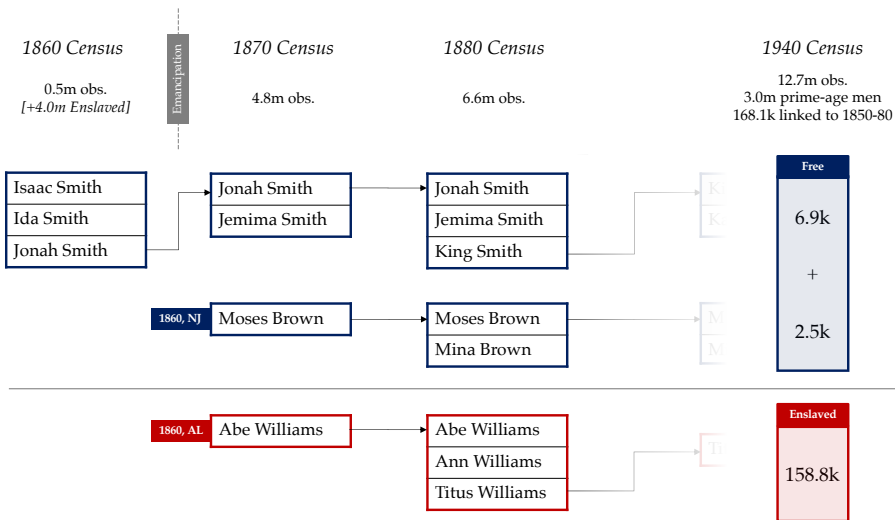




# New Method to Identify Descendants of Enslaved and Free



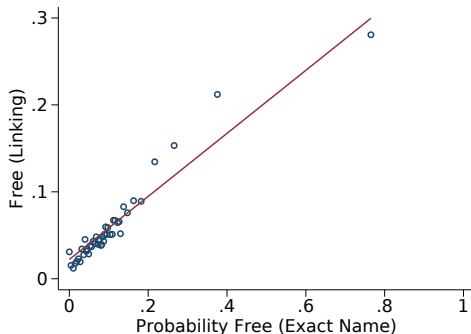
# New Method to Identify Descendants of Enslaved and Free



# Method Based on Last Names to Identify Descendants of Enslaved and Free

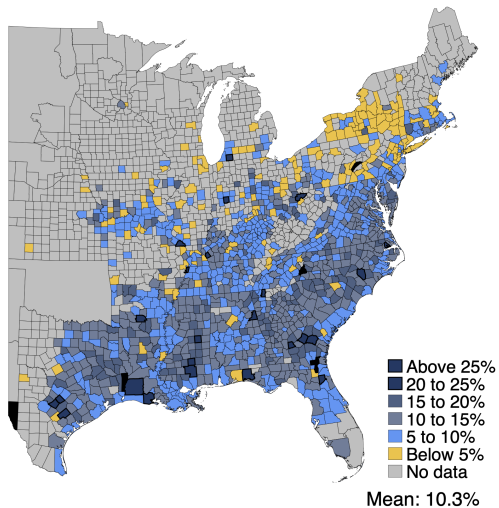
$$\begin{aligned} & P(\text{Free}_{it} = 1 | \text{Name}_i = \text{"Du Bois"}) \\ &= \frac{P(\text{Free}_{it} = 1, \text{Name}_{it} = \text{"Du Bois"})}{P(\text{Name}_{it} = \text{"Du Bois"})} \\ &= \frac{P(\text{Free}_{i,1860} = 1, \text{Name}_{i,1860} = \text{"Du Bois"})}{P(\text{Name}_{i,1870} = \text{"Du Bois"})} \\ &= \frac{P(\text{Name}_{i,1860} = \text{"Du Bois"})}{P(\text{Name}_{i,1870} = \text{"Du Bois"})} \end{aligned}$$

$$\hat{p} = \frac{\#(\text{"Du Bois"})_{1860} / \text{BlackPop}_{1860}}{\#(\text{"Du Bois"})_{1870} / \text{BlackPop}_{1870}}$$



- 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** [▶ By county](#)

# Linking Rate from 1870 to 1940 by Origin County



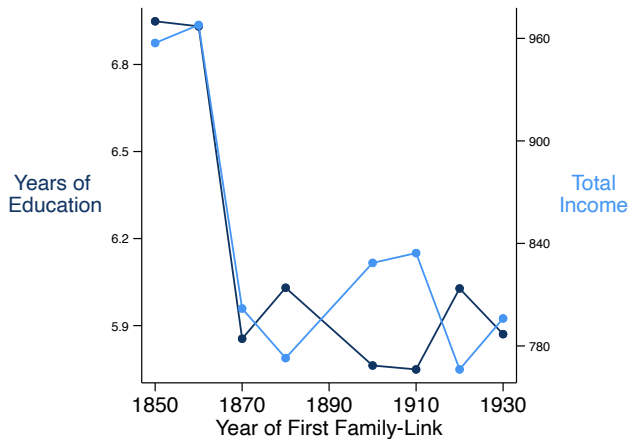
## Sample Balance

Linked Sample vs. Population

	Free (1860)		Enslaved (1870)	
	Linked	Population	Linked	Population
Literacy (%)	65.1	66.8	20.4	20.4
Occupation Score	6.0	6.1	3.7	3.8
Real property (\$)	1,217	1,230	1,400	1,270
Personal property (\$)	312	316	312	293
Lives in North (%)	45.1	52.1	7.8	8.2
Lives on Farm (%)	21.2	18.2	23.8	23.2
Observations	20,994	79,374	190,676	726,667

# Assessing Potential Linking Bias

Average Outcomes in 1940 by Year of Earliest Linked Ancestor



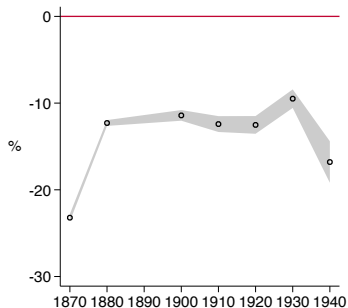
Principal component of 4 proxies for institutionalized oppression

- 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)

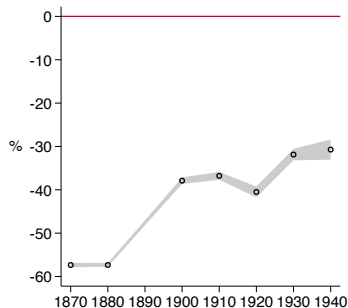


# Free-Enslaved Gap in Other Outcomes (1870–1940)

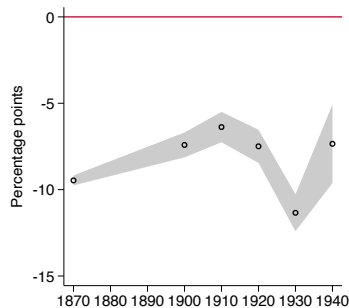
Income Score (OCCSCORE)



Income Score (LIDO)



Homeownership



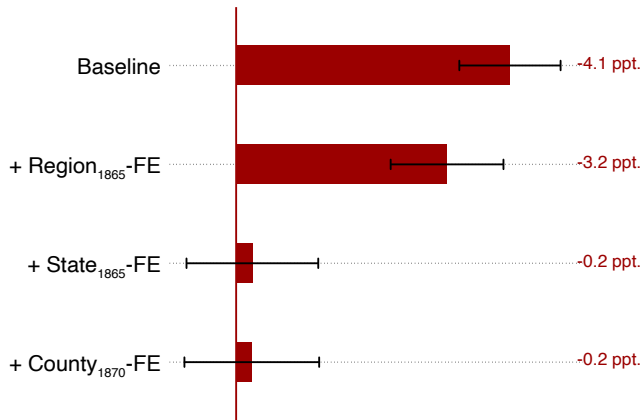
## F-E Gap Accounted for by Ancestor Location

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

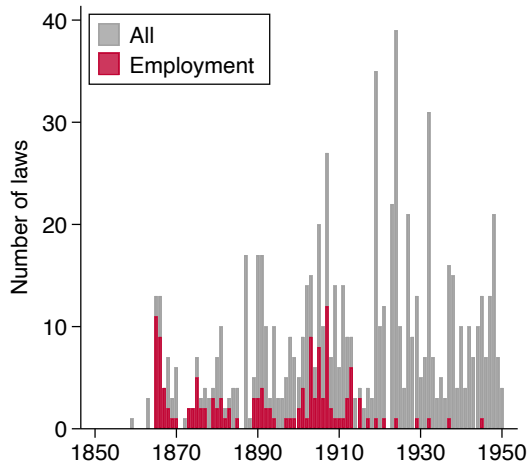
	Education (Years) Mean: 5.91		Wage Income (USD) Mean: 388.01		Home Ownership (%) Mean: 29.48		House Value (USD) Mean: 1,412.17	
<b>Ancestor Enslaved</b>	-1.49*** (0.06)	-0.41*** (0.07)	-137.00*** (8.05)	-20.22** (9.41)	-6.76*** (0.72)	-1.61* (0.86)	-574.06*** (80.88)	8.40 (102.37)
1870 State of Birth-FE	N	Y	N	Y	N	Y	N	Y
Controls (age, age <sup>2</sup> )	Y	Y	Y	Y	Y	Y	Y	Y
Adjusted R <sup>2</sup>	0.04	0.08	0.04	0.07	0.01	0.03	0.01	0.03
Observations	75,583	75,583	71,474	71,474	76,048	76,048	21,873	21,873
<i>Ancestor Free</i>	4,617	4,617	4,371	4,371	4,640	4,640	1,624	1,624

## Result: Free-Enslaved gap fully driven by Enslaved's geographic distribution

Free-Enslaved gap in literacy (1940)

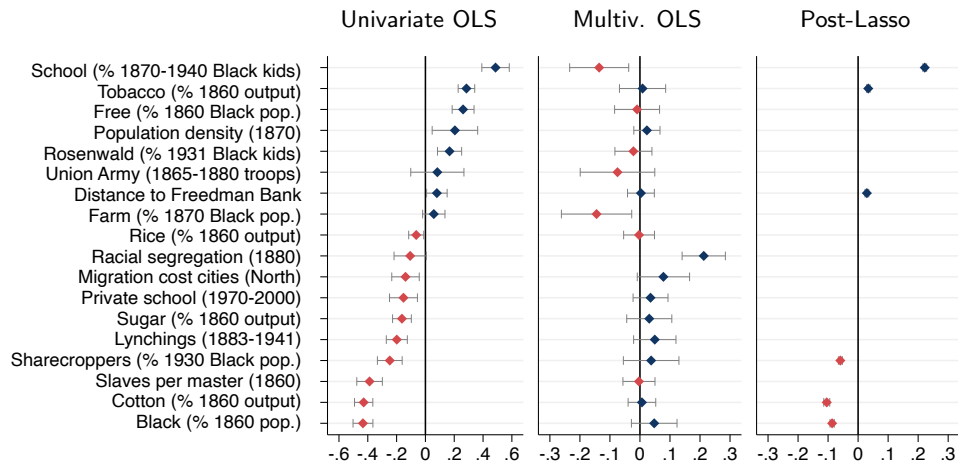


# Jim Crow laws limiting the geographic mobility of Black Americans



- Enticement laws
- Contract enforcement laws
- Emigrant-agent
- Vagrancy laws

# Horserace of Location-Specific Predictors of Place Effects



## Rosenwald school exposure of child $i$

$$\textit{Rosenwald}_{c(i,1870),y} = \frac{1}{10} \sum_{t=y+6}^{y+16} \frac{\textit{RosenwaldTeachers}_{c(i,1870),t} \times 45}{\textit{BlackChildren}_{c(i,1870),t}}$$

- $\textit{RosenwaldTeachers}_{c,t}$  : Rosenwald teachers in county  $c$  at time  $t$
- $\textit{BlackChildren}_{c,t}$  : Black children in school ages (6–16) in county  $c$  at time  $t$

# Free-Enslaved Gap in Alternative Income Measures (1940)

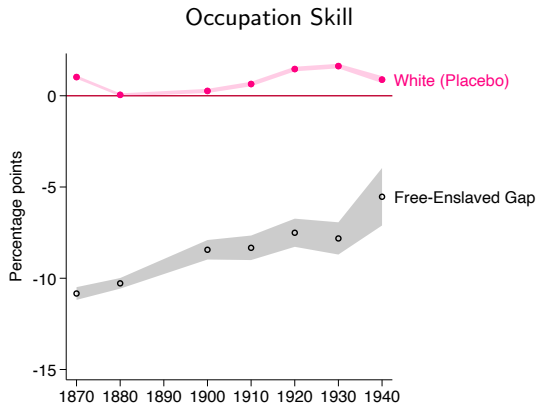
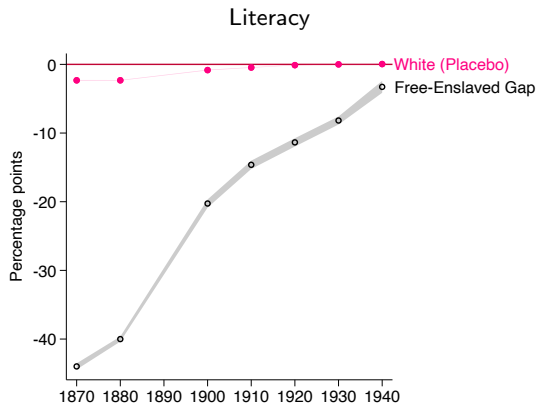
	OCCSCORE (1950-USD) Mean: 1,604.09	LIDO Score (1950-USD) Mean: 1,161.69	Wage Income (1940-USD) Mean: 381.20	Total Income (1940-USD) Mean: 793.47
<b>Ancestor Enslaved</b>	<b>-148.39***</b> (10.31)	<b>-279.00***</b> (7.51)	<b>-145.92***</b> (5.75)	<b>-204.29***</b> (9.59)
Controls (age, age <sup>2</sup>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

## Free-Enslaved Gap (1940) Based on Last Name Based Method

	Education (Years) Mean: 5.74	Wage Income (USD) Mean: 384.95	Home Ownership (%) Mean: 21.81	House Value (USD) Mean: 1,630.05
<b>Ancestor Enslaved</b>	<b>-0.72***</b> (0.02)	<b>-91.25***</b> (2.98)	<b>-1.88***</b> (0.27)	<b>-1,140.60***</b> (417.72)
Controls (age, age <sup>2</sup> )	Y	Y	Y	Y
Adjusted R <sup>2</sup>	0.03	0.03	0.01	0.01
Observations	2,787,383	2,628,581	2,769,682	584,420



# Placebo Gaps for White Americans (1870–1940)

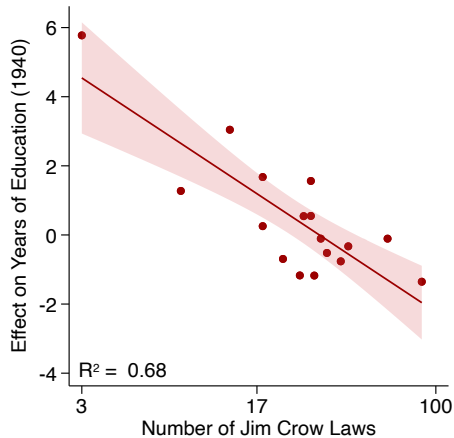
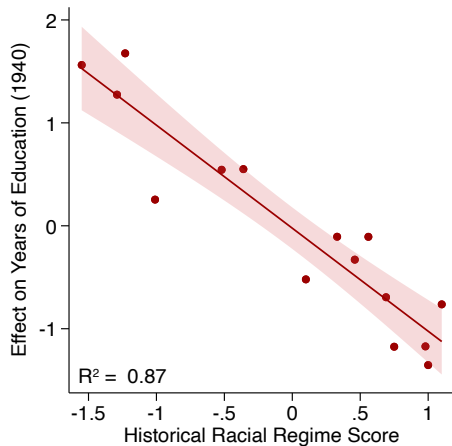


# Intermarriage Between the Free and Enslaved

- 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**×Free-Enslaved gap

# Black Economic Progress Lower Under Intensive Jim Crow Regimes

1865-State Effects & Jim Crow Intensity



## Strategy: Regression discontinuity specification

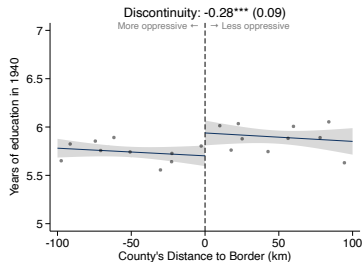
$$y_{i,b}^{1940} = \alpha_b + \beta_b \cdot \text{High}_{i,b}^{1870} + \nu_b \cdot \text{dist}_{i,b}^{1870} + \psi_b \cdot \text{dist}_{i,b}^{1870} \cdot \text{High}_{i,b}^{1870} + \varepsilon_{i,b}$$

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  $b$

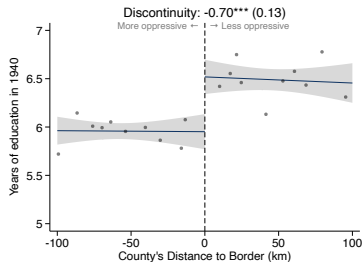
# Validation: RDD using pooled sample of all borders

All borders



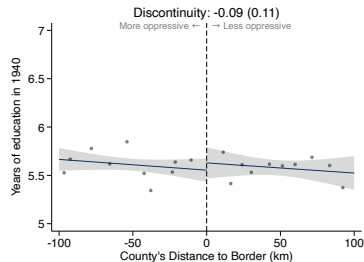
Policy borders

(above-median diff. in Jim Crow regime)



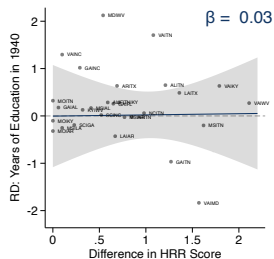
Placebo borders

(Below-median diff. in Jim Crow regime)

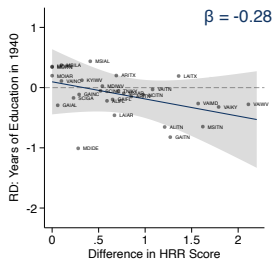


# Result: RD estimates by fraction of decades in origin state (1865–1940)

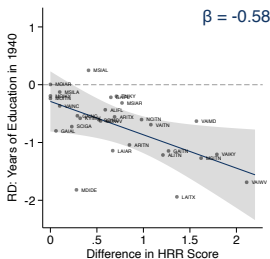
(a) Stayed 0–25%



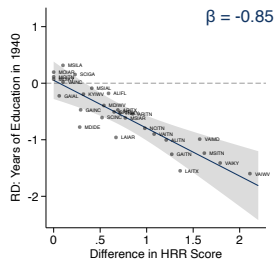
(b) Stayed 25–50%



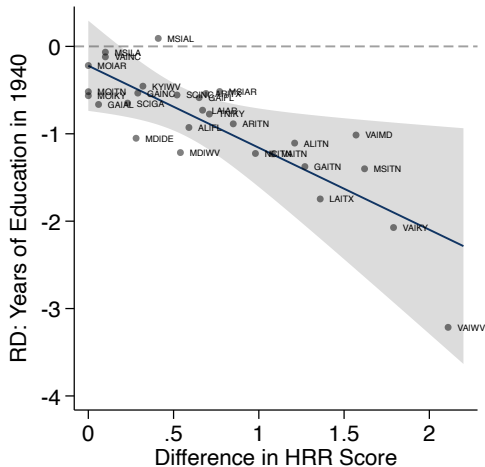
(c) Stayed 50–75%



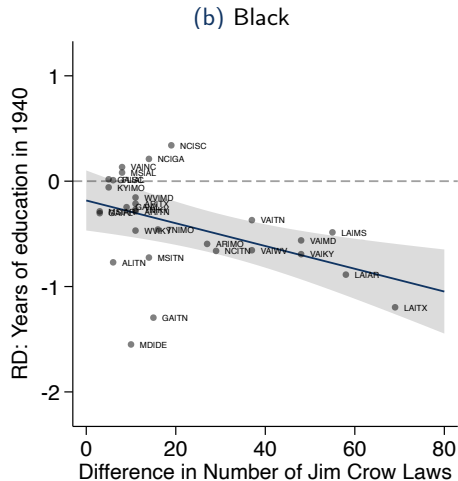
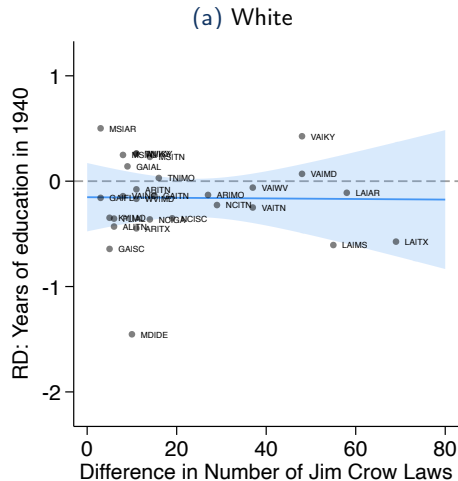
(d) Stayed 75–100%



Result: RD estimates for families who stayed until 1920, then left

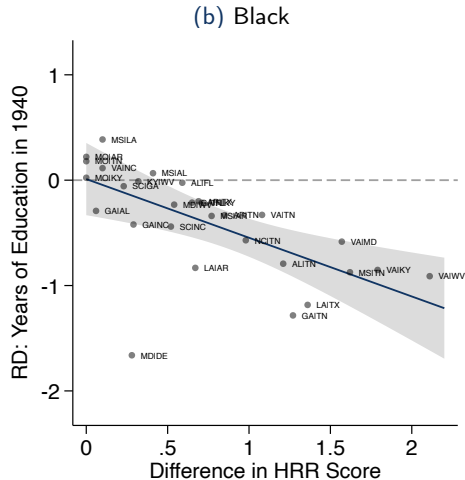
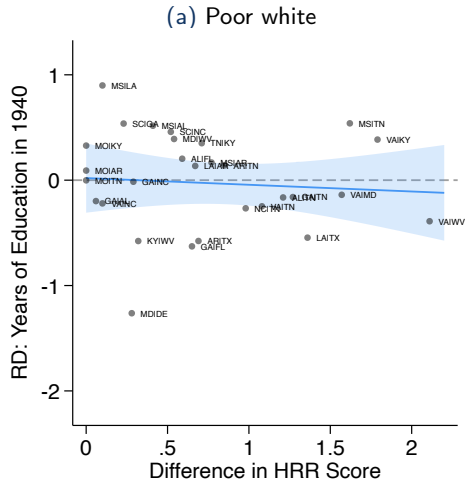


## Result: Jim Crow had no effect on white Americans

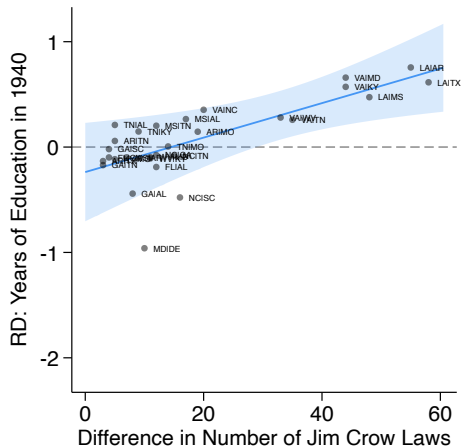
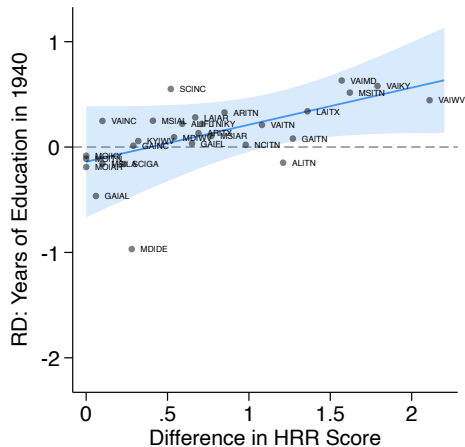




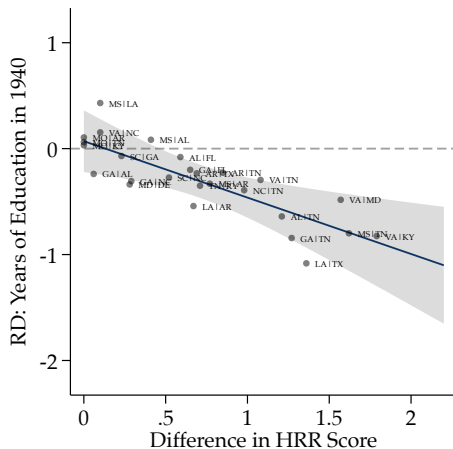
## Result: Jim Crow had no effect on poor white Americans



## Result: Jim Crow benefited wealthy white Americans (top-10%)

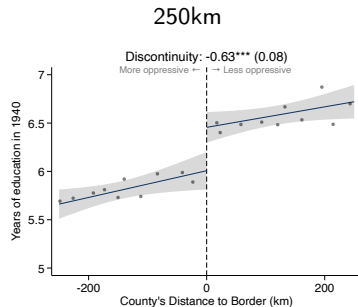
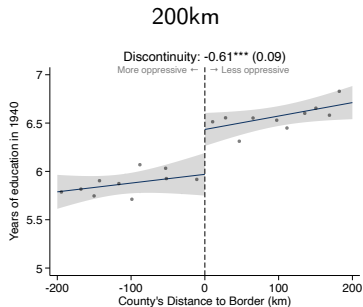
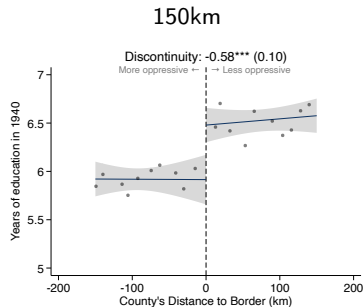


## Validation: Results robust to including array of location-specific controls



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

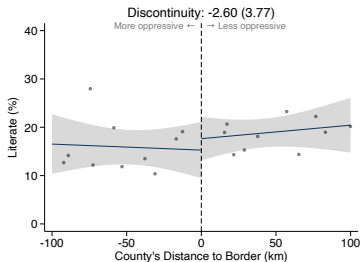
# RDD With Alternative Bandwidths



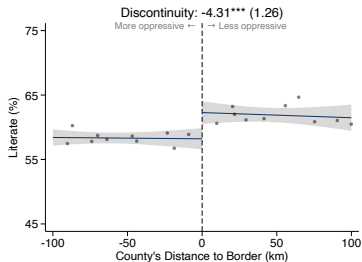
# Validation: Gaps emerged with start of Jim Crow (1877-1964)

## RD in Literacy

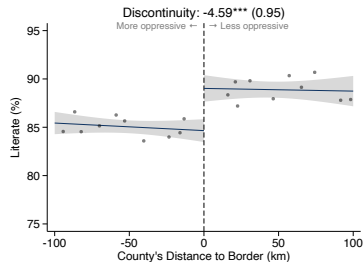
Pre-period: 1870



1900

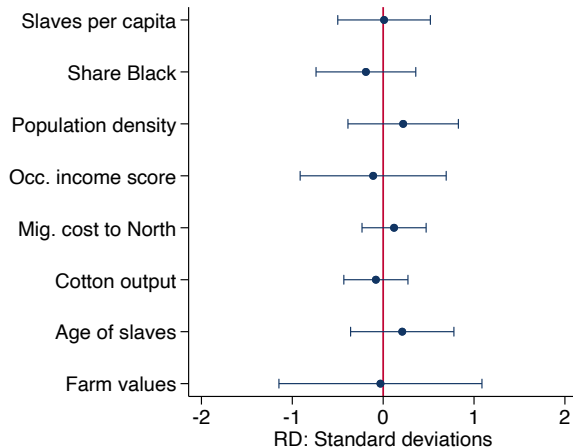


1930



## Validation: No differences in location characteristics under slavery

RD: 1860 Location Characteristics (Policy Borders)



## Strategy: Quasi-experimental school access – Rosenwald program (1914–31)

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

- $y_{i,1940}$  : 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

# Empirical innovations: Evidence from the Rosenwald schools

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