Did Great Migration destinations become mobility traps?

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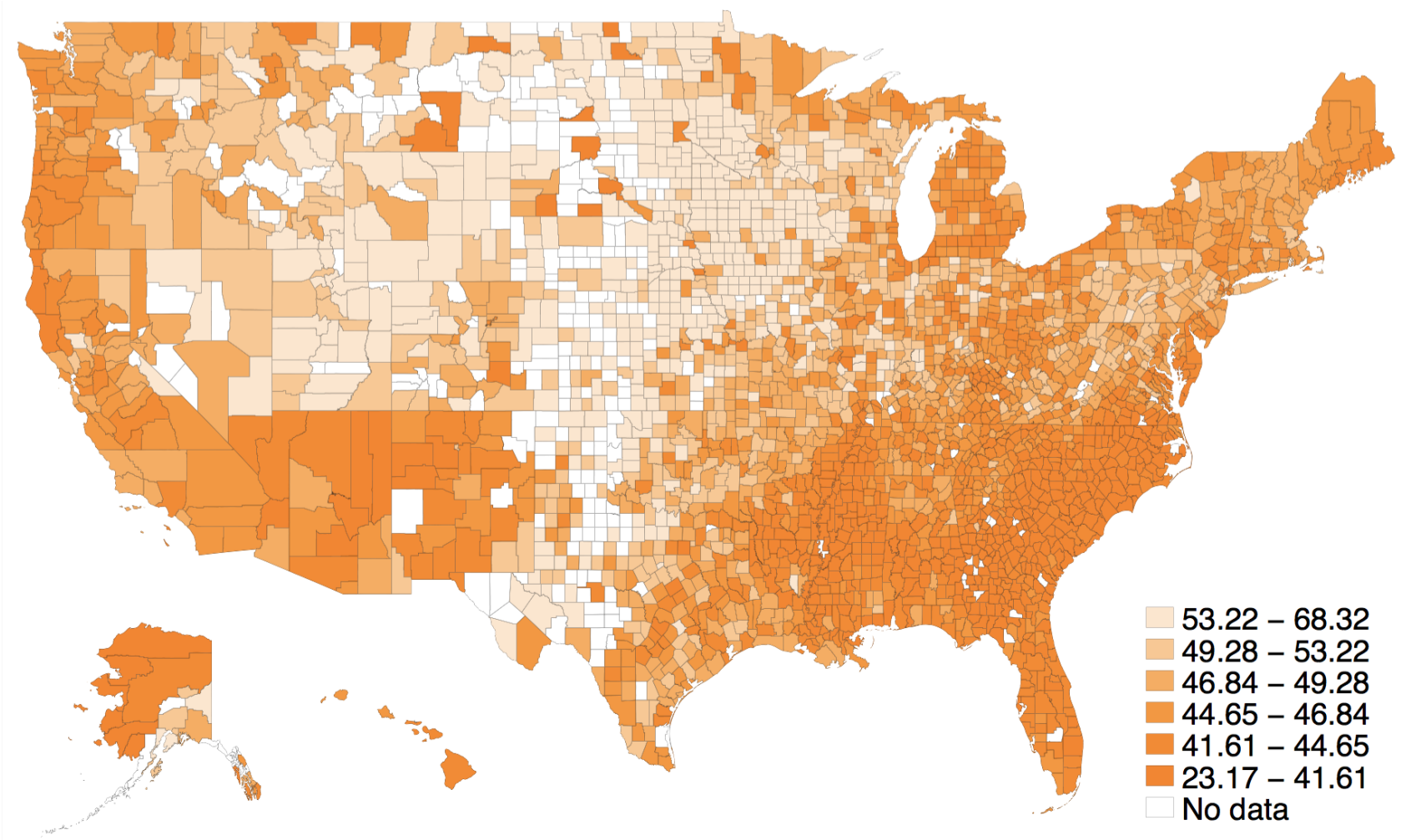
Locations in the US differ greatly in upward mobility



Adult income rank of low income children in 2011-12 by home county. Data from Chetty, Hendren, Kline, and Saez (2014).

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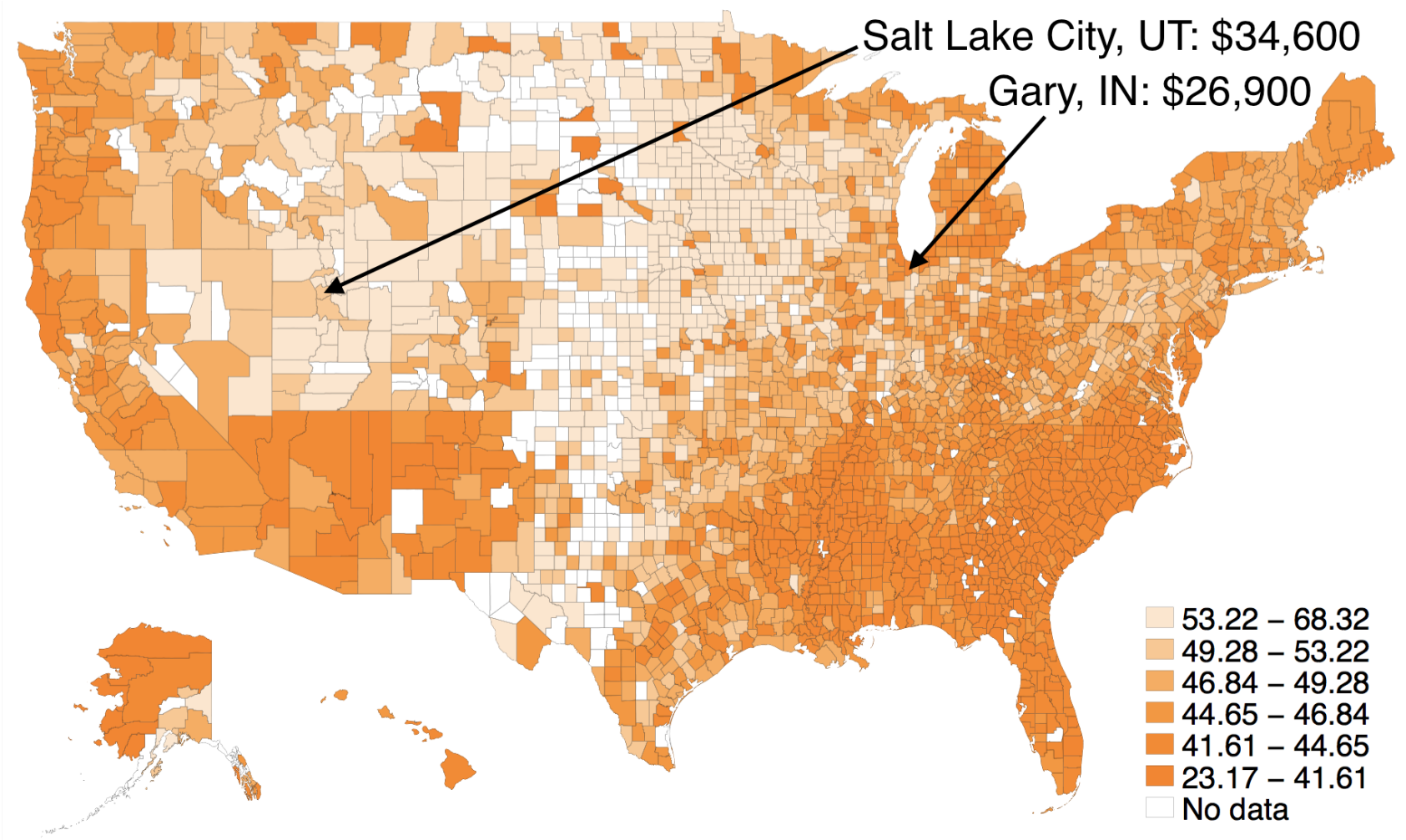

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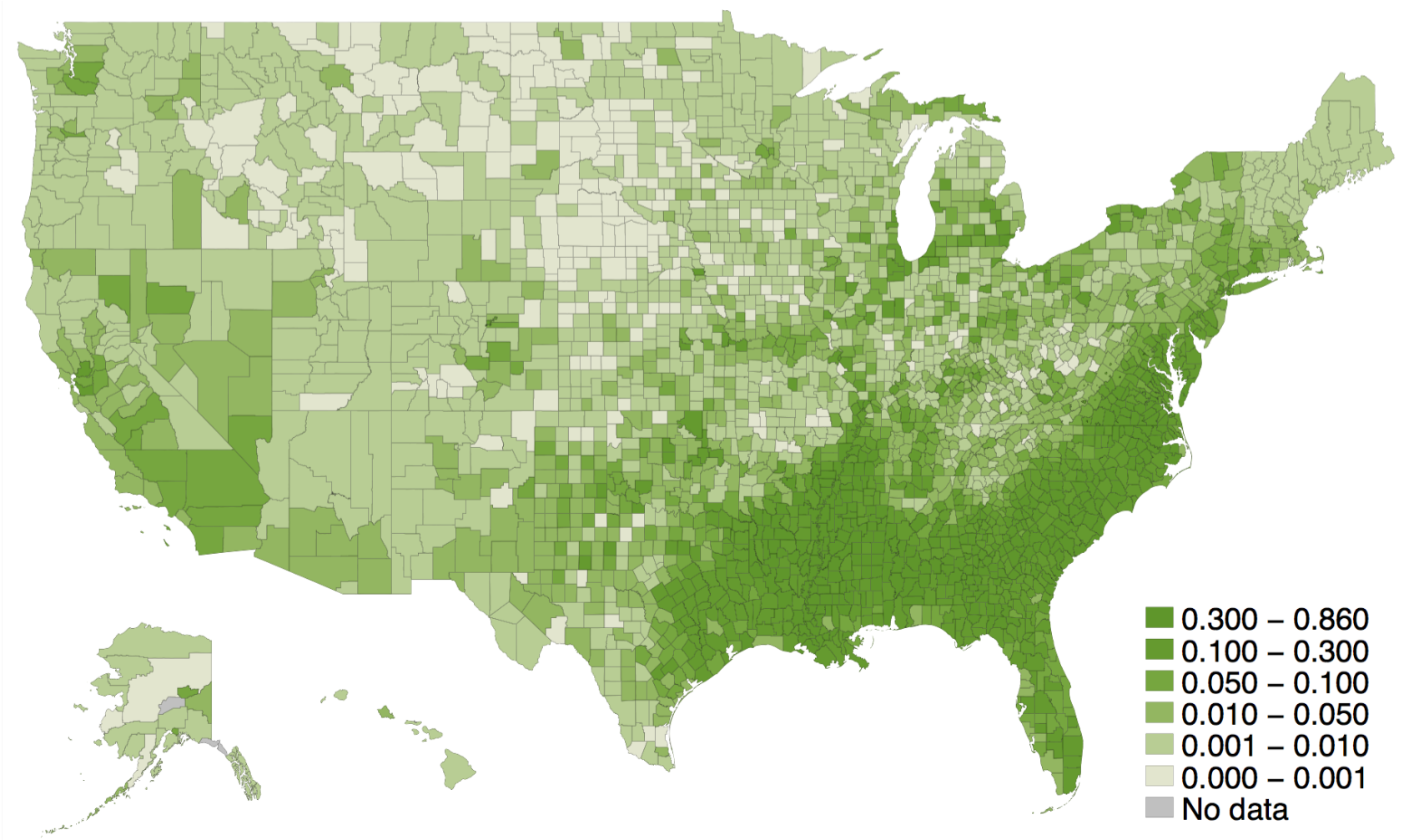
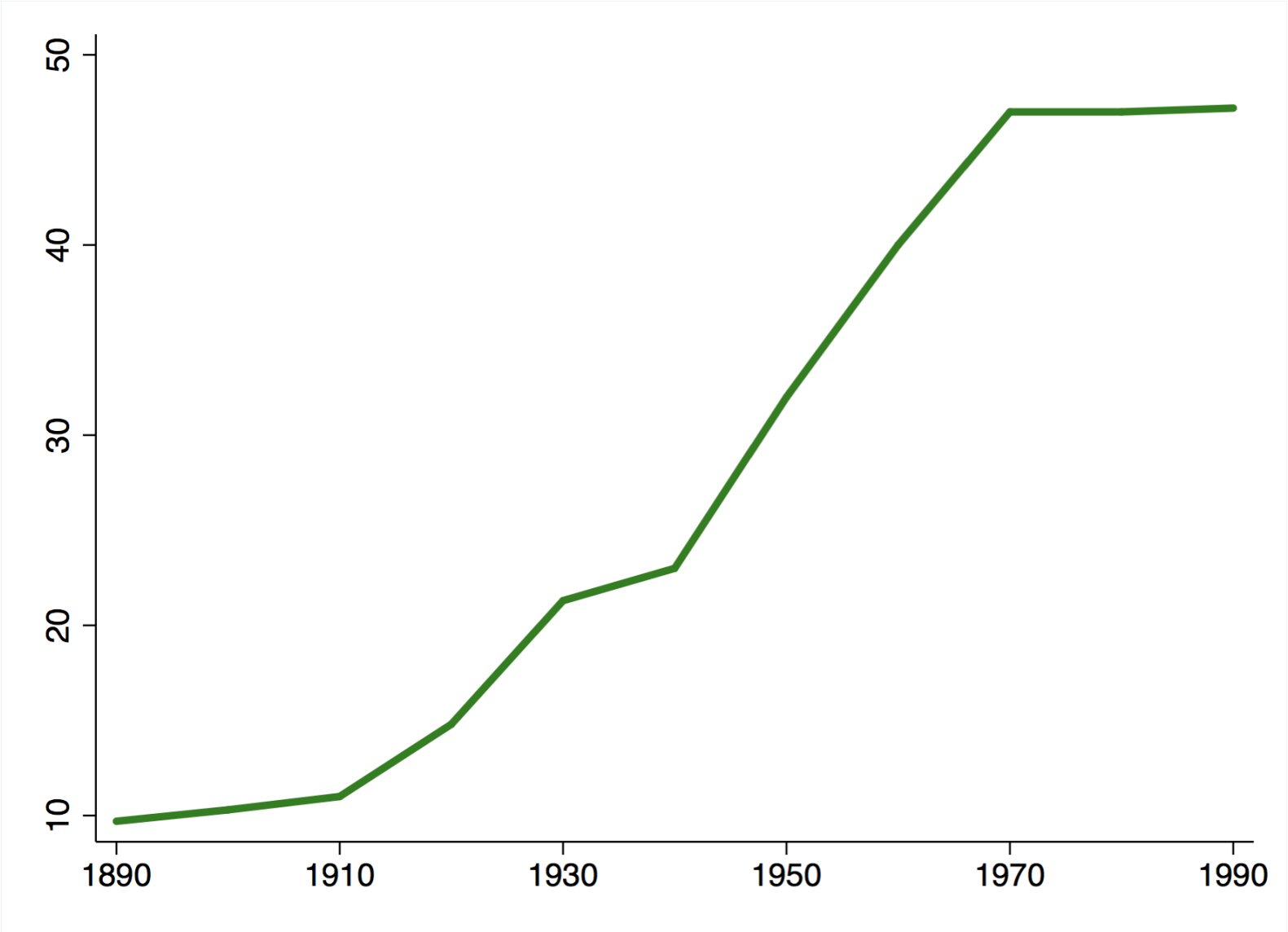
Upward mobility strongly correlated with racial composition



Fraction Black in 2000.

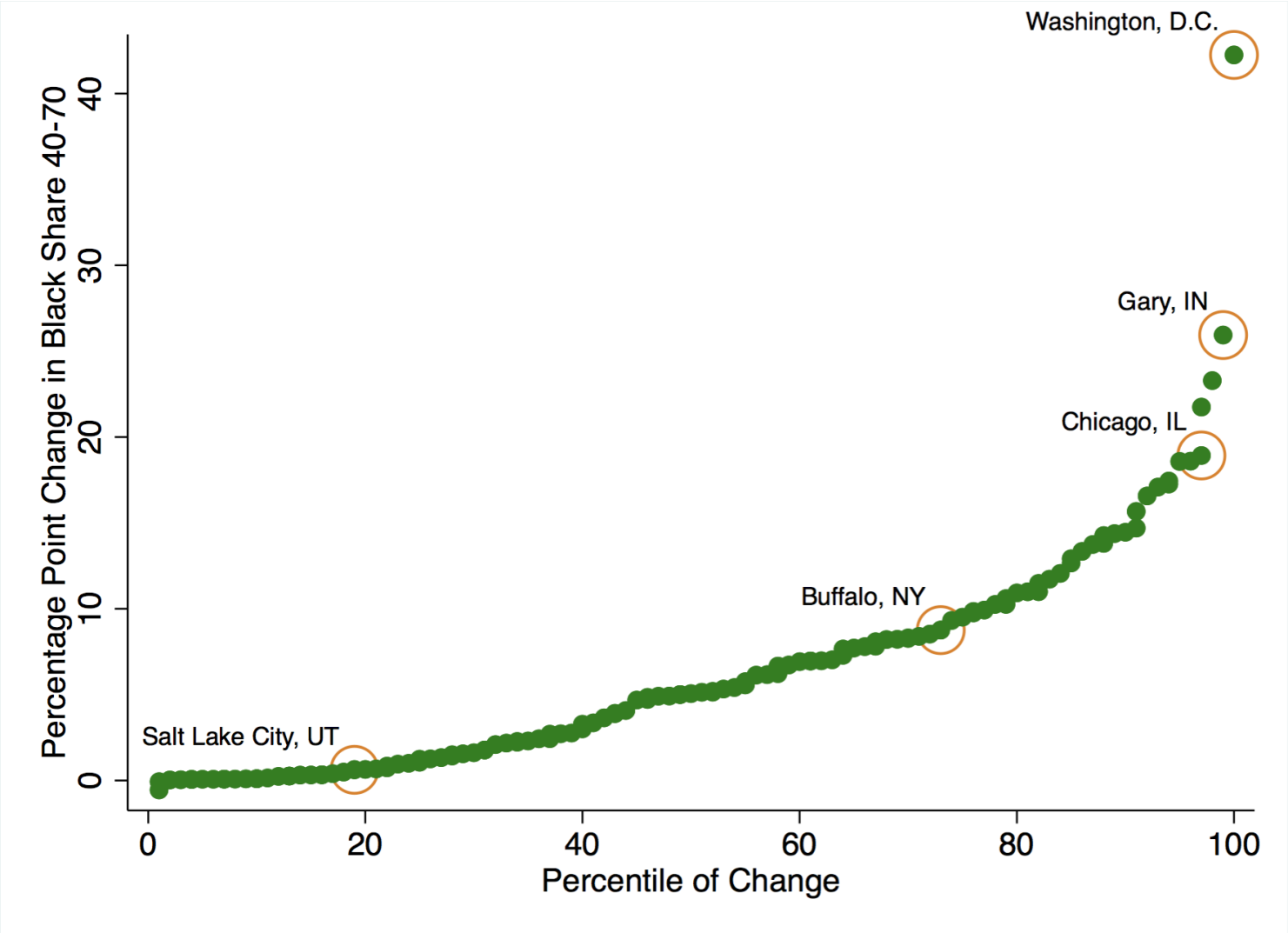
Data from Chetty, Hendren, Kline, and Saez (2014).

Percentage of African Americans living outside the south



Data from US Census. ▸ Numbers

Black share increases in MSAs during Great Migration



Northern metropolitan areas.

Data from 1940 Census and City and County Data Books 1944-1977.

This paper

Isolates plausibly exogenous increases in the black population in northern cities during the Great Migration to answer:

"Does racial composition affect upward mobility?"

Empirical strategy

- Idiosyncratic settlement patterns by recent southern black migrants from the complete count 1940 census
- Southern shocks to migration flows, 1940-1970
- Link to data on neighborhood exposure effects based on movers from 1980s birth cohort

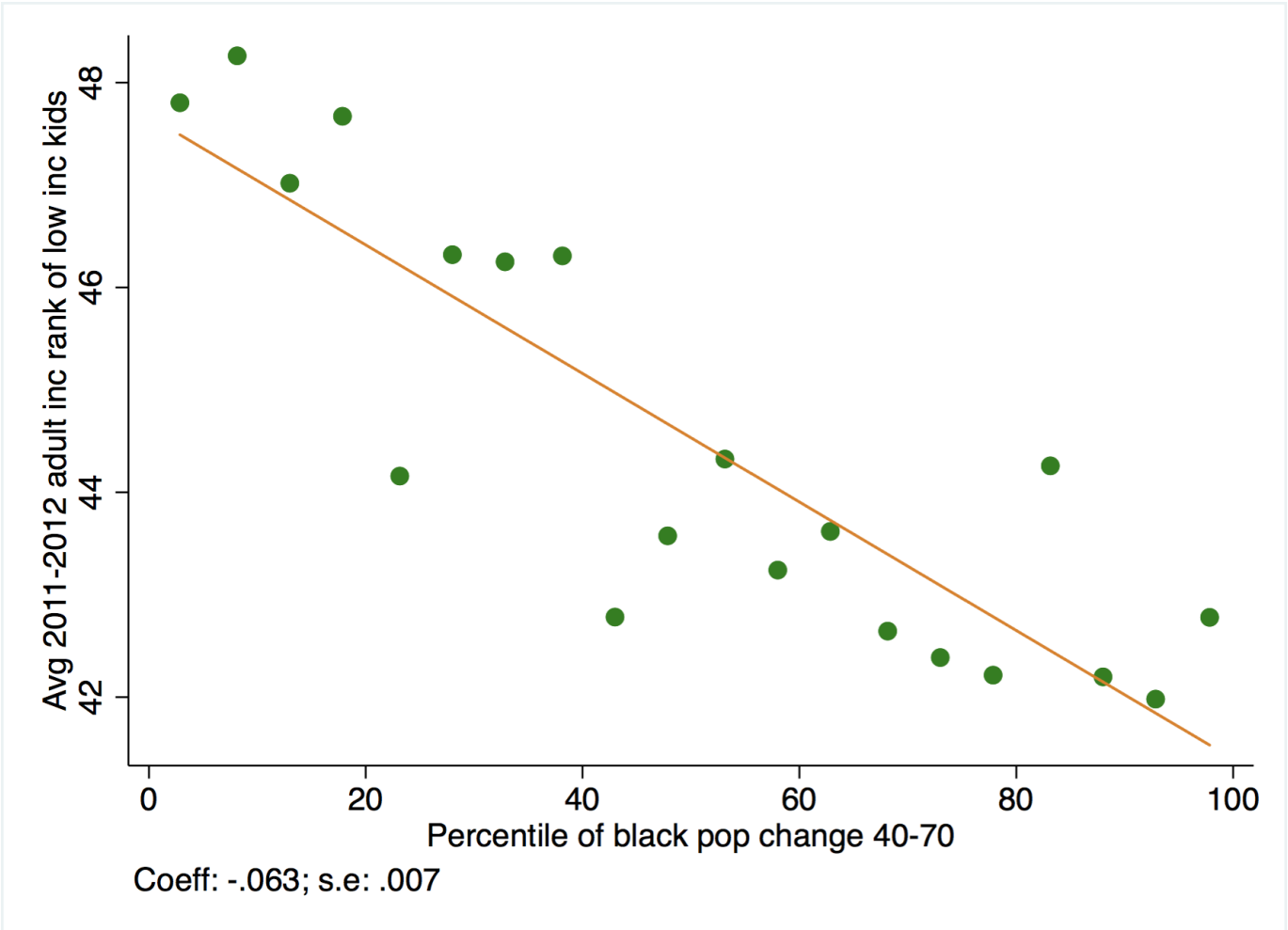
Mechanisms

Riot against mixed federal housing project in Detroit, '42. Source: LOC.

Challenges to identifying causal effect of Great Migration

- Lower social mobility among African Americans leads to mechanically lower mobility in high fraction black locations
- Historically, black migrants may have moved to places with worse opportunities for kids

Naive regression of upward mobility on Great Migration



Northern metropolitan upward mobility rates and percentile of black population share increase between 1940 and 1970.

Decomposing the impact of GM on places

What is the effect of historical black in-migration m on average white and black children's outcomes $A = sw_c + (1-s)b_c$ in place c with white share s?

$$\frac{dA_c}{dm_c} = \underbrace{\frac{ds_c}{dm_c}\Delta_c^{bw}}_{\text{"Mechanical Effect"}} + \underbrace{a_c^m}_{\text{Local "Behavioral Response"}},$$

- $\Delta_c^{bw} = (w_c - b_c)$ is the racial gap
- $a_c^m = s_c \frac{dw_c}{dm_c} + (1-s_c)\frac{db_c}{dm_c}$ is the local response in outcomes
- Goal: estimate a_c^m, the local response to m_c.

Decomposing the impact of GM on place effects

In the data:

$$\mathbb{E}\left[\frac{dA_c}{dm_c}\right] = \mathbb{E}\left[\frac{ds_c}{dm_c}\Delta_c^{bw}\right] + \mathbb{E}[a_c^m]$$

The "mechanical effect" further decomposes into:

$$\mathbb{E}\left[\frac{ds_c}{dm_c}\Delta_c^{bw}\right] = \underbrace{\mathbb{E}\left[\frac{ds_c}{dm_c}\right] \cdot \mathbb{E}[\Delta_c^{bw}]}_{\text{Composition Effect}} + \underbrace{Cov\left(\frac{ds_c}{dm_c}, \Delta_c^{bw}\right)}_{\text{Endogeneity + OMVB}}$$

- $\mathbb{E}[a_c^m]$ id. when

$$\mathbb{E}\left[\frac{ds_c}{dm_c}\right] \cdot \mathbb{E}[\Delta_c^{bw}] = Cov\left(\frac{ds_c}{dm_c}, \Delta_c^{bw}\right) = 0.$$

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- Using Chetty-Hendren (2017) estimates ensures

$$\mathbb{E}[\Delta_c^{bw}] = 0 \implies \mathbb{E}\left[\frac{ds_c}{dm_c}\right] \cdot \mathbb{E}[\Delta_c^{bw}] = 0.$$ ▸ Proof

Decomposing the impact of GM on place effects

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- Using exogenous shocks to black population during GM

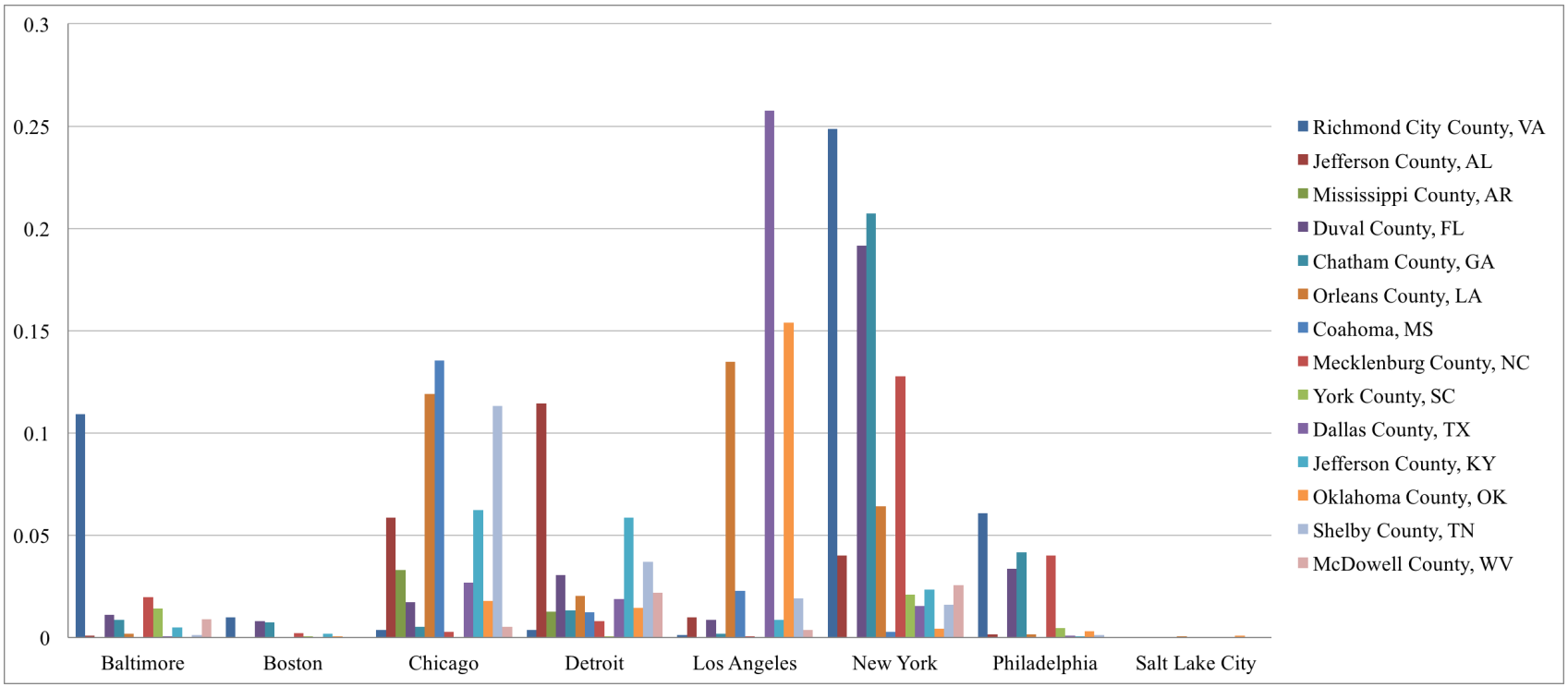
$$\implies Cov\left(\frac{ds_c}{dm_c}, \Delta_c^{bw}\right) = 0.$$

Isolating exogenous changes in black share during GM

Modified shift share approach (Boustan, 2010, 2016):

- Generate migration weights from complete count 1940 census
- Use southern economic shocks to predict decadal southern outmigration 1940-1970
- Assign migrants to northern cities using migration weights

Southern black migrant weights $\omega_{cs}^{1935-40}$ for eight cities



Data from IPUMS 1940 complete count census. Migration weights for ∼320,000 black respondents who list southern county of residence in 1935 $\neq$ current county.

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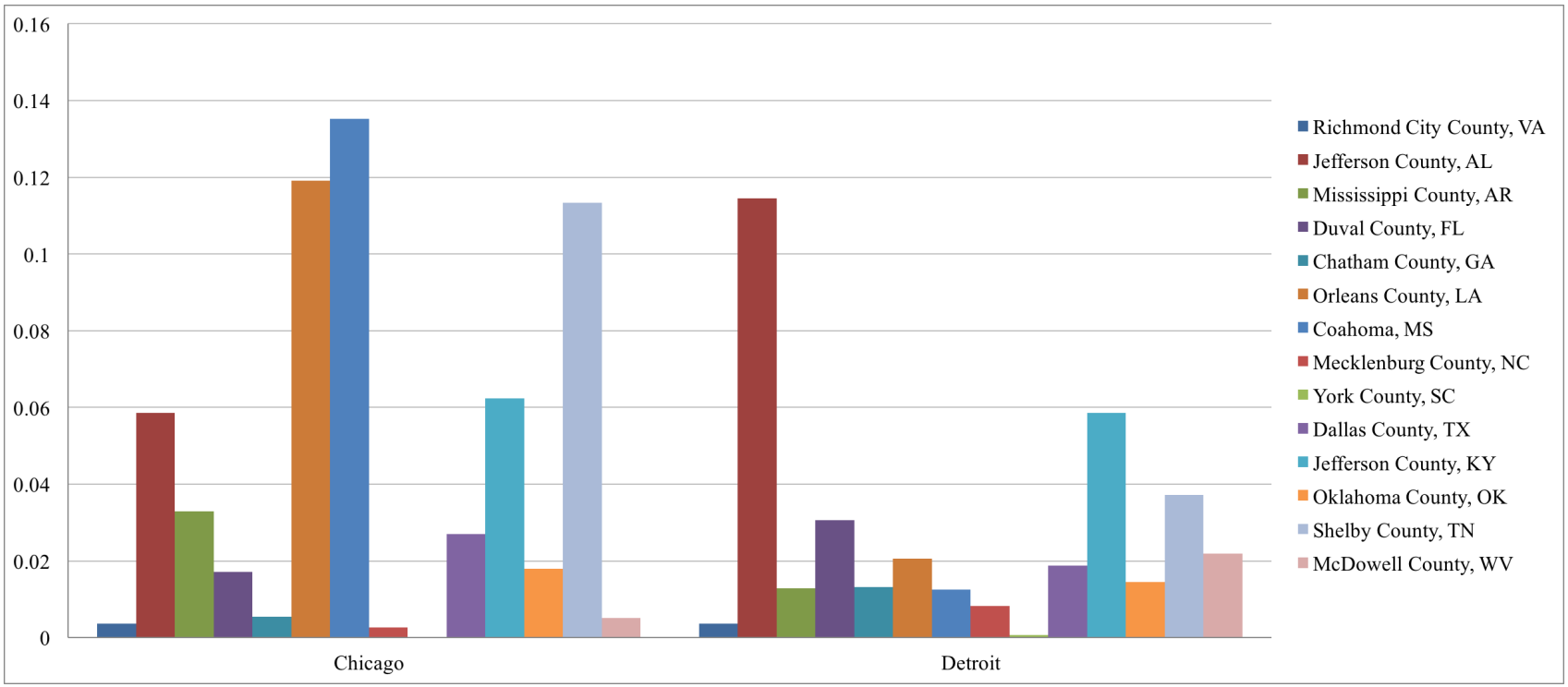

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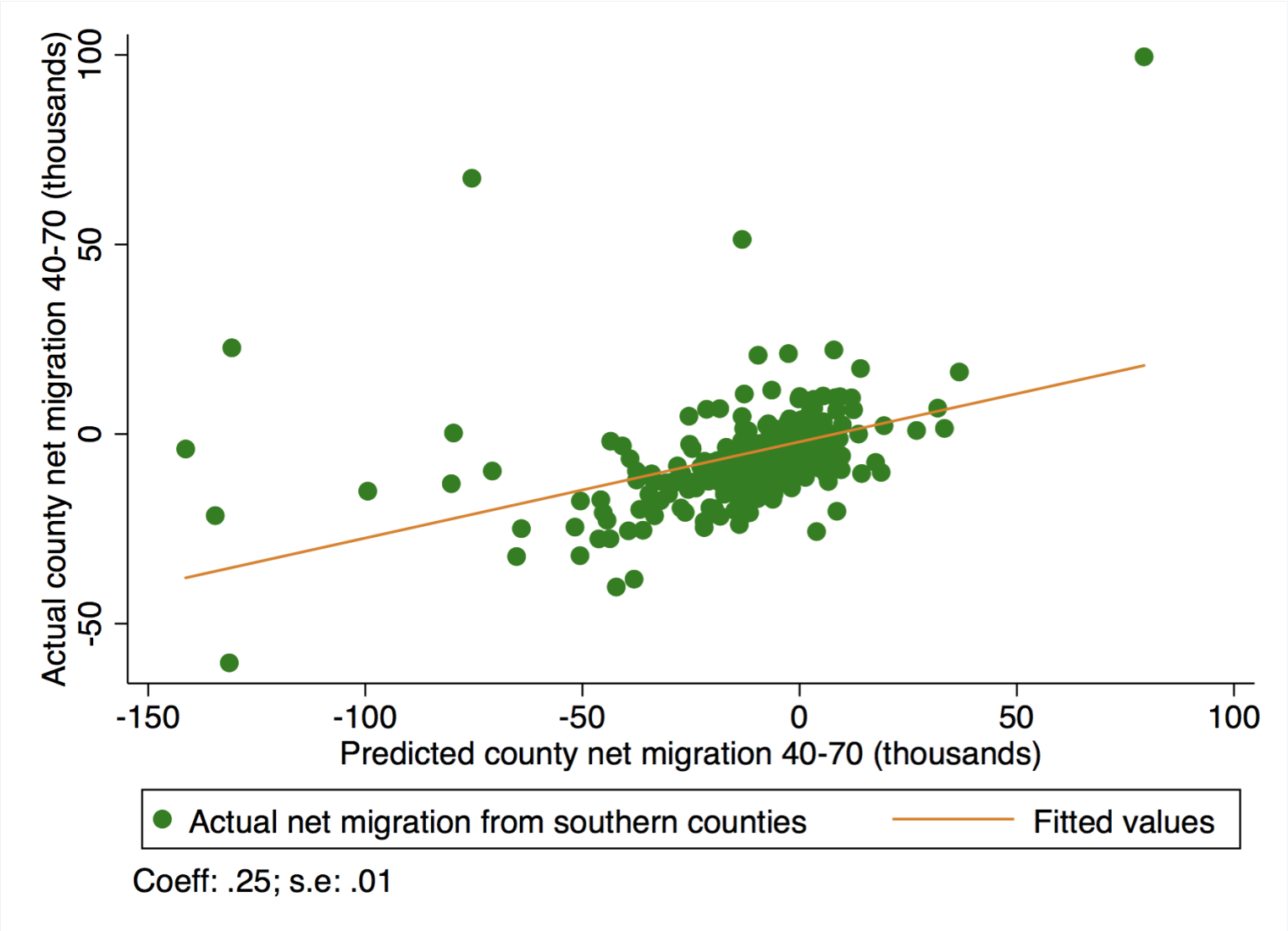
Southern shocks

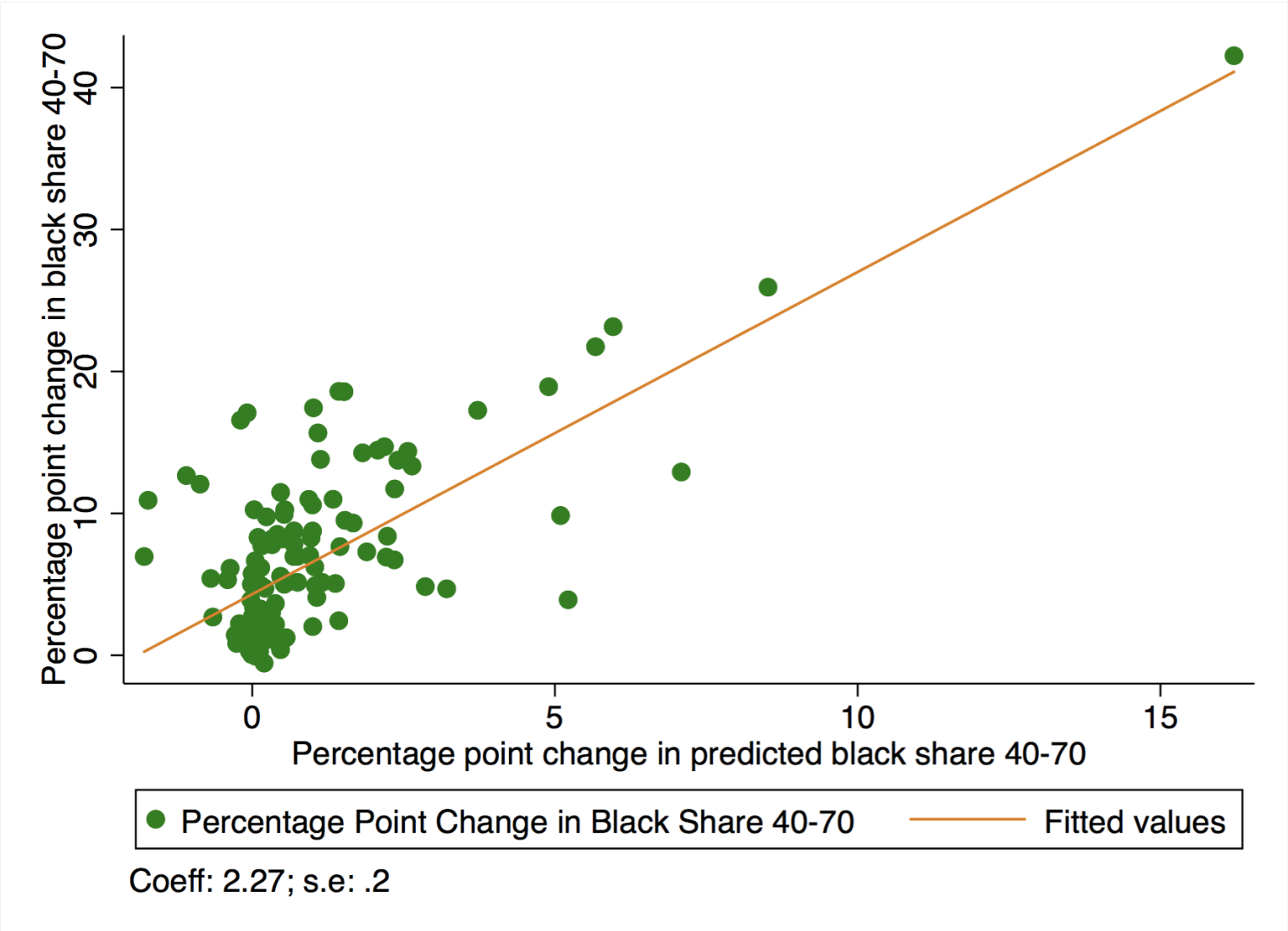
Use southern economic conditions in $t - 10$ to predict county outmigration in $t \in \{1950, 1960, 1970\}$

- Cotton acreage $(+)$
- Share tenant farms $(+)$
- Share LF in ag X tobacco state (NC, KY, TN) (-)
- WWII spending per cap (-)
- Share LF in mining X mining state (OK and TX) (-)

Actual vs. pred. net migration into southern counties 1940-1970



Actual vs. pred. black share change in northern metro areas 1940-1970

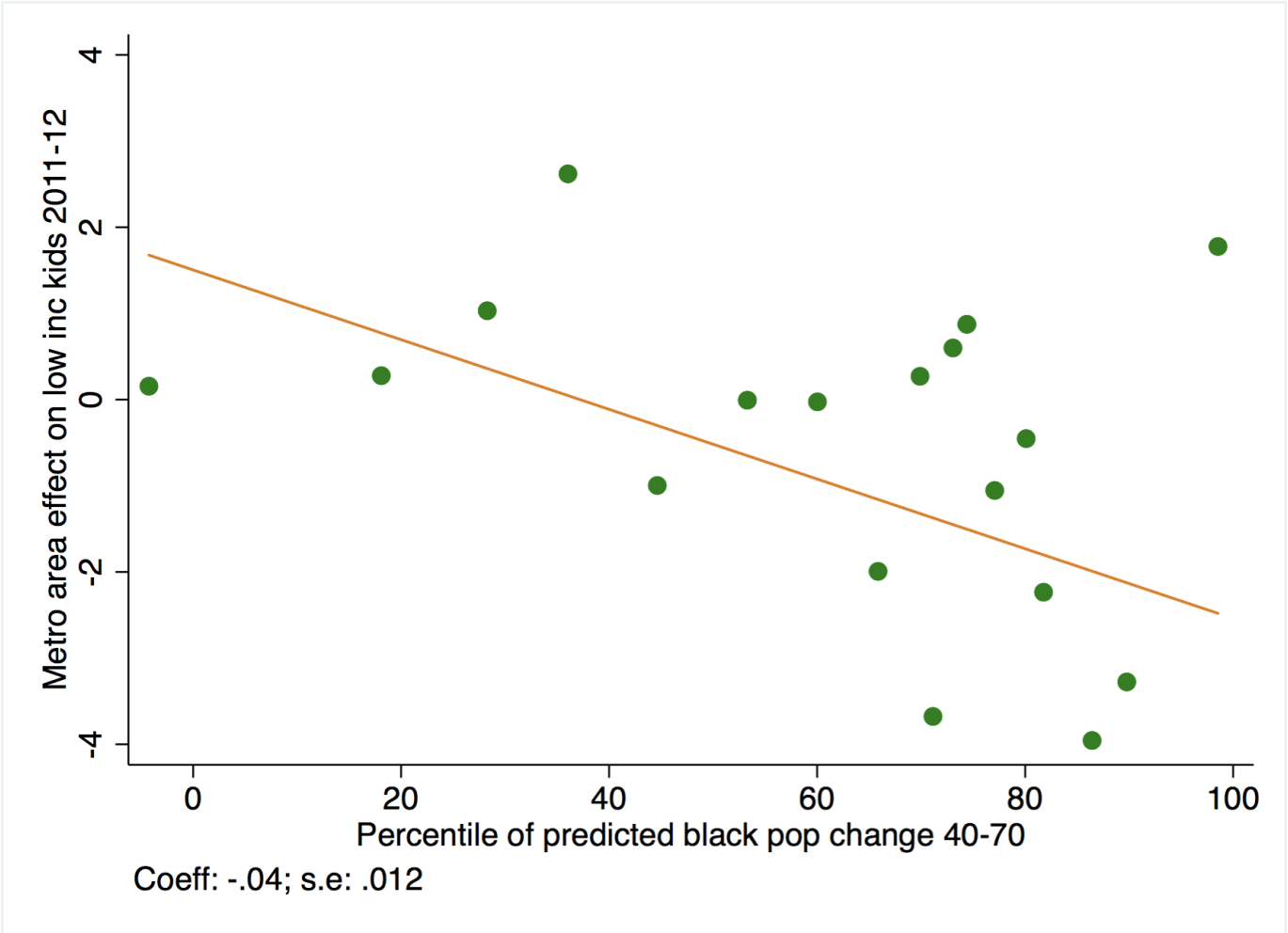


Empirical specification: Metro area effects on pred. GM

$$y_{pc} = \alpha + \beta \hat{GM}_c + \mathbb{X}_c' \gamma + \varepsilon_c$$

- y_{pc} is metropolitan area effects in 2011-2012 for low income children from 1980s birth cohort
- $\hat{GM}_c$ is percentile of predicted black share change from 1940-1970
- $\mathbb{X}_c$ includes controls for manufacturing share in 1939, 1940 median years of schooling of persons 25 and older, and total 1935-39 black southern migrant share of 1940 metropolitan population.

Estimated causal relationship between GM and mobility



Predicted GM and metro area exposure effects. Controls: 1939 manufacturing share, 1940 median years of schooling, and total 1935-39 southern migrant share of 1940 metro population.

Comparing biased and unbiased estimates of GM effect

(1) Black children have lower social mobility

(2) Historically, black migrants moved to places that are worse for mobility today.

		← (1)	
		Avg adult inc rank	Metro area effects
(2) ↑	GM	-2.9	-2.7
	Predicted GM	-2.3	-2.0

-2.0 percentile points $\sim$ 6.3% drop in income.

Mechanisms: a model of mobility traps

Median voter white household solves

$$\max U(C, G) \text{ s.t } C \leq (1-\tau) Y_W$$

where $Y_W > Y_B$, $G = \tau((1-s_W) Y_B + s_W Y_W)$, and $s_w \in (0.5, 1]$ is number of white households (total pop is measure 1).

$$\tau^* = \arg\max_{\tau} U((1-\tau) Y_W, \tau((1-s_W) Y_B + s_W Y_W))$$

If $U(\cdot)$ is separable and less "curved" over G than $\log(G)$,[1] then

$$\frac{\partial \tau^*}{\partial (1-s_w)} < 0$$

The optimal tax is decreasing in the black migrant population.

[1] Can be satisfied by requiring a minimum level of G for each household (e.g., Stone Geary preferences).

Mechanisms: evidence on local public goods channel

Persistence: potential mechanism M_c on historical Great Migration influx into c

$$M_c = \alpha + \beta \hat{GM}_c + \mathbb{X}_c' \gamma + \varepsilon_c$$

- Residential racial segregation, 1970-2000
- Private school enrollment, 1960-1980
- Poverty rate in 2000
- Income segregation in 2000
- Job proximity in 2000

Mechanisms: evidence on local public goods channel

Persistence: potential mechanism M_c on historical Great Migration influx into c

$$M_c = \alpha + \beta \hat{GM}_c + \mathbb{X}_c' \gamma + \varepsilon_c$$

- Residential racial segregation, 1970-2000 (+)
- Private school enrollment, 1960-1980 (+)
- Poverty rate in 2000 (+)
- Income segregation in 2000 (~ 0)
- Job proximity in 2000 (-)

Conclusion

- Great Migration can serve as large-scale historical "MTO," allowing us to test how movers affect places
- A 50 percentile point increase in exogenous GM influx lowers mean adult income rank by 2 percentile points
- Compare to 3 percentile point reduction using endogenous GM and average adult income rank
- GM influx may spur coordination into excludable public goods, e.g., racially segregated neighborhoods and private schools

Causal effects of locations on upward mobility

Estimates from Chetty-Hendren (2017): Exposure design purges place effect estimates of bias due to sorting on family unobservables, e.g., race:

$$\begin{aligned} y_i &= \delta_c + \text{race}_i \\ &\downarrow \\ \Delta y_i &= \alpha_c \Delta t_i \end{aligned}$$

α_c is an unbiased estimate of effect of additional year of childhood exposure to location c on adult outcome y_i.

Causal effects of locations on upward mobility

Let α_c^r be the potential outcome of a low-income child of race r randomly assigned to spend additional year in c, relative to an average place.

By construction,

$$\mathbb{E}[\alpha_c^r] = 0 \implies \mathbb{E}[\tilde{\Delta}_c^{bw}] = \mathbb{E}[\alpha_c^w - \alpha_c^b] = \mathbb{E}[\alpha_c^w] - \mathbb{E}[\alpha_c^b] = 0$$

Replace A_c with α_c. Back