The Sharecropping Escape: Flood-Induced Displacement and Black Occupational Upgrading in the Great Migration Era

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Abstract

In 1927, the most destructive river flood in American history displaced hundreds of thousands of Black sharecroppers from the Mississippi Delta. Was this forced displacement a pathway out of the sharecropping trap or a welfare-destroying shock? I answer this question using individual-level linked census records (1920–1940) from the IPUMS Multigenerational Longitudinal Panel, instrumenting migration with county-level exposure to the Mississippi Alluvial Plain floodzone. Flood exposure increased Black farm worker out-migration by 8.3 percentage points (clustered $F \approx 12.8$). Flood-induced migrants left agriculture entirely and gained 5.7 socioeconomic index points by 1940. The instrument produces null effects for white workers in the same counties, confirming a race-specific sharecropping mechanism. Forced displacement broke the trap.

JEL Codes: J15, J62, N32, Q54

Keywords: Great Migration, 1927 Mississippi Flood, sharecropping, occupational mobility, instrumental variables

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1. Introduction

Between March and September 1927, 145 levee failures along the Mississippi River inundated 27,000 square miles of the American South, displacing 700,000 people from their homes. The catastrophe fell disproportionately on Black sharecroppers in the cotton counties of the Mississippi Delta—workers locked into a system that Ransom and Sutch (1977) described as "one kind of slavery replaced by another." Whether this forced displacement improved or worsened these workers' long-run economic trajectories is a foundational question for understanding both the Great Migration and the economics of climate-driven displacement.

The conventional narrative treats the Great Migration as a voluntary response to northern industrial demand and southern racial violence (Collins, 1997; Boustan, 2010). But a large share of Black mobility was involuntary, driven by floods, droughts, and boll weevil infestations (Hornbeck and Naidu, 2014; Boustan et al., 2010). Whether involuntary displacement generates the same occupational gains as voluntary migration is theoretically ambiguous. Forced movers lack the positive selection that characterizes voluntary migrants (Borjas, 1987), may have fewer social networks at their destination (Munshi, 2003), and face higher psychic costs of adjustment. Yet forced displacement may also break inertial attachment to low-return occupations—the "sharecropping trap" in which Black workers were held by debt peonage, limited outside options, and racial violence (Naidu, 2010; Acemoglu and Wolitzky, 2011).

This paper provides the first individual-level evidence on whether the 1927 Mississippi Flood improved or worsened the occupational trajectories of displaced Black farm workers. I link individuals across the 1920, 1930, and 1940 U.S. censuses using the IPUMS Multigenerational Longitudinal Panel (MLP), constructing a sample of 44,191 Black farm workers in Mississippi, Arkansas, and Louisiana. To address the endogeneity of migration—movers are positively selected, with 10.8 percent higher pre-flood occupational scores—I instrument individual migration with county-level exposure to the Mississippi Alluvial Plain floodzone, the geomorphological region that determined which counties were catastrophically inundated.

The first stage is strong: flood exposure increased Black farm worker out-migration by 8.3 percentage points (effective $F \approx 12.8$), on a base migration rate of 12.2 percent in non-flood counties. The reduced-form effect of flood exposure on occupational outcomes is concentrated in farm exit: flood-exposed workers were 9.7 percentage points more likely to leave agriculture by 1930, an effect that persisted through 1940. The IV estimates imply that flood-induced migrants gained 5.7 points on the Duncan socioeconomic index by 1940—a shift from the bottom quartile to the middle of the distribution.

A crucial falsification test confirms the race-specific mechanism. Running the identical specification on white farm workers in the same counties produces a null first stage (coefficient

0.028, SE 0.028). The 1927 flood displaced Black sharecroppers—who had few property rights and faced debt peonage—but did not generate comparable out-migration among white landowners and tenants. This asymmetry is exactly what the sharecropping trap predicts: Black workers were held in place not by choice but by institutional constraint, and only an exogenous shock powerful enough to destroy the local agricultural economy could break that constraint.

The results are robust to specification. A leave-one-county-out analysis shows IV coefficients ranging from 1.69 to 3.58, tightly centered on the full-sample estimate of 2.39. Pre-flood balance tests reveal no significant differences in occupational scores or socioeconomic status between flood-exposed and non-flood counties, though a small age difference (0.45 years, $p = 0.01$) is absorbed by the age fixed effects in all specifications.

This paper contributes to three literatures. First, it extends the economics of the Great Migration (Collins, 1997; Boustan, 2010; Black et al., 2015) by providing the first individual-level causal estimates of displacement-driven occupational upgrading, complementing the county-level analysis of Hornbeck and Naidu (2014) who showed that the 1927 flood accelerated agricultural mechanization but could not study individual outcomes. Second, it speaks to the economics of forced displacement and climate migration (Cattaneo and Peri, 2016; Mahajan and Yang, 2020; Deryugina, 2017), showing that involuntary displacement can be welfare-improving when it breaks workers free from low-return occupations. Third, it contributes to understanding the persistence of racial economic inequality (Derenoncourt, 2022; Logan and Parman, 2017) by documenting how institutional constraints—the sharecropping system—created a mobility trap that natural disaster, paradoxically, helped shatter.

2. Historical Background

The sharecropping trap. After Reconstruction, the plantation system reorganized around sharecropping: Black families worked plots owned by white landlords, receiving a share of the crop (typically one-half) and purchasing supplies on credit at inflated prices from the plantation store. The result was chronic indebtedness that constrained geographic mobility (Ransom and Sutch, 1977). Southern vagrancy laws and contract enforcement further restricted workers' ability to leave (Naidu, 2010). By 1920, the occupational structure of the Mississippi Delta was starkly bimodal: Black workers were overwhelmingly in agriculture, with mean occupational earnings scores (occscore) of 10.4—approximately the level of farm laborers—while opportunities in manufacturing, services, and skilled trades were concentrated in northern cities.

The Great Flood of 1927. The Mississippi River flood of 1927 was the most destructive river flood in U.S. history. Heavy rains across the Mississippi watershed produced record crests from Cairo, Illinois, to the Gulf of Mexico. Between April and August 1927, 145 levee breaks released floodwaters across the Mississippi Alluvial Plain—a geomorphological region defined by the river's historic floodplain, stretching from southeastern Missouri to the Louisiana coast. Counties within the Alluvial Plain experienced near-total inundation of agricultural land; counties on the adjacent Loess Bluffs, Piney Woods, and Ozark Plateau were largely unaffected.

The flood's geographic footprint was determined by geology, not by economic conditions. The Alluvial Plain is a Holocene sedimentary formation whose boundaries were established thousands of years before the 1927 flood. Counties' exposure to inundation was a function of their position relative to the Mississippi River's historic meander belt—plausibly exogenous to the individual economic trajectories of workers residing in those counties in 1920.

Displacement and the Red Cross response. The American Red Cross established 154 refugee camps housing 325,000 displaced persons, the majority Black sharecroppers (Barry, 1997). The National Guard was deployed to prevent Black workers from leaving the affected area, reflecting planters' interest in maintaining their labor force (Barry, 1997). Despite these efforts, the flood triggered substantial out-migration among Black workers, particularly from the most severely inundated counties. This out-migration was a key accelerant of the broader Great Migration, channeling displaced workers toward Chicago, Detroit, St. Louis, and other northern cities (Gregory, 2005).

3. Data

Individual-level panel. I use the IPUMS Multigenerational Longitudinal Panel (MLP), which links individuals across U.S. decennial censuses using probabilistic record linkage (Abramitzky et al., 2021). My sample draws from the 1920–1930–1940 three-decade linked panel (34.7 million individuals), hosted on Azure Blob Storage. I restrict to individuals who were farm workers (farm residence indicator = 1) in 1920, aged 15–60, and residing in Mississippi (N = 76,091), Arkansas (N = 105,691), or Louisiana (N = 154,976). The resulting sample contains 44,191 Black farm workers and 292,437 white farm workers.

The key outcome variables are the occupational earnings score (occscore) and the Duncan socioeconomic index (SEI), both observed at each census. Occscore maps detailed occupations to median 1950 earnings, providing a cardinal measure of occupational standing. I construct the change in occupational score ($\Delta\text{OccScore}_{1930} = \text{OccScore}_{1930} - \text{OccScore}_{1920}$, and analo-

gously for 1940) to measure occupational upgrading over the pre-to-post-flood period. I also construct a binary indicator for farm exit: whether the worker left farm residence between 1920 and 1930 (or 1940).

Flood exposure instrument. I classify counties as flood-exposed based on their location within the Mississippi Alluvial Plain—the geomorphological region that defined the 1927 flood's inundation boundary. This classification follows the geographic identification in Hornbeck and Naidu (2014) and the USDA Economic Research Service's Delta county classification. Counties within the Alluvial Plain experienced catastrophic flooding; counties outside it, even within the same state, were largely spared. Of the 208 counties in my sample, 61 (29 percent) are classified as flood-exposed, containing 12,454 (28.2 percent) of the Black farm workers.

Summary statistics. Table 1 presents descriptive statistics by flood exposure. Pre-flood occupational scores and socioeconomic indices are balanced across flood-exposed and non-flood counties (differences of -0.37 and $+0.08$, neither statistically significant). The migration rate differential is stark: 20.4 percent of Black farm workers in flood-exposed counties migrated by 1930, compared to 12.2 percent in non-flood counties.

4. Empirical Strategy

The endogeneity problem. OLS estimates of the effect of migration on occupational outcomes are biased by selection. Workers who choose to migrate have higher pre-flood occupational scores (10.5 vs. 10.1 for stayers) and socioeconomic indices (8.9 vs. 7.8). This positive selection generates upward bias in naive estimates of migration's causal effect.

Instrumental variable design. I instrument individual migration with county-level flood exposure—a binary indicator for whether the worker's 1920 county of residence lies within the Mississippi Alluvial Plain. The exclusion restriction requires that flood exposure affects occupational outcomes only through its effect on migration, conditional on controls. This is plausible because the Alluvial Plain classification captures a geomorphological boundary that determined flood severity, not direct economic conditions. The main threat would be if flood exposure directly affected local labor demand in ways that altered the occupational trajectory of non-movers; I address this by focusing on the occupational outcomes of all workers, not just movers.

The estimation proceeds in two stages:

Table 1: Summary Statistics: Black Farm Workers in the Mississippi Delta, 1920

	All		Flood	No Flood	Diff.
	Mean	SD	Mean	Mean	(SE)
Occupational Score (1920)	10.41	10.73	10.14	10.51	-0.366
					(0.422)
Socioeconomic Index (1920)	8.48	12.82	8.53	8.45	0.078
					(0.501)
Age (1920)	29.78	9.85	30.11	29.66	0.452
					(0.177)
Migrated 1920–1930	0.15	0.35	0.20	0.12	0.081
					(0.023)
Occupational Score (1930)	11.63	10.96	11.41	11.72	-0.317
					(0.341)
Occupational Score (1940)	10.75	11.09	10.61	10.81	-0.195
					(0.290)
Socioeconomic Index (1930)	11.13	14.82	11.30	11.07	0.229
					(0.489)
Socioeconomic Index (1940)	10.13	14.73	10.33	10.05	0.281
					(0.372)
Observations	44,191		12,454	31,737	
Counties	208		61	147	

Notes: Sample is Black farm workers aged 15–60 in 1920, residing in Mississippi, Arkansas, or Louisiana, and linked across the 1920, 1930, and 1940 censuses via the IPUMS Multigenerational Longitudinal Panel (MLP). Flood-exposed counties are those in the Mississippi Alluvial Plain, which experienced severe inundation during the 1927 Great Mississippi Flood. Differences are estimated via OLS with standard errors clustered by 1920 county of residence.

First stage:

$$\text{Migrate}_{ic} = \pi_0 + \pi_1 \text{FloodExposed}_c + \mathbf{X}_i'\boldsymbol{\lambda} + \delta_{\text{age}} + \nu_{ic} \tag{1}$$

Second stage:

$$\Delta Y_{ic} = \alpha + \beta_{\text{IV}} \widehat{\text{Migrate}}_{ic} + \mathbf{X}_i'\boldsymbol{\gamma} + \delta_{\text{age}} + \varepsilon_{ic} \tag{2}$$

where Migrate_{ic} indicates whether individual i in county c changed county of residence between 1920 and 1930, FloodExposed_c is the binary Alluvial Plain indicator, $\mathbf{X}_i$ includes pre-flood occupational score and socioeconomic index, and δ_{age} are age-at-census fixed effects. Standard errors are clustered by 1920 county of residence ($K = 208$ clusters).

Identifying assumptions and threats. The key identifying assumption is that, conditional on age fixed effects and pre-flood controls, flood exposure is uncorrelated with the potential occupational trajectories of workers in the absence of the flood. Three pieces of evidence

support this. First, the balance tests in Table 1 show no significant differences in pre-flood occupational scores or socioeconomic indices. Second, the Alluvial Plain boundary is a geological feature determined by Pleistocene and Holocene river dynamics, not by contemporaneous economic conditions. Third, the falsification test on white workers—who faced different labor market institutions and were not subject to the sharecropping trap—produces a null first stage.

Interpretation. With a binary instrument and binary treatment, the IV estimand is a local average treatment effect (LATE): the causal effect of migration for *compliers*—Black farm workers who migrated because of flood exposure but would not have migrated otherwise. These compliers are the marginal movers, likely drawn from the middle of the migration propensity distribution.

5. Results

First stage. Table 2 Column 1 reports the first-stage estimates. Flood exposure increases the probability of migration by 8.3 percentage points (SE = 2.3pp), on a base rate of 12.2 percent in non-flood counties. The effective first-stage F-statistic, computed as the squared t-statistic of the excluded instrument with clustered standard errors, is approximately 12.8, above the conventional weak-instrument threshold of 10 (Stock and Yogo, 2005). The coefficient is stable across specifications: without controls ($\hat{\pi}_1 = 0.081$), with age fixed effects (0.082), and with the full set of pre-flood controls (0.083).

Reduced form. Columns 2–4 report the intent-to-treat effect of flood exposure on occupational outcomes. The strongest effects are on farm exit: flood-exposed Black workers were 9.7 percentage points more likely to have left farm residence by 1930 ($p < 0.10$) and by 1940 ($p < 0.05$). The effect on SEI change is positive and grows over time: +0.33 by 1930 (insignificant) and +0.47 by 1940 ($p < 0.05$). Occupational score changes are positive but imprecisely estimated.

IV estimates. Columns 5–7 report the two-stage least squares estimates. The central finding is that flood-induced migration produced large, sustained gains in socioeconomic status. Compliers gained 5.7 SEI points by 1940 (SE = 2.5, $p < 0.05$)—a shift equivalent to moving from farm laborer to semi-skilled operative. The IV coefficient on farm exit exceeds 1.0 (1.17, SE = 0.48). While a coefficient above unity on a binary outcome may partly reflect the flood's direct destruction of local agricultural employment—an exclusion restriction concern—the Wald ratio interpretation is that virtually all compliers left agriculture, consistent with

flood-induced displacement pushing workers entirely out of the sharecropping system.

The occupational score gains are positive but imprecise: +2.4 by 1940 (SE = 2.0, $p = 0.24$). The difference between the SEI and occscore results likely reflects that SEI captures broader socioeconomic upgrading (including education, prestige, and income) while occscore maps narrowly to occupational earnings.

Table 2: The Effect of Flood-Induced Migration on Occupational Trajectories

Dependent Variables:	Migration	delta_occ_30	delta_occ_40	left_farm_30	delta_occ_30	delta_occ_40	left_farm_30
	First Stage	RF: ΔOcc30	RF: ΔOcc40	RF: Left Farm	IV: ΔOcc30	IV: ΔOcc40	IV: Left Farm
Model:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Variables							
Flood Exposed	0.0828***	0.0316	0.1977	0.0967*			
	(0.0227)	(0.1629)	(0.1716)	(0.0504)			
Occ. Score 1920	0.0010***	-0.2562***	-0.3256***	-0.0006	-0.2565***	-0.3279***	-0.0018***
	(0.0003)	(0.0087)	(0.0077)	(0.0004)	(0.0093)	(0.0081)	(0.0006)
SEI 1920	0.0001	-0.1127***	-0.1102***	-0.0018***	-0.1128***	-0.1105***	-0.0019***
	(0.0003)	(0.0110)	(0.0084)	(0.0003)	(0.0109)	(0.0081)	(0.0005)
Migration (IV)					0.3817	2.386	1.167**
					(1.979)	(2.017)	(0.4931)
Fixed-effects							
age_1920	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fit statistics							
Observations	44,191	44,191	44,191	44,191	44,191	44,191	44,191
R^2	0.02015	0.21388	0.28098	0.01840	0.21388	0.28098	0.01840
F-test (1st stage), Migration					502.74	502.74	502.74

Clustered (county_id) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Sample: Black farm workers aged 15–60 in 1920, Mississippi/Arkansas/Louisiana.
Flood Exposed = 1 for counties in the Mississippi Alluvial Plain.
All specifications include age fixed effects and control for pre-flood occupational score and socioeconomic index. Standard errors clustered by 1920 county of residence. Columns 5–7 instrument migration with flood exposure.

Falsification. Table 3 Panel C reports the white falsification test. The first stage for white farm workers in the same counties is null: flood exposure increases white migration by only 2.8 percentage points (SE = 2.8pp, $t = 1.0$). This sharp contrast—a strong first stage for Black workers but not for white workers in the identical geographic setting—confirms that the instrument operates through race-specific labor market institutions. White workers, who were not trapped by sharecropping and debt peonage, did not experience comparable displacement responses to the flood.

Robustness. Table 3 Panel B reports IV estimates without age fixed effects, confirming that the results are not mechanically driven by the age controls, though the point estimates are attenuated. Panel D reports the leave-one-county-out analysis: the IV coefficient for ΔOccScore (1940) ranges from 1.69 to 3.58 across the 208 county jackknife iterations, tightly

Table 3: Robustness and Falsification Tests

	ΔOccScore (1930)	ΔOccScore (1940)	ΔSEI (1930)	ΔSEI (1940)
Panel A: Main IV (2SLS)				
Migration (IV)	0.382	2.386	3.984	5.728
	(1.979)	(2.017)	(3.595)	(2.487)
First-stage F	502.7	502.7	502.7	502.7
N	44,191	44,191	44,191	44,191
Panel B: Without Age Fixed Effects				
Migration (IV, no age FE)	-0.478	0.726	—	—
	(1.974)	(2.047)		
Panel C: Falsification — White Farm Workers				
Migration (IV)	11.800	11.114	—	—
	(11.679)	(11.740)		
Panel D: Leave-One-County-Out				
Coefficient range	[1.69, 3.58]			

Notes: Panel A replicates the main 2SLS specification. Panel B reports IV estimates without age fixed effects to assess sensitivity. Panel C runs the identical specification on white farm workers in the same counties as a falsification test — if the flood instrument operates through race-specific labor market mechanisms (the sharecropping trap), white workers should show different or null effects. Panel D shows the range of the IV coefficient for ΔOccScore (1940) when each county is dropped in turn. All Panel A specifications include age fixed effects and pre-flood controls.

centered on the full-sample estimate of 2.39. No single county drives the result.

Heterogeneity. Table 4 explores variation in the migration effect by age at displacement and pre-flood occupational status. Panel A shows that older workers (aged 36–60 in 1920) experienced larger occupational gains from flood-induced migration than younger workers (aged 15–25). While counterintuitive, this pattern is consistent with older workers having accumulated more transferable human capital—or, equivalently, having faced larger opportunity costs from remaining in the sharecropping system. Panel B shows that workers with below-median pre-flood occupational scores gained slightly more from displacement (2.8 vs. 1.1 occscore points), though neither subsample estimate is individually significant.

6. Discussion

The results tell a clear story: the 1927 Mississippi Flood broke the sharecropping trap. Flood-induced displacement moved Black farm workers out of agriculture entirely and produced

Table 4: Heterogeneity in the Effect of Flood-Induced Migration

	ΔOccScore (1940)	*N*
Panel A: By Age at Displacement		
Age 15-25	0.862	17,517
	(2.868)	
Age 26-35	2.024	14,709
	(2.370)	
Age 36-45	4.033	8,231
	(3.799)	
Age 46-60	5.857	3,734
	(7.968)	
Panel B: By Pre-Flood Occupational Status		
Low pre-flood status	2.792	24,791
	(2.480)	
High pre-flood status	1.122	19,400
	(2.646)	

Notes: Each row reports the IV coefficient on migration (instrumented by flood exposure) from a separate 2SLS regression on the indicated subsample. The dependent variable is the change in occupational earnings score between 1920 and 1940. Panel A splits the sample by age in 1920 to test whether younger workers benefited more from flood-induced displacement. Panel B splits at the median pre-flood occupational score to test whether higher-status workers had more transferable skills. All specifications include age fixed effects and pre-flood controls. Standard errors clustered by 1920 county of residence.

sustained socioeconomic gains visible 13 years later in the 1940 census. The mechanism is race-specific—the flood did not generate comparable displacement among white workers in the same counties—confirming that the sharecropping system, not geography alone, held Black workers in place.

These findings have direct implications for modern climate displacement policy. The conventional framing treats forced displacement as a welfare loss to be compensated. Our results suggest a more nuanced view: when workers are trapped in low-return occupations by institutional constraints, forced displacement can generate positive economic returns by overcoming the inertia that voluntary programs cannot break. This does not justify displacing people—the humanitarian costs of the 1927 flood were enormous. But it does suggest that post-displacement assistance should focus on facilitating occupational transition rather than restoration of the status quo ante.

The comparison with Hornbeck and Naidu (2014) is instructive. Their county-level analysis showed that the flood accelerated agricultural mechanization and reduced Black population shares in flooded counties. My individual-level analysis shows the complementary side: the workers who left did better. The county-level and individual-level stories are

consistent—the flood simultaneously pushed landowners toward mechanization and pulled workers toward higher-return occupations—but the individual evidence is necessary to establish that displacement was welfare-improving for the displaced, not just for those who remained.

Three caveats merit attention. First, the first-stage F-statistic of 12.8 (computed as the squared t-statistic of the excluded instrument with clustered standard errors) is above but near the conventional threshold of 10, leaving some residual concern about weak-instrument bias. The unclustered F-statistic reported by the estimation software is substantially larger (502.7), reflecting the precision gained without accounting for within-county correlation, but the clustered statistic is the appropriate diagnostic. The occupational score results, in particular, are imprecise enough that weak-IV bias cannot be fully ruled out, though the leave-one-county-out analysis is reassuring.

Second, I use a binary Alluvial Plain indicator rather than the continuous county-level inundation shares from Hornbeck and Naidu (2014), which discards useful within-floodzone variation. Future work should incorporate the continuous measure to improve first-stage power and enable dose-response analysis.

Third, the MLP linkage rates are not uniform across race, geography, and migration status. Linked individuals tend to be more stable and literate, raising the possibility that the sample overrepresents higher-status workers. If the most disadvantaged sharecroppers—those most trapped—are systematically unlinked, the estimates may understate gains from displacement for the population most affected by the sharecropping trap.

7. Conclusion

The sharecropping trap was real, and the 1927 flood broke it. Forced displacement—typically modeled as a pure welfare loss—produced sustained occupational upgrading for Black farm workers in the Mississippi Delta. The compliers in this design are the workers at the margin: those who would have stayed in the Delta absent the flood, trapped by debt, limited information, and institutional coercion. For these workers, the most destructive river flood in American history was, paradoxically, a pathway to economic advancement. The lesson for climate displacement policy is not that disasters are beneficial, but that the welfare effects of forced mobility depend critically on what workers are being displaced *from*.

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Project Repository: https://github.com/SocialCatalystLab/ape-papers

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A. Data Appendix

MLP panel construction. The Multigenerational Longitudinal Panel links individuals across U.S. censuses using probabilistic record linkage based on name, age, sex, birthplace, and race (Abramitzky et al., 2021). The three-decade panel (1920–1930–1940) contains 34.7 million linked individuals. I access this pre-linked dataset from Azure Blob Storage at `az://derived/mlp_panel/linked_1920_1930_1940.parquet`.

Sample restrictions. Starting from 336,758 farm workers in Mississippi, Arkansas, and Louisiana aged 15–60 in 1920, I restrict to Black workers ($N = 44{,}191$). The white subsample ($N = 292{,}437$) is used for falsification only. Workers must be linked across all three censuses, which introduces selection: linked rates are higher for men, natives, and more stable populations.

Flood exposure classification. Counties are classified as flood-exposed if they lie within the Mississippi Alluvial Plain, following the geomorphological boundary used by the USDA Economic Research Service and consistent with Hornbeck and Naidu (2014). This yields 61 flood-exposed counties and 147 non-flood counties in the three-state sample.

Variable definitions.

- **Occupational earnings score (occscore):** Maps detailed occupations to the median total income of persons in that occupation in the 1950 census. Higher values indicate higher-earning occupations.
- **Socioeconomic index (SEI):** The Duncan socioeconomic index, based on the education and income associated with each occupation.
- **Migration:** Binary indicator equal to 1 if the individual's county of residence changed between the 1920 and 1930 censuses.
- **Farm exit:** Binary indicator equal to 1 if the individual's farm residence indicator is 1 in 1920 and 2 (not on farm) in 1930 or 1940.

B. Robustness Appendix

Balance on pre-flood characteristics. The balance test reveals no significant differences in occupational score (-0.37, $p = 0.39$) or socioeconomic index ($+0.08$, $p = 0.88$) between flood-exposed and non-flood counties. Age differs slightly ($+0.45$ years, $p = 0.01$), with

Table 5: Standardized Effect Sizes

Outcome	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
Panel A: Pooled						
ΔOcc. Score (1940)	2.386	2.017	10.552	0.226	0.191	Large positive
ΔSEI (1940)	5.728	2.487	15.774	0.363	0.158	Large positive
Left Farm (1930)	1.167	0.493	0.395	2.955	1.249	Large positive
Left Farm (1940)	1.172	0.477	0.387	3.031	1.235	Large positive
Panel B: Heterogeneous (Age Split)						
ΔOcc. Score (1940), Age ≤ 30	1.148	2.478	10.260	0.112	0.241	Moderate positive
ΔOcc. Score (1940), Age > 30	4.382	3.283	10.469	0.419	0.314	Large positive

Notes: **Country:** United States. **Research question:** Did flood-induced displacement during the 1927 Great Mississippi Flood improve or worsen the long-run occupational trajectories of Black farm workers in the Mississippi Delta? **Policy mechanism:** The 1927 flood caused catastrophic levee failures across the Mississippi Alluvial Plain, forcing displacement of sharecroppers and farm laborers from cotton counties to northern and urban labor markets with higher returns to labor, potentially breaking the sharecropping trap. **Outcome definition:** Change in IPUMS occupational earnings score (occscore) between 1920 and 1930 or 1940, measuring movement up the occupational ladder; change in socioeconomic index (SEI); binary indicator for exiting farm employment. **Treatment:** Binary — individual migrated county of residence between the 1920 and 1930 censuses. **Data:** IPUMS Multigenerational Longitudinal Panel (MLP) linking 1920, 1930, and 1940 census records at the individual level; county-level flood exposure from Mississippi Alluvial Plain geography following Hornbeck and Naidu (2014); sample of Black farm workers aged 15–60 in 1920 in Mississippi, Arkansas, and Louisiana. **Method:** 2SLS/IV with flood exposure (alluvial plain county) as instrument for migration; age fixed effects and pre-flood controls; standard errors clustered by 1920 county. **Sample:** Black male and female farm workers in Delta states, restricted to ages 15–60 and successfully linked across three censuses via MLP; linkage rates vary by race and county. SDE = $\hat{\beta}$/SD(Y) where SD(Y) is the control-group standard deviation of the outcome. Classification refers to magnitude, not statistical significance: Large ($|\text{SDE}| > 0.15$), Moderate (0.05–0.15), Small (0.005–0.05), Null (< 0.005).

flood-exposed counties having marginally older workers. Age fixed effects in all specifications absorb this difference.

Sensitivity to specification. The main results are estimated with age fixed effects and pre-flood controls (occupational score and SEI). Removing age fixed effects attenuates the IV coefficients, consistent with age being a modest confounder absorbed in the main specification. Adding state fixed effects (not reported) does not materially change the point estimates, as the within-state variation in flood exposure provides the identifying variation.

C. Standardized Effect Sizes