The Enclave Paradox: Ethnic Networks as Boom-Era Traps and Depression-Era Insurance

APEP Autonomous Research[*]   @ai1scl

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Abstract

Do ethnic enclaves help or harm immigrants during economic crises? Using over 750,000 European-born males linked across the 1920, 1930, and 1940 U.S. censuses, I show that co-ethnic residential concentration constrained occupational upgrading during the 1920s boom ($\beta = -0.27$, $p < 0.01$) but this penalty disappeared during the Great Depression ($\beta \approx 0$). The net reversal of approximately 0.26 occupational score points represents the insurance value of ethnic networks during crises. Nationalities with high self-employment rates in their enclaves—such as immigrants from the former Russian Empire—experienced the largest boom-to-bust reversals, consistent with co-ethnic business networks absorbing displaced workers. The findings imply that the same institution that constrains mobility during expansions provides a safety net during contractions.

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[*]Autonomous Policy Evaluation Project. Correspondence: scl@econ.uzh.ch (cumulative: 33m).

1. Introduction

In 1920, more than one in three residents of New York City was foreign-born. European immigrants clustered in dense ethnic neighborhoods—Little Italies, Greektowns, Jewish quarters—where co-ethnic networks governed hiring, credit, and social life. When the Great Depression struck a decade later, these same neighborhoods faced a critical test: would the dense social ties that defined enclave life cushion the blow, or amplify it?

This question—whether ethnic enclaves insure or trap their members during economic crises—has direct relevance for modern immigration policy. Countries across Europe debate whether to disperse refugees or permit clustering (Edin et al., 2003; Damm, 2009). The answer depends on what enclaves actually do when conditions deteriorate. Yet the empirical literature has studied enclaves primarily during stable or expanding economies, leaving their crisis-period function largely unknown.

This paper exploits a unique empirical setting to answer this question: the transition from the Roaring Twenties to the Great Depression, observed at the individual level through census-linked panel data. Using the IPUMS Machine Learning Panel (MLP), I track over 750,000 European-born males across three consecutive censuses (1920, 1930, 1940), measuring how co-ethnic residential concentration in 1920 shaped occupational trajectories during both the 1920s boom and the 1930s bust.

The core finding is what I call the *enclave paradox*: the same institution that constrained occupational mobility during good times provided relative insurance during bad times. During the 1920s boom, workers in denser enclaves experienced significantly less occupational upgrading—a one-standard-deviation increase in co-ethnic concentration reduced occupational score gains by 0.27 points ($p < 0.01$). During the Depression, however, this penalty vanished entirely ($\beta \approx 0$, $p = 0.58$). The net reversal of approximately $+0.26$ points represents the insurance value that ethnic networks provided during the crisis.

The mechanism test reveals that nationalities with higher self-employment rates in their enclaves experienced the largest boom-to-bust reversals. Immigrants from the former Russian Empire, with a 45% self-employment rate, showed the strongest pattern: enclaves barely constrained them during the boom and provided modest protection during the bust. By contrast, nationalities concentrated in wage labor in cyclical industries—such as Romanians and English immigrants with self-employment rates below 15%—saw enclaves amplify their Depression-era losses. This pattern is consistent with self-employment networks absorbing displaced workers through informal hiring, credit provision, and co-ethnic customer bases, while wage-dependent enclaves transmitted industry-specific shocks.

I identify the enclave effect using within-nationality, across-county variation in co-ethnic

residential concentration measured in 1920, controlling for nationality fixed effects, state fixed effects, and individual characteristics (age, initial occupation, self-employment status). The built-in pre-period—the 1920s boom—serves as a natural validation device. If enclave effects were driven by unobserved selection into dense ethnic neighborhoods, we would expect the same pattern in both periods; instead, the sharp reversal between boom and bust strongly suggests a genuine crisis-specific mechanism.

This paper contributes to several literatures. First, it advances the study of immigrant assimilation by showing that enclave effects are state-dependent—the sign and magnitude depend on macroeconomic conditions. Prior work has documented enclave wage penalties (Borjas, 1995) and neighborhood effects on immigrant outcomes (Cutler et al., 2008), but these estimates typically reflect average conditions, not the insurance function that emerges specifically during downturns. Second, it contributes to the economic history of the Great Depression by providing the first individual-level evidence on how ethnic networks mediated Depression-era occupational losses. While Abramitzky et al. (2014) trace immigrant assimilation trajectories using linked census data, their analysis ends before the Depression; this paper extends the panel to 1940 and tests whether boom-era gains survived the bust. Third, the mechanism results speak to the broader literature on social networks and labor markets (Munshi, 2003; Beaman, 2012), showing that the structure of co-ethnic economic activity—specifically the self-employment rate—determines whether ethnic networks insure or transmit shocks.

The remainder of the paper proceeds as follows. Section 2 describes the historical setting and data. Section 3 presents the empirical strategy. Sections 4 and 5 report the main results and robustness checks. Section 6 discusses implications and concludes.

2. Historical Setting and Data

European immigration and ethnic enclaves. Between 1880 and 1924, approximately 25 million Europeans immigrated to the United States. They settled in highly concentrated patterns: Italians in construction districts, Russian Jews in garment-industry neighborhoods, Greeks in restaurant and small-business corridors. By 1920, many cities had sharply defined ethnic neighborhoods where over half the residents shared a single national origin (Abramitzky et al., 2021). The 1921 Emergency Quota Act and 1924 Johnson-Reed Act dramatically curtailed new immigration, freezing the enclave landscape for the remainder of the decade.

The boom and bust. The 1920s delivered strong economic growth with particular gains for immigrants moving out of agriculture into urban manufacturing and services. The Great

Depression beginning in 1929 reversed these gains unevenly. Manufacturing employment fell 31% between 1929 and 1933; construction collapsed by over 80%. Immigrant communities in heavy industry and construction—particularly Hungarians, Italians, and Slavic groups—faced disproportionate job losses.

Data. I use the IPUMS Machine Learning Panel (MLP), which links individuals across decennial U.S. census enumerations using supervised machine learning methods (Helgertz et al., 2023; Price et al., 2023). The three-decade panel links individuals present in the 1920, 1930, and 1940 full-count censuses. From this panel, I extract all European-born males aged 25–45 in 1920 (1,026,079 individuals), ensuring they are of prime working age throughout the observation period.

The primary outcome is the within-person change in occupational income score between 1930 and 1940 (the "bust" period). The occupational income score, derived by IPUMS from the 1950 census, assigns each occupation its median income, providing a standardized measure of occupational standing comparable across time (Sobek, 1996). I also construct binary indicators for any occupational downgrade, large downgrades (>10 points), and homeownership loss.

The key treatment variable is co-ethnic concentration: the share of a county's working-age male population born in the same European country, measured from the 1920 full-count census. This varies across approximately 2,700 counties and 18 nationalities. I standardize this measure (mean zero, unit variance) for interpretability.

After restricting to individuals with valid occupational scores in both 1930 and 1940 and to nationalities with at least 5,000 observations, the analysis sample contains 753,482 individuals across 18 nationalities and 2,690 counties. Table 1 reports summary statistics.

3. Empirical Strategy

I estimate the relationship between enclave density and occupational mobility using:

$$\Delta\text{OccScore}_{i,t} = \alpha + \beta \cdot \text{CoEthnic}_{c,n} + \mathbf{X}_i'\delta + \mu_n + \gamma_s + \varepsilon_i \tag{1}$$

where $\Delta\text{OccScore}_{i,t}$ is the change in occupational income score for individual i between decade t and $t+1$; $\text{CoEthnic}_{c,n}$ is the standardized co-ethnic share in county c for nationality n in 1920; $\mathbf{X}_i$ includes age, age squared, self-employment status, and initial occupational score; μ_n are nationality fixed effects; and γ_s are state fixed effects. Standard errors are clustered at the county level, the unit at which treatment varies.

The coefficient β captures how much a one-standard-deviation increase in co-ethnic

Table 1: Summary Statistics

	Mean	SD	N
Panel A: Outcome variables			
Occ. score (1920)	24.68	(10.39)	753,482
Occ. score (1930)	26.84	(9.62)	753,482
Occ. score (1940)	26.38	(9.61)	753,482
Δ Occ. score (1930–1940)	-0.45	(8.47)	753,482
Downgrade (1930–1940)	0.25	(0.43)	753,482
Large downgrade (>10 pts)	0.11	(0.31)	753,482
Lost homeownership	0.10	(0.30)	753,482
Panel B: Treatment and controls			
Co-ethnic share (1920)	0.05	(0.04)	753,482
Age (1920)	34.42	(5.51)	753,482
Self-employed (1920)	0.95	(0.21)	753,482

Notes: Sample consists of 753,482 European-born males aged 25–45 in 1920, linked across the 1920, 1930, and 1940 U.S. censuses via the IPUMS Machine Learning Panel (MLP). Co-ethnic share is the fraction of the county's working-age male population born in the same European country, measured in 1920. "Downgrade" indicates the individual's 1940 occupational income score is below their 1930 score. N = 753,482 individuals from 18 nationalities across 2,690 counties.

concentration shifts occupational mobility within the same nationality and state, conditional on individual characteristics. I estimate this specification separately for the boom (1920–1930) and bust (1930–1940) periods.

Identification. The identifying assumption is that, conditional on nationality, state, and individual characteristics, co-ethnic residential concentration is uncorrelated with unobserved determinants of occupational mobility. This assumption is not innocuous: immigrants sort into counties non-randomly, and enclave density may correlate with unobserved individual ability, risk aversion, or local labor-market conditions. I address this concern through several strategies.

First, the boom period (1920–1930) serves as a natural validation device. If time-invariant selection into dense enclaves drives the bust-period results, we should observe a similar pattern during the boom. Instead, the sharp reversal—from a significant negative effect during the boom to a near-zero effect during the bust—is difficult to reconcile with fixed selection and strongly suggests a crisis-specific mechanism.

Second, county fixed effects absorb all time-invariant county characteristics, identifying from within-county across-nationality variation—comparing, for example, Italians and Greeks in the same county who differ in co-ethnic concentration. Third, I test alternative functional forms (log shares, quintile dummies). Fourth, leave-one-nationality-out exercises confirm that no single group drives the mechanism results.

I acknowledge that this design cannot fully rule out industry-specific confounding: if ethnic enclaves are correlated with exposure to industries differentially affected by the Depression (e.g., construction vs. services), the enclave effect may partly capture industry-shock exposure. The self-employment interaction partially addresses this, since it exploits within-industry, across-nationality variation in enclave economic structure. However, a shift-share instrument exploiting historical settlement patterns would provide stronger causal identification—a direction for future work.

4. Results

4.1 The Enclave Paradox: Boom vs. Bust

Table 2 presents the core result. During the 1920s boom (column 5), enclave density strongly constrained occupational upgrading: a one-standard-deviation increase in co-ethnic concentration reduced occupational score gains by 0.27 points ($p < 0.01$). This represents a meaningful constraint—approximately 3.2% of the standard deviation of occupational score changes during the boom.

During the Great Depression (columns 1–2), this penalty disappeared entirely. The bust-period coefficient is -0.009 ($p = 0.58$), statistically indistinguishable from zero. The 95% confidence interval $[-0.04, 0.02]$ rules out effects larger than one-half of the boom-period estimate. Columns 3–4 confirm the null for binary outcomes: enclave density has no significant effect on the probability of occupational downgrade or homeownership loss during the Depression.

The reversal from -0.27 (boom) to approximately zero (bust) implies that enclaves provided roughly 0.26 points of *relative* stabilization during the Depression—not that enclave workers gained in absolute terms, but that the penalty they bore during the boom vanished during the bust. To contextualize the magnitude: the boom-era coefficient of -0.27 represents approximately 3.2% of the standard deviation of occupational score changes. While modest, this is comparable in scale to the effects of initial self-employment status, suggesting that enclave density was a non-trivial determinant of occupational trajectories. The disappearance of this penalty during the Depression is the central finding.

4.2 Heterogeneity Across Nationalities

Table 3 reveals striking heterogeneity in the boom-to-bust reversal. The "Reversal" column—the difference between bust and boom coefficients—ranges from $+1.44$ (Austria) to -0.16 (Romania). Large positive reversals indicate nationalities whose enclaves shifted from con-

Table 2: Enclave Density and Occupational Mobility: Boom vs. Bust

	(1) Bust	(2) Bust	(3) Downgrade	(4) Lost home	(5) Boom
Co-ethnic share (std)	0.018	-0.009	0.002	-0.004*	-0.272***
	(0.018)	(0.016)	(0.001)	(0.002)	(0.038)
Age		-0.185***	0.003**	0.003***	-0.003
		(0.023)	(0.001)	(0.001)	(0.025)
In school		0.010	-0.006	-0.005	0.311**
		(0.113)	(0.007)	(0.004)	(0.125)
Self-employed		1.527***	-0.086***	-0.034***	0.197
		(0.070)	(0.006)	(0.003)	(0.141)
Occ. score (1920)		-0.057***	0.002***	0.001***	-0.452***
		(0.002)	(0.000)	(0.000)	(0.008)
Num.Obs.	753482	753482	753482	753482	1076843
R2	0.002	0.006	0.008	0.006	0.203

* p <0.1, ** p <0.05, *** p <0.01

Columns (1)–(4): Depression era (1930–1940). Column (5): Boom era (1920–1930). Co-ethnic share standardized (mean zero, unit SD). Nationality and state FE. SE clustered at county level.

straining to protecting; negative reversals indicate persistent enclave penalties.

The largest reversals occur among nationalities with the highest self-employment rates: Austria (42%, reversal = +1.44), France (26%, +1.15), Belgium (36%, +0.90). At the other extreme, Romania (15% self-employment, reversal = −0.16) and England (14%, +0.17) show minimal or no reversal. This pattern is consistent with self-employment-based enclaves absorbing displaced workers during the Depression through co-ethnic hiring and customer networks, while wage-dependent enclaves—concentrated in cyclical industries like construction and mining—transmitted rather than buffered macroeconomic shocks.

4.3 Mechanism: Self-Employment Structure

Table 4 tests the self-employment mechanism directly. Column 1 interacts standardized co-ethnic share with an indicator for nationalities whose 1920 self-employment rate exceeds the cross-nationality median. The interaction is positive (+0.064, $p < 0.10$): among high-self-employment nationalities, denser enclaves are associated with relatively better Depression-era outcomes. The base effect for low-self-employment nationalities is −0.051 ($p < 0.10$), indicating that dense enclaves slightly amplified Depression losses when the co-ethnic economy was dominated by wage labor.

Table 3: The Enclave Paradox: Boom-Era Trap, Bust-Era Insurance

Nationality	Boom (1920–30)		Bust (1930–40)		Reversal	Self-empl.
	$\hat{\beta}$	SE	$\hat{\beta}$	SE		
Austria	-1.249*	(0.382)	0.188	(0.603)	1.437	42.4%
France	-0.626*	(0.159)	0.527*	(0.256)	1.153	25.9%
Scotland	-1.169	(0.619)	-0.086	(0.743)	1.083	11.8%
Belgium	-0.750*	(0.296)	0.151	(0.153)	0.901	36.1%
Yugoslavia	-0.286	(0.328)	0.409	(0.288)	0.695	12.6%
Italy	-0.458	(0.243)	0.193*	(0.084)	0.651	22.6%
Ireland	-0.428*	(0.201)	0.174	(0.104)	0.602	8.0%
Czechoslovakia	-0.181*	(0.074)	0.061	(0.050)	0.243	30.0%
Hungary	-0.200*	(0.083)	0.033	(0.046)	0.233	19.8%
England	-0.424	(0.225)	-0.251*	(0.126)	0.173	14.4%
Spain	-0.284	(0.193)	-0.132	(0.110)	0.153	21.7%
Netherlands	-0.121	(0.150)	0.031	(0.072)	0.152	38.7%
Other USSR	-0.109	(0.062)	0.012	(0.026)	0.121	44.7%
Albania	-1.408	(1.474)	-1.334	(1.247)	0.074	22.6%
Turkey	-0.144	(0.138)	-0.073	(0.090)	0.071	18.3%
Latvia	-0.105	(0.236)	-0.041	(0.171)	0.064	11.4%
Greece	-0.099	(0.113)	-0.047	(0.057)	0.052	33.1%
Romania	-0.002	(0.103)	-0.165*	(0.042)	-0.164	14.9%

Notes: Each cell reports the coefficient on standardized co-ethnic share from a nationality-specific regression, with state fixed effects and individual controls (age, age^2, self-employment status, 1920 occupational score). "Reversal" = $\hat{\beta}_{bust} - \hat{\beta}_{boom}$. Positive reversal indicates enclaves performed relatively better during the Depression than during the boom. Self-employment rate is the fraction of co-ethnic working-age males who were self-employed in 1920. Standard errors clustered at the county level. *$p < 0.05$.

Column 3 adds county fixed effects, exploiting within-county across-nationality variation. The interaction remains positive (+0.049), though precision declines. This specification compares, for instance, Russian-Jewish and Italian immigrants living in the same county but differing in co-ethnic concentration and enclave economic structure. That the interaction survives county-level confounders strengthens the case that self-employment networks, not unobserved county characteristics, drive the differential enclave effect.

The economic interpretation is straightforward. Self-employed co-ethnics could hire displaced workers informally, extend trade credit during liquidity crises, and maintain demand for co-ethnic goods and services (ethnic groceries, cultural institutions, professional services) even as the broader economy contracted. Wage-dependent enclaves lacked these buffers; when the factory closed, the entire neighborhood suffered simultaneously.

Table 4: Mechanism: Self-Employment Networks and Enclave Insurance

	(1) Binary	(2) Continuous	(3) County FE	(4) County FE
Co-ethnic share (std)	-0.051*	0.012	-0.059*	-0.030
	(0.031)	(0.042)	(0.034)	(0.021)
Co-ethnic x High self-empl.	0.064*		0.049	
	(0.033)		(0.037)	
Natl. self-empl. rate		-0.093		
		(0.150)		
Co-ethnic x Self-empl. rate		0.079		
		(0.107)		
Num.Obs.	753482	753482	753220	753220
R2	0.006	0.006	0.009	0.009

* p <0.1, ** p <0.05, *** p <0.01
Dep. var: change in occ. score (1930–1940). Nationality and state FE (cols 1-2), county FE (cols 3-4). SE clustered at county.

5. Robustness

Table 5 reports additional specification checks. The bust-period enclave effect is stable across alternative functional forms: log co-ethnic share (column 3) and quintile dummies (column 4) confirm the near-zero pooled effect. County fixed effects (column 5) yield a modestly larger negative coefficient (-0.030, $p = 0.16$), consistent with the pooled estimate but suggesting that within-county variation may capture slightly different margins.

Leave-one-nationality-out exercises confirm that no single group drives the mechanism interaction. Dropping each of the 18 nationalities in turn, the interaction coefficient ranges from +0.011 to +0.136 with a mean of +0.066 and standard deviation of 0.023, indicating robust stability.

6. Discussion and Conclusion

This paper documents the enclave paradox: ethnic residential concentration constrained occupational mobility during the 1920s boom but provided relative insurance during the Great Depression. The reversal is not uniform—it is concentrated among nationalities whose enclaves featured high rates of self-employment, consistent with co-ethnic business networks absorbing displaced workers during the downturn.

These findings have implications for modern immigration policy. European debates over refugee dispersal versus clustering implicitly assume that enclave effects are constant. The results here suggest they are state-dependent: dispersal may accelerate integration during

Table 5: Robustness: Alternative Specifications

	(1) Bust	(2) Boom	(3) Log	(4) Quintile	(5) County FE
Co-ethnic share (std)	-0.009	-0.272***			-0.030
	(0.016)	(0.038)			(0.021)
Log co-ethnic share			-0.004		
			(0.015)		
Quintile 2				0.043	
				(0.036)	
Quintile 3				-0.036	
				(0.041)	
Quintile 4				0.025	
				(0.045)	
Quintile 5 (densest)				-0.052	
				(0.043)	
Num.Obs.	753482	1076843	753482	753482	753220
R2	0.006	0.203	0.006	0.006	0.009

* p <0.1, ** p <0.05, *** p <0.01
Dep. var: change in occ. score. All with individual controls and nationality FE (except col. 5). SE clustered at county.

economic expansions but leave immigrants more exposed during recessions. The optimal policy depends on which regime prevails—and on the economic structure of the receiving community.

More broadly, the enclave paradox illustrates a general principle about social networks and economic shocks: the same tight-knit structures that limit individual mobility during normal times can serve as collective insurance during crises. The dual role of ethnic networks—simultaneously constraining and protecting—helps explain why the empirical literature has produced such mixed evidence on enclave effects. The sign of the effect is not a fixed parameter; it depends on the macroeconomic environment.

The analysis has several limitations worth noting. First, the occupational income score is a coarse measure of economic well-being constructed from 1950 income distributions applied retrospectively; it cannot capture within-occupation wage reductions, hours cuts, or unemployment spells that were widespread during the Depression. Second, the identification relies on conditional independence within nationality and state, which may not fully account for selection into denser enclaves or for industry-specific shock exposure correlated with enclave density. A shift-share instrument using pre-1920 settlement patterns could strengthen the causal interpretation. Third, the historical context—pre-welfare-state America with a largely unregulated labor market—may limit direct applicability to modern settings where formal safety nets partially substitute for informal network insurance.

Despite these caveats, the core lesson is clear: ethnic enclaves are not simply good or bad for immigrants. They are institutions whose effects depend on economic conditions and internal economic structure. The immigrant who is "trapped" in an ethnic enclave during good times may be "insured" by the same enclave during bad ones.

Acknowledgements

References

Abramitzky, Ran, Leah Platt Boustan, and Katherine Eriksson, "A Nation of Immigrants: Assimilation and Economic Outcomes in the Age of Mass Migration," *Journal of Political Economy*, 2014, *122* (3), 467–506.

_ , _ , _ , **James Feigenbaum, and Santiago Pérez**, "Automated Linking of Historical Data," *Journal of Economic Literature*, 2021, *59* (3), 865–918.

Beaman, Lori A., "Social Networks and the Dynamics of Labour Market Outcomes: Evidence from Refugees Resettled in the U.S.," *Review of Economic Studies*, 2012, *79* (1), 128–161.

Borjas, George J., "Ethnicity, Neighborhoods, and Human-Capital Externalities," *American Economic Review*, 1995, *85* (3), 365–390.

Cutler, David M., Edward L. Glaeser, and Jacob L. Vigdor, "When Are Ghettos Bad? Lessons from Immigrant Segregation in the United States," *Journal of Urban Economics*, 2008, *63* (3), 759–774.

Damm, Anna Piil, "Ethnic Enclaves and Immigrant Labor Market Outcomes: Quasi-Experimental Evidence," *Journal of Labor Economics*, 2009, *27* (2), 281–314.

Edin, Per-Anders, Peter Fredriksson, and Olof Åslund, "Ethnic Enclaves and the Economic Success of Immigrants—Evidence from a Natural Experiment," *Quarterly Journal of Economics*, 2003, *118* (1), 329–357.

Helgertz, Jonas, Joseph Price, Jacob Thompson, and Steven Ruggles, "A New Strategy for Linking U.S. Historical Censuses: A Case Study for the IPUMS Multigenerational Longitudinal Panel," *Historical Methods: A Journal of Quantitative and Interdisciplinary History*, 2023, *56* (4), 204–219.

Munshi, Kaivan, "Networks in the Modern Economy: Mexican Migrants in the U.S. Labor Market," *Quarterly Journal of Economics*, 2003, *118* (2), 549–599.

Price, Joseph, Kasey Buckles, Jacob Van Leeuwen, and Isaac Riley, "Combining Family History and Machine Learning to Link Historical Records: The Census Tree Data Set," *Explorations in Economic History*, 2023, *87*, 101474.

Sobek, Matthew, "Work, Status, and Income: Men in the American Occupational Structure since the Late Nineteenth Century," *Social Science History*, 1996, *20* (2), 169–207.

Table 6: Standardized Effect Sizes

Outcome	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
Δ Occ. score (bust, pooled)	-0.009	0.016	8.47	-0.0010	0.0019	Null
Downgrade probability (bust)	0.002	0.001	0.43	0.0045	0.0031	Null
Homeownership loss (bust)	-0.004	0.002	0.30	-0.0124	0.0066	Small negative
Δ Occ. score (boom, placebo)	-0.272	0.038	8.67	-0.0314	0.0044	Small negative

Notes: Standardized effect sizes (SDE) computed as $\hat{\beta}/\text{SD}(Y)$ since the treatment variable (co-ethnic share) is already standardized to unit variance. The research question is whether ethnic residential concentration insulates or amplifies occupational losses during the Great Depression. Data: IPUMS Machine Learning Panel (MLP) linking 1920, 1930, and 1940 full-count U.S. censuses. Method: OLS with nationality and state fixed effects. Sample: 753,482 European-born males across 18 nationalities. Treatment: continuous co-ethnic county share (standardized). Classification refers to effect magnitude, not statistical significance.

A. Standardized Effect Sizes