Shattered Metropolis: The Great Migration and The Fragmentation of Political Jurisdictions*

Jamie McCasland Tomás Monarrez David Schönholzer Everett Stamm

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Abstract

Many US metropolitan areas are fragmented into dozens of local political jurisdictions, which can exacerbate inequality in access to public services. Using a shift-share instrument, we estimate that 1940s Black migration to Northern and Western cities caused the incorporation of over 600 new municipalities and a 43% slower rate of school district consolidation in destination areas. Newly incorporated municipalities were almost all White, primarily use single-family residential zoning, and are more likely to have an exclusive school district, suggesting that race is a key motivator. Schools in cities with high jurisdictional fragmentation continue to be more racially segregated today.

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*McCasland: University of British Columbia, Vancouver School of Economics, jamie.mccasland@ubc.ca. Monarrez: Federal Reserve Bank of Philadelphia, tomas.monarrez@phil.frb.org. Schönholzer: University of California, Santa Cruz, dschoenh@ucsc.edu. Stamm: Boston University, estamm@bu.edu. We are grateful for helpful comments from Leah Boustan, Ellora Derenoncourt, James Feigenbaum, Martin Fiszbein, Benjamin Marx, Nathan Nunn, Federico Ricca, Allison Shertzer, and Munir Squires and seminar participants at Boston University, INSPER, the Race, Racism, and Structural Inequality (RRSI) Conference at Duke University, and the Harvard Graduate Workshop in Economic History. We gratefully acknowledge funding from the Center for Innovative Data in Economics Research (CIDER) at the University of British Columbia. All errors are our own.

1 Introduction

Urban areas in the United States tend to be subdivided into a multiplicity of local governments. For example, the Chicago metropolitan area is comprised of a staggering 1,550 local jurisdictions, including entities such as municipalities, school districts, and special districts (Hendrick and Shi, 2015). In economics, this phenomenon is interpreted as a feature of preference heterogeneity for public good provision (Tiebout, 1956), and attributed to the trade-off between economies of scale and community homogeneity (Alesina et al., 2004). However, US cities that are fragmented into many local governments also tend to be more racially segregated (Rusk, 1993, Dreier et al., 2014), and racial gaps in student achievement have been shown to be larger in cities where segregation is primarily driven by local government fragmentation (Monarrez and Schönholzer, 2023).

Scholarship in history, law, sociology, and urban studies has argued that jurisdictional fragmentation in the US often served to exclude racial minorities from access to high-quality public goods (Danielson, 1976, Burns, 1994, Austin, 1999, Anderson, 2010, Jenkins, 2021, Wyndham-Douds, 2023). While we know that inflows of historically marginalized populations have led to residential resorting based on race (Card et al., 2008, Boustan, 2010) and to lower rates of social mobility for minorities (Derenoncourt, 2022a), there is little causal evidence on the historical drivers of jurisdictional fragmentation itself. Specifically, we ask: what is the role of race in shaping the structure of the polities tasked with public good provision in the American city?

This study addresses this question by examining the impacts of a pivotal demographic event that increased Black Americans' population share in many US cities: the Second Great Migration (hereafter the Great Migration). Between 1940 and 1970, four million African Americans migrated from the South to cities in the North and West of the United States, which triggered a variety of fundamental changes in the demographic and political makeup of destination cities (Collins, 2021). The aim of our study is to determine whether and to what extent Black migration during this period caused jurisdictional fragmentation in receiving urban areas. This is a nontrivial endeavor, as this episode also coincided with a period of intense urban and suburban population growth, the birth of many new local governments, the growth of major cities via territorial annexation, and a dramatic contraction in the number of school districts, making this a critical period for the delineation of local polities.

To identify the causal impact of the Great Migration on jurisdictional fragmentation, we combine a migration shift-share design (Card, 1990, Boustan, 2010, Shertzer and Walsh, 2019, Derenoncourt, 2022a) with historical measures of political jurisdictions in the post-war era (U.S. Census Bureau, 2014, Goodman, 2023).[1] In our dataset, we observe the number of municipalities, school districts, and special districts in 1940, 1970, and 2010, allowing us to document variation in the number of jurisdictions per capita (our preferred measure of fragmentation). The shift-share design is based on exogenous migration push factors combined with pre-existing migration links between Southern counties and destination commuting zones (hereafter CZs).

We find that the Great Migration was an important driver of the jurisdictional fragmentation of US metro areas. We estimate that it led to the incorporation of over 600 new municipalities, dramatically reduced the rate of school district amalgamation, decreased the number of special districts per capita, and decreased the share of CZ residents served by the central city in impacted CZs. Our results are robust to a wide range of specification checks and persist to 2010. Importantly, we find no evidence that White migration from the South had a comparable effect on jurisdictional fragmentation, indicating that our findings are not simply a feature of population growth or the in-migration of outsiders.

[1] We focus on the Great Migration not only because of its historical significance and co-incidence with a period of population growth and school district amalgamation, but also because one of our primary data source begins in the 1940s.

Our evidence is consistent with a narrative that the exclusion of Black residents lay at the heart of the proliferation of new local governments. New municipalities were almost entirely White in 1970, regardless of the average White share in the CZ. Relative to their counterparts in low-exposure CZs and older municipalities in high-exposure CZs, new municipalities in high-exposure CZs are differentially poorer and collect fewer special assessments in contemporary data, suggesting more limited rationale for incorporation to isolate an affluent tax base. They are smaller in land area and no less likely to be adjacent to the central city, suggesting this phenomenon is not solely driven by outer-ring suburban population growth. They use more single-family zoning and collect a higher share of municipal revenues in the form of police fines, consistent with aggressive policing and efforts to restrict entry. They are almost 70% more likely to have a school district that exclusively serves that municipality, in the context of an era of school desegregation pressures focused almost exclusively on within-district margins. Together this evidence is most consistent with a narrative that incorporations served to seclude racially homogenous populations, at the cost of potential economies of scale.

Downstream, we show that the Great Migration had a causal impact on contemporary cross-jurisdictional school outcomes, plausibly at least in part mediated by jurisdictional fragmentation. We find an increase in both CZ-level Black-White segregation and variation in achievement across districts within a CZ. In addition, we find a reduction in achievement in districts that serve Black students and a tight zero on achievement in districts that serve White students.

In addition to the literature on jurisdictional fragmentation outside economics mentioned earlier, our work speaks to (mostly theoretical) research in political economy on jurisdictional formation (Casella, 2001, Henderson and Thisse, 2001, Alesina et al., 2004, Weese, 2015, Grossman et al., 2017) and to recent empirical work on contemporary resistance to municipal consolidation in France (Tricaud, 2023). Our contribution is to use state-of-the-art causal inference methods to study the role of community heterogeneity in jurisdictional proliferation and provide evidence on mechanisms.

This paper complements evidence on White Flight (Boustan, 2010), by documenting not only residential resorting within and across jurisdictions, but also the creation of new jurisdictions. This pattern could be potentially mutually reinforcing, where movement encourages incorporation, but incorporation (and an exclusive school district) also incentivize movement.

Our work also contributes to the study of the effects of the Great Migration on the political economy of local governments in destination cities, including on taxes and expenditures (Tabellini, 2019, Derenoncourt, 2022a), land use policy (Sahn, 2021), and shifts from mayor-council to city manager systems in an effort to reduce the influence of Black voters (Trebbi et al., 2008, Grumbach et al., 2023). We add to this literature that the Great Migration not only changed the governance and policies of existing local governments but fueled the creation of dozens of additional ones, cementing the fragmentation of the American cityscape. Importantly, while policy preferences may evolve over time, polities once established are quite stable, potentially *permanently* decreasing the ability of local governments to provide equitable access to high-quality public goods.

2 Institutional Background

2.1 Jurisdictional Fragmentation

Jurisdictional fragmentation is the phenomenon of a large number of local governments exercising the same functions but in different subsets of the same metropolitan area. It is a central feature of the American cityscape: for example, Los Angeles County is home to 88 municipalities, 80 school districts, and 137 special districts. Understanding the causes and consequences of the proliferation of jurisdictions is of longstanding interest in economics and political science (Alesina and Spolaore, 1997, Alesina et al., 2004, Grossman and Lewis, 2014, Weese, 2015). A central premise in this literature is that the number of jurisdictions trades off the benefits of scale economies against preferences for homogeneous communities, which is particularly salient with respect to Black-White heterogeneity in the US context. As a result, Black communities continue to be concentrated in local governments that are substantially less desirable than their White counterparts (Monarrez and Schönholzer, 2023).

Incorporation, Consolidation, and Annexation. Municipalities have home rule powers granted by state constitutions that endow them with the powers of running their own police departments, controlling land use, and providing other city services in a well-defined territory, making them the primary providers of general-purpose local government services (Briffault, 2004).[2] The number of municipalities and the boundaries of their territories are driven historically by consolidations of two or more municipalities into a single entity, new municipal incorporations, and annexation of unincorporated territory by an existing municipality. Famously, New York City and Brooklyn consolidated in 1898. However, consolidations waned well before the period we study, as many states introduced constitutional barriers to consolidation in the early part of the 20th century. Our counts of municipalities per capita are thus driven primarily by the incorporation of new municipalities, or in contrast, CZs in which urban growth took place in unincorporated areas or territory annexed by existing municipalities.

Examples of cities that grew primarily via annexation campaigns during this period include Phoenix, Arizona, which went from 17 square miles in 1950 to 185 square miles in 1960, and Eugene, Oregon, whose population grew over 50% from 1960 to 1970, largely due to the annexation of three major neighboring settlements. Phoenix and Eugene saw

[2]See Appendix for a discussion of townships and county governments.

negligible numbers of African American migrants during the Great Migration. By contrast, annexation efforts in cities impacted by the Great Migration were often met with resistance that sometimes took the form of new municipal incorporation. For example, a slew of cities incorporated to fight annexation campaigns in Milwaukee, Wisconsin in the 1950s (including Brown Deer, Franklin, Greenfield, Mequon, and Oak Creek) and Denver, Colorado in the 1960s (including Commerce City, Glendale, Greenwood Village, Lakewood, and Wheat Ridge). Overall, the Second Great Migration coincides with the last big increase in the number of incorporated municipalities in the US. Nationally, the number of municipalities grew from 16,220 to 18,517 over the course of the Second Great Migration.

School district amalgamation. Historically, the provision of US public education has been characterized by local control (Goldin and Katz, 2003). At the turn of the 20th century there were over 100,000 school districts in the US. Often, local governments had control over the funding and administration of a single public school. Beginning around the turn of the century, school districts began consolidating, making use of economies of scale and adapting to changes in population density in previously sparsely-populated areas of the country (Kenny and Schmidt, 1994), with some evidence that more homogenous communities were more likely to merge school districts (Gordon and Knight, 2009). The shift was dramatic: by the end of the consolidation period in the 1970s, there were fewer than 15,000 school districts in the United States, a number that is roughly equivalent to the current count.

Starting in the 1960s, the federal government began efforts to enforce the 1954 Brown ruling, leading to an era of school desegregation policies (Reardon and Owens, 2014). Documented responses include a move towards private education (Grady and Hoffman, 2018), though the vast majority of students attended public schools throughout the period we study, and White flight to suburban school districts (Boustan, 2012). Importantly, most desegregation efforts focused on within-district desegregation, generating incentives for segregation-motivated communities to retain separate school districts.[3]

Special district formation. Special districts, which include entities like park districts, transportation districts, and library districts, serve to fill in gaps in services of existing municipalities. These types of districts have grown substantially over the last few decades, making up more than 40% of local governments today (U.S. Census Bureau, 2014). On the one hand, Berry (2008) shows that multi-level governments over-tax households, with Ostrom et al. (1961) as an important antecedent. On the other hand, the creation of special districts can allow municipalities to circumvent fiscal restrictions and address specific regional problems that cannot be handled by individual municipalities, such as the Bay Area Rapid Transit (BART) system in the San Francisco CZ (Goodman and Leland, 2019).

Compared to the other political jurisdictions, the role of race in the creation of special districts is least well understood. Martinez-Vazquez et al. (1997) find no relationship between racial heterogeneity and the number of special districts, whereas Alesina et al. (2004) find a positive relationship.

2.2 Historical Examples

Cleveland, OH, versus Columbus, OH. We begin by illustrating our identification strategy and argument with a comparative case study. Starting with the stylized patterns, Figure 1 Panels A and B show maps of all municipalities in the Cleveland and Columbus, Ohio CZs, with shades denoting their share of White residents. It is apparent that Cleveland is more segregated across municipalities than Columbus, with largely White

[3] The 1987 Milliken v. Bradley decision ruled that the 1954 mandate applies only within school districts, cementing what had been a de facto enforcement policy for decades.

suburbs and a largely non-White central city. The central city in each CZ also makes up very different shares of the total incorporated area, reflecting that the City of Columbus continued to expand its territory through annexation as the CZ continued to grow, whereas the City of Cleveland's ability to grow was restricted by newly formed municipalities in 1940-1970, shown as red circles on the map. Columbus has only a few newly incorporated municipalities, whereas Cleveland is home to more than two dozen. Unlike in Columbus, most new incorporations are overwhelmingly White, whereas those of Columbus are more diverse.

Figure 1 Panels C, D, and E illustrate how the Great Migration may have contributed to the pattern of municipal fragmentation in Cleveland and more integrated municipal services in Columbus. Panel C shows Cleveland and Columbus as well as their five most strongly established migration links from Southern origin counties (which, following Derenoncourt (2022a), includes counties from Kentucky and West Virginia) in the 1935-1940 period, seen as the yellow and green arrows, respectively. The shades of gray across these nine origin counties (Cleveland and Columbus share one top-five origin county) indicates the strength of predicted out-migration in each decade between 1940 and 1970 based on various Southern-county push factors. We can see that origin counties connected to Cleveland saw on average much greater out-migration shocks than the top migration links connected to Columbus. As a result, Panel D shows that the share of urban Black residents in Cleveland grew much more rapidly in 1940-1970 than in Columbus, even though Columbus started off with a larger share in 1940. Finally, Panel E shows the change in the number of jurisdictions in Cleveland and Columbus over this period. The number of municipalities grew much more rapidly in Cleveland than in Columbus. The number of school districts was falling in both CZs, but Columbus experienced much more amalgamation than Cleveland.

Norridge, IL. A striking illustration of a municipal incorporation for which race may have been a key motivator comes from Norridge, IL, a municipality completely encircled by the principal city in the CZ, Chicago, IL. As Chicago progressively annexed neighborhoods adjacent to Norridge, residents organized through the local improvement association to fight annexation by incorporating in 1948 (Perry, 2005). The city includes three school districts (elementary, middle, and high school) that successfully resisted absorption into Chicago schools. Several pieces of iconography from the high school district exhibited Confederate imagery into the 1970s, including a cartoon mascot of a Confederate soldier and a 1969 yearbook depicting a motorcycle rider waving a Confederate flag (Ridgewood, n.d.). To date, the high school mascot is a rebel.

3 Data and Empirical Strategy

3.1 Data

Our primary outcome variable measures come from two sources. We use count of municipalities, school districts, and special districts from the Census of Governments (COG), which were conducted in 1942 and every five years since 1952 (U.S. Census Bureau, 2014). We construct an additional decadal municipality count variable from a new dataset which contains the municipal incorporation date of 96% of all municipalities in the country as of 2012 by Goodman (2023). Relative to the COG data, the Goodman data does not observe municipalities that existed during our reference period but were consolidated, annexed, or otherwise dissolved by 2012. The COG data were collected contemporaneously and are thus not subject to the survival bias of the Goodman data, but have other data issues, including a two-year lag relative to the instrument and data quality concerns in the 1942 census. As we show below, our COG and Goodman municipality results are quite similar, suggesting the other COG jurisdiction counts are also likely measured fairly accurately.

For demographic data, we use the 1940 full count census and the 1972 County and City Data Book as a basis for 1940 and 1970 total and Black urban populations, respectively (U.S. Census Bureau, 2008). We define urban as cities with 25,000 residents or more in either 1940 or 1970, yielding 296 non-Southern cities, which we then aggregate to 130 CZs. COG school district data inconsistently count dependent and independent school districts for cities in 12 of the CZs in our sample, so causal estimates on school districts are restricted to 118 CZs with consistent data. Of the 2010 non-Southern population in the US, 85% (77%) live in the 130 (118) CZs in our sample.

Migration links come from the 1940 full count census question on county of residence between 1935 and 1940. Southern county push factor data come from Derenoncourt (2022b), and include predictors of positive and negative economic shocks in origin counties. For example, percent acreage in cotton could predict higher out-migration as mechanization reduced labor demand, while WWII spending could predict lower out-migration as federal dollars create economic stimulus. We draw CZ-level covariates on climate from Vose et al. (2014), on topography from U.S. Census Bureau (2018), on transportation costs from Donaldson and Hornbeck (2016), and on railroads from Atack (2016).[4]

We use official maps of 2021 municipality boundaries to generate measures of municipality adjacency (U.S. Census Bureau, 2021). We intersect these with 2023 shapefiles of school district boundaries from the National Center for Education Statistics to identify geographically exclusive school districts (NCES, 2023), and 2023 parcel-level data on the universe of residential units in the US from CoreLogic to measure land-use zoning (CoreLogic, 2023). Income and residential race data come from 1970, 2010, and 2020 censuses. Municipal revenue data comes from the 2012 survey of local government finances (U.S. Census Bureau, 2012a). Student race data comes from the 2017 NCES Common Core of Data (NCES, 2017). Achievement data (2008-2019) comes from Stanford Education Data

[4] Table A1 contains summary statistics for our primary outcome, treatment, and control variables.

Archive (Reardon et al., 2024). In each case, we drew the most recent year with the most comprehensive data.

3.2 Empirical Strategy

We estimate a two-stage least squares model in which the structural equation of interest (i.e. the second stage) is given by:

$$\Delta\text{LocGovPC}_{k,\ell} = \alpha_k + GM_\ell \beta_k + \mathbf{X}'_\ell \gamma_k + \varepsilon_{k,\ell}, \tag{1}$$

where $\Delta\text{LocGovPC}_{k,\ell}$ is the change in the number of local governments of type k per 10,000 in commuting zone (CZ) $\ell = 1, ..., 130$; $\mathbf{X}_\ell$ is a vector of CZ-level covariates; and $\varepsilon_{k,\ell}$ is an error term capturing unobserved determinants of the outcome that could be correlated with our treatment of interest GM_ℓ, which measures the intensity of the Great Migration in CZ ℓ. β_k is our coefficient of interest, capturing how changes in the intensity of the Great Migration affect fragmentation of jurisdiction type k, as measured in local governments per capita. $\mathbf{X}_\ell$ includes census region fixed effects and additional controls discussed below.

To account for the fact that Southern Black migrants tended to arrive in growing cities, we use measures of the number of jurisdictions per 10,000 people in the contemporaneous CZ population, calculated as:

$$\Delta\text{LocGovPC}_{k,\ell} = \frac{\text{LocGovs}_{k,\ell,1970}}{\text{Pop}_{\ell,1970}} - \frac{\text{LocGovs}_{k,\ell,1940}}{\text{Pop}_{\ell,1940}}$$

where $\text{LocGovs}_{k,\ell,t}$ is the number of governments of type k in CZ ℓ and year t.

For ease of interpretation, we define the endogenous regressor of interest, GM_ℓ, as the percentage point change in the urban Black share in CZ ℓ, and its shift-share instrumental variable, $\widehat{GM}_\ell$, as predicted Black in-migration as a percentage of the 1940 urban population, as follows:[5]

$$\begin{aligned} GM_\ell &= \frac{\text{BlackUrbPop}_{\ell,1970}}{\text{UrbPop}_{\ell,1970}} - \frac{\text{BlackUrbPop}_{\ell,1940}}{\text{UrbPop}_{\ell,1940}} \\ \widehat{GM}_\ell &= \frac{\widehat{\text{BlackMig}}_{\ell,1940-70}}{\text{UrbPop}_{\ell,1940}} \end{aligned}$$

where $\text{UrbPop}_{\ell,1940}$ and $\text{BlackUrbPop}_{\ell,1940}$ are the 1940 total and Black urban populations from the 1940 Full Count Census in ℓ and $\text{UrbPop}_{\ell,1970}$ and $\text{BlackUrbPop}_{\ell,1970}$ are the 1970 total and Black urban populations from the 1970 CCDB.[6] We scale both variables by 100; our 2SLS effects are thus interpretable as change in local governments per 10,000 contemporaneous residents per percentage point change in urban Black share. We use urban population in the first stage to align with the historical pattern of Black migration to the urban core of US metropolitan areas.

The term $\widehat{\text{BlackMig}}_{\ell,1940-70}$ is the sum of predicted Black migration from all Southern counties to all cities in ℓ across 1940-1970:

$$\widehat{\text{BlackMig}}_{\ell,1940-70} = \sum_{j=1}^{J} \sum_{c \in \ell} \Omega_{j,c,1935-39} * \widehat{m}_{j,1940-70},$$

where $\Omega_{j,c,1935-39}$ are pre-period weights on links between Southern county $j = 1, ..., j$ and non-Southern city c, which are nested in CZ ℓ.[7] The term $\widehat{m}_{j,1940-70}$ is the total predicted outmigration from Southern county j, defined by

$$\widehat{m}_{j,1940-70} = \sum_{t=1950}^{1970} \widehat{\text{MigRate}}_{j,t} \times \text{BlackPop}_{\ell,t}$$

[5]The reason we do not also express the instrument as a percentage point change is because it requires a non-linear transformation of the predicted values, something recognized as problematic for shift-share estimation in Borusyak et al. (2022).

[6]Our model is robust to the percentile scaling of Derenoncourt (2022a); see Appendix for details.

[7]This term is defined as $\Omega_{jc,1935-39} = \frac{\omega_{j,c}}{\sum_{i \in S} \omega_{i,c}}$ where $\omega_{j,c}$ is the number of Black people living in non-Southern city c in 1940 who reported living in Southern county j between 1935-39 in the 1940 census.

where $\widehat{\text{MigRate}}_{j,t}$ is the predicted value from the regression

$$\text{MigRate}_{j,t} = \delta_0 + \tilde{\mathbf{Z}}'_{j,t-10}\delta_1 + \xi_{j,t}$$

in which mig rate$_{j,t}$ is county j net Black migration rate between years t and $t-10$ (as in Boustan 2010) and $\tilde{\mathbf{Z}}_{j,t-10}$ is a set of predictors of out-migration chosen by a LASSO procedure.[8]

3.3 Regression-Based Tests of Shock Orthogonality

The key identifying assumption of the empirical strategy is that predicted changes in the urban Black share only affect fragmentation through actual changes in the urban Black share, at the CZ level. This assumption is satisfied if pre-existing migratory links (shares) are exogenous, even if push factors in Southern counties are endogenous (shifts), along the lines of the interpretation of shift-share instruments (SSIV) in Goldsmith-Pinkham et al. (2020). Alternatively, it is also satisfied if migratory links are endogenous but push factors are exogenous, as in the interpretation of Borusyak et al. (2022). We follow the Borusyak et al. (2022) interpretation, including two intuitive tests for shock exogeneity to strengthen the plausibility of the research design.

First, in a regression akin to a balance test of baseline characteristics across treatment groups, we test for whether our instrument predicts a series of CZ-level baseline covariates in Appendix Table A2. We find the instrument is significantly correlated with a dummy variable for coastal and the 1920 transportation cost outside of the CZ. To account for this, we include both of these covariates in all specifications. Second, in a regression akin to a pre-trend test, we test for whether our instrument predicts lagged values of the change in municipalities, using the Goodman data (the only outcome data available

[8]See Appendix for details.

pre-1940). We find no evidence of pre-trends (See Appendix Table A3).

Finally, an additional basic identification concern, applying not only to SSIV specifications but also to some other quasi-experimental designs, is that the basic SSIV does not account for non-random variation in the probability of shock exposure (Borusyak and Hull, 2023). One way to interpret this critique is that without adjustment for the likelihood of an exogenous shock, these quasi-experimental designs differ from the randomized controlled trial ideal by excluding strata fixed effects, where treatment probability varies by strata. Borusyak et al. (2022) offers a simple fix for SSIV, controlling for the sum of shares, which is akin to controlling for strata dummies in an RCT. All specifications control for each CZ ℓ's sum of 1935-39 origin-county to destination-city migration links, $\sum_j^J \sum_{c \in \ell} \Omega_{j,c,1935-39}$, normalized by 1940 urban population. These links represent shares of origin county out-migration, not destination county in-migration, thus they do not mechanically sum to one.

4 Results

4.1 Jurisdiction Results

Table 1 presents the main findings of the paper. Panel A presents the first stage (which is the same across outcomes by design), estimating that a one percent increase in predicted migration share, $\widehat{GM}$, increases the actual Black population share by about two percentage points. The instrument is highly significant with an associated first-stage F-statistic of 52.5.

Panels B and C present the results (in OLS and 2SLS) for 1940 to 1970 and Panels D and E for 1940 to 2010. Overall, in both the medium- and long-term, exogenous increases in the urban Black share increase the number of municipalities per capita and school districts per capita, reduce the number of special districts per capita, and decrease the fraction of the CZ population that resides in the central city, both in OLS and 2SLS.[9] The effect is remarkably stable over the long-term, evidence consistent with the argument that the Great Migration coincided with a definitive era in the political economy of American cities and the professionalization of school districts with long-lasting potential downstream consequences for the provision of public services. Fewer special districts imply less provision of potentially welfare-enhancing large-scale cross-jurisdictional public goods like metro-area transit systems. A lower share of residents in the central city could imply a less cohesive tax base for the urban center of the CZ.

Splitting the CZs in our sample at the median change in the urban Black share between 1940 to 1970, the mean change in urban Black share is about one percentage point in below-median CZs and about 11 percentage points in above-median CZs, a difference of about 10 percentage points, which corresponds to casual estimates of a 23% smaller reduction in municipalities per capita (measured using the Goodman data) from 1940 to 1970 (0.06/-0.26) and a 43% smaller reduction in school districts per capita from 1940 to 1970 (5.53/-12.95). In 1970, the 106 million people living in the 65 above median CZs in our sample were served by 4,784 municipalities. These estimates suggest the Great Migration generated the incorporation of over 600 new municipalities between 1940 and 1970, about 10 per CZ (10,600*0.06 = 636/65 = 9.8). The linear causal estimates on school districts are not constrained to plausible counterfactuals; most CZs saw dramatic reductions in school districts per capita converging close to one school district per 10,000 people in both above and below median CZs. Still, applying 43% to 1970 levels can be illustrative in thinking about the magnitude of the effect size. In the 59 above median CZs with consistent school districts data, 94 million people in 1970 were served by 4,796 school districts.

[9] For municipalities and school districts, 2SLS coefficients are slightly higher than IV coefficients, suggesting small negative bias in the OLS. The bias in the OLS estimate could come from the fact that Black migrants tended to relocate to larger and faster growing CZs, where new municipality creation was slower on a per capita basis (though larger in levels) than smaller and slower growing CZs. It could also come from the measurement error in the urban Black share.

A 43% reduction would eliminate over 2,000 school districts and yield an average of one school district per 20,000 people in the larger, more densely-populated CZs that saw the largest influx of migrants from the Great Migration.

We conduct a series of robustness checks on our main 1940 to 1970 results. Appendix Table A4 estimates our main effects for 1952-1972 to account for possible data quality issues in the 1942 COG data. Appendix Table A5 presents our main results excluding the imbalanced controls. Appendix Tables A6 and A7 use a percentile scaling of the endogenous regressor and include a quadratic term, respectively, as alternative ways to account for the skewed distribution of percentage point changes in urban Black share across our sample. Appendix Figure A1 tests for whether our findings are driven by the inclusion of a particular destination CZ, by dropping one CZ at a time. Appendix Figure A2 allays concerns about correlated shocks to origins and destinations by constructing three alternative instruments and conducting an over-identification test. Appendix Table A8 includes the European migration instrument from Sequeira et al. (2020) as a control, to test for whether European migration confounds our results. Appendix Figure A3 conducts placebo tests to address SSIV inference concerns articulated in Adão et al. (2019). Our results are robust to this slew of tests, suggesting a causal interpretation. In Appendix Tables A10 and A9 we find no evidence that Southern White migrants from 1940 to 1970 causally impact jurisdictional fragmentation, with opposite-signed (negative) OLS estimates and noisy (insignificant) 2SLS estimates.

4.2 Mechanisms

While it is outside the scope of this paper to definitively establish intent, in this section we investigate whether the demography and policies of the newly incorporated municipalities suggest that exclusion on the basis of race played a key role in their formation.

Demographics. Figure 2 shows the average share of White residents in 1970 in municipalities that were incorporated between 1940-1970, relative to the share of White residents in the CZ as whole at the same time. Notably, newly incorporated municipalities are almost exclusively White in almost all CZs, no matter how much lower the share White is in the CZ as a whole. For example, the Chicago, IL and Portland, OR CZs had an overall share of White residents of around 82% and 96%, respectively, yet in both CZs the share in the newly incorporated municipalities was over 99% in 1970. These findings are consistent with a pattern of White flight that not only segregated metropolitan areas across existing jurisdictions but also induced the creation of new jurisdictions that primarily accommodated White residents.

Income. A standard justification in economics for this pattern would be that residents in newly-created municipalities pool their tax revenue to provide high-quality local public goods in their own neighborhoods without having to share with others. As a result, jurisdictional fragmentation would be driven by income differences, and the correlation with race would be merely incidental. However, municipal incorporation also offered institutional support to attempts by residents to prevent the amalgamation of local school districts into the school district of the principal city, potentially generating incorporation incentives for White residents hoping to retain segregated schools. To investigate these and other mechanisms, we conduct a descriptive analysis that uses contemporary data to compare municipalities incorporated between 1940 and 1970 in CZs with above and below median changes in the urban Black share between 1940 and 1970 in Table 2.

Relative to their counterparts, newly-incorporated municipalities in high-exposure CZs are poorer in 2010 and generate a smaller share of municipal revenues from special assessments, targeted property tax increases to fund specific public goods that tend to be higher in richer communities.[10] These findings suggest that municipal incorporations in Great Migration destination CZs may have had a lower relative income threshold for incorporating, because of a complementary presence of racial exclusion motives.

Spatial Proximity. In addition, these new municipalities are differentially smaller in land area but statistically no less likely to be adjacent to the central city (See Appendix Table A12). A smaller size at the same distance from the central city highlights the trade-off between economies of scale and racial exclusion. This suggests that the phenomenon we document is unlikely to be driven solely by exurban or rural growth. More generally, on average only 18% of the border of the central city in the 130 CZs in our sample was enclosed by another municipality, water, or national parks in 1940. Appendix Figure A4 shows distance to edge and center of central city, with a pattern suggesting new municipalities in above-median exposure CZs may on average be closer than those in below-median exposure CZs. Together these findings suggest that differential patterns of White flight are likely not the only driver of our findings, many incorporations were the result of segregation in place.

Policy. In contrast to their status as relatively poorer municipalities, newly-incorporated municipalities in high-exposure CZs appear to have *more* single-family residential zoning policies than their (richer) counterparts in low-exposure CZs. Using parcel-level data on residential developments across all cities in our sample, we show that 10 percentage point higher share of land zoned to single-family residences and a 0.5 percentage point lower share of land zoned to apartments. They also generate a 1 percentage point higher share a municipal revenues from fines and forfeitures, which may suggest the pursuit of more aggressive policing tactics that tend to be linked to the marginalization of minority

[10] Jenkins (2021) suggests that all-White suburban communities also have easier access to municipal debt to fund public services. We find no evidence of differences in municipal debt. See Appendix Table A12.

groups.

School Districts. Using shapefiles to match school district to municipal boundaries, we show that newly-incorporated municipalities in high-exposure CZs are 13 percentage points more likely to have an exclusive school district, relative to new municipalities in low-exposure CZs and older municipalities in destination CZs. School desegregation pressures typically only applied within school districts during (and after) the period we study. Incorporated municipalities were more likely to retain an autonomous school district (and not be consolidated into the central city school district), facilitating the exclusion of Black school children.

Table 3 uses our primary 2SLS model to estimate the relationship between exogenous increases in the urban Black share and present-day measures of school outcomes. Columns 1 and 2 show the Great Migration increased CZ-level Black-White school segregation. The magnitudes are large, suggesting above median CZs are 51% more segregated (0.13/0.253) as measured by the variance ratio or 11% more segregated (0.03/0.283) as measured by the dissimilarity index. Columns 3 and 4 show cross-jurisdictional academic outcomes became more disparate: increases in GM resulted in a higher interquartile range and variance of school district achievement scores as measured in Reardon et al. (2024). Again these magnitudes are large, suggesting above-median CZs have school districts whose achievement IQR is 25% higher (0.08/0.318) and variance across districts is 42% higher (0.03/0.072). Finally, columns 5 and 6 show the effect of GM on the exposure of Black and White students to high achieving school districts. These results show the Great Migration caused greater academic segregation and achievement gaps, with school district fragmentation (facilitated by municipal fragmentation) as a likely contributing mediator.

5 Conclusion

We show that the Great Migration contributed to the fragmentation of jurisdictions in US urban areas. We estimate it caused the creation of over 600 new municipalities in destination CZs and the preservation of hundreds of school districts. These municipalities were founded with almost all White residents and are more likely to have their own school district today, suggesting that preventing school district amalgamation may have been a driving force.

Destination CZs also have fewer special districts, suggesting fewer large-scale public services, more segregated schools, and more variation in achievement across school districts. Together these suggest jurisdictional fragmentation may have imposed long-term costs on destination CZs, although an explicit welfare calculation is left for future work.

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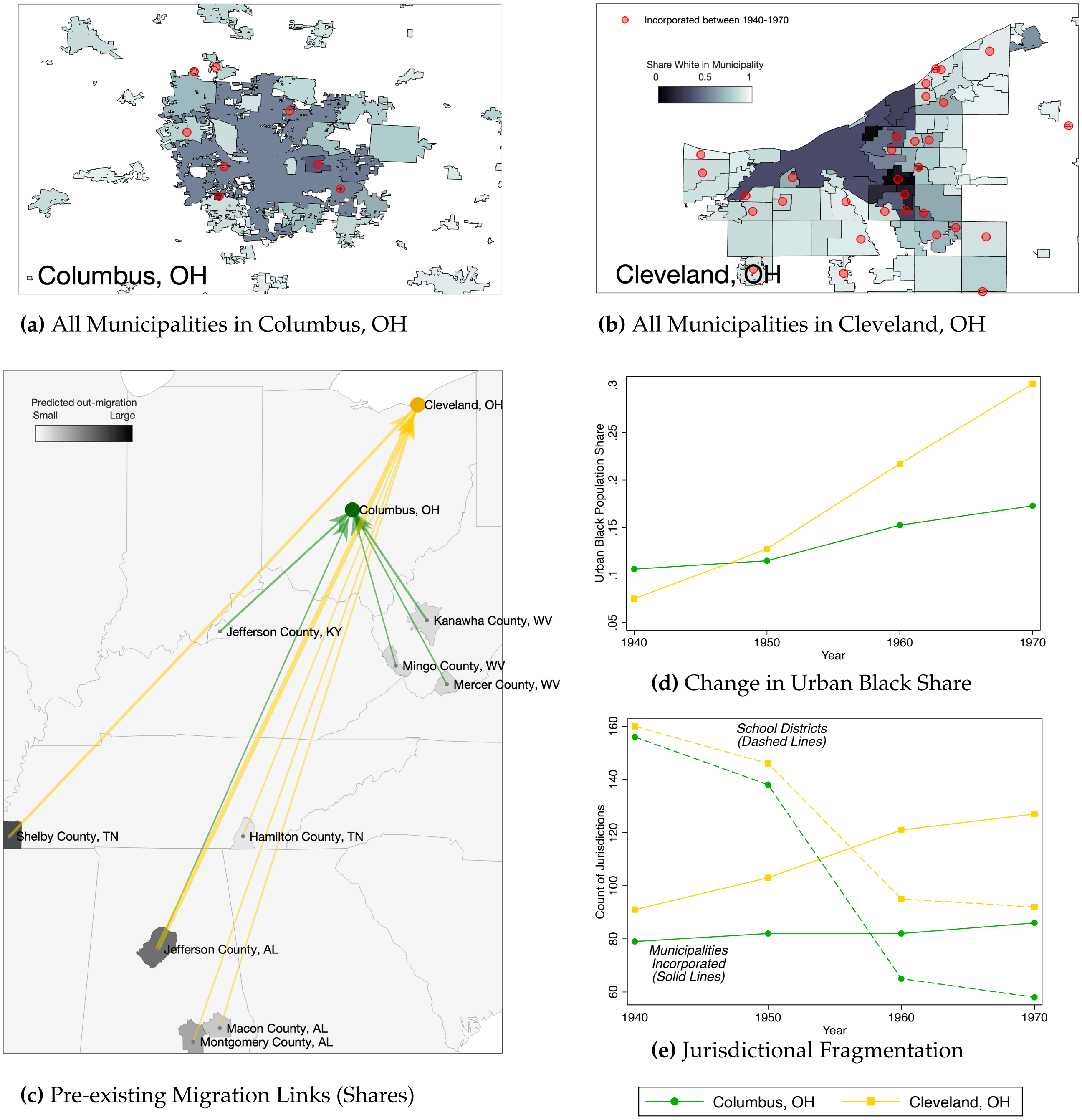
Figure 1: Illustration of empirical investigation using Cleveland and Columbus, OH



(a) All Municipalities in Columbus, OH

(b) All Municipalities in Cleveland, OH

(c) Pre-existing Migration Links (Shares)

(d) Change in Urban Black Share

(e) Jurisdictional Fragmentation

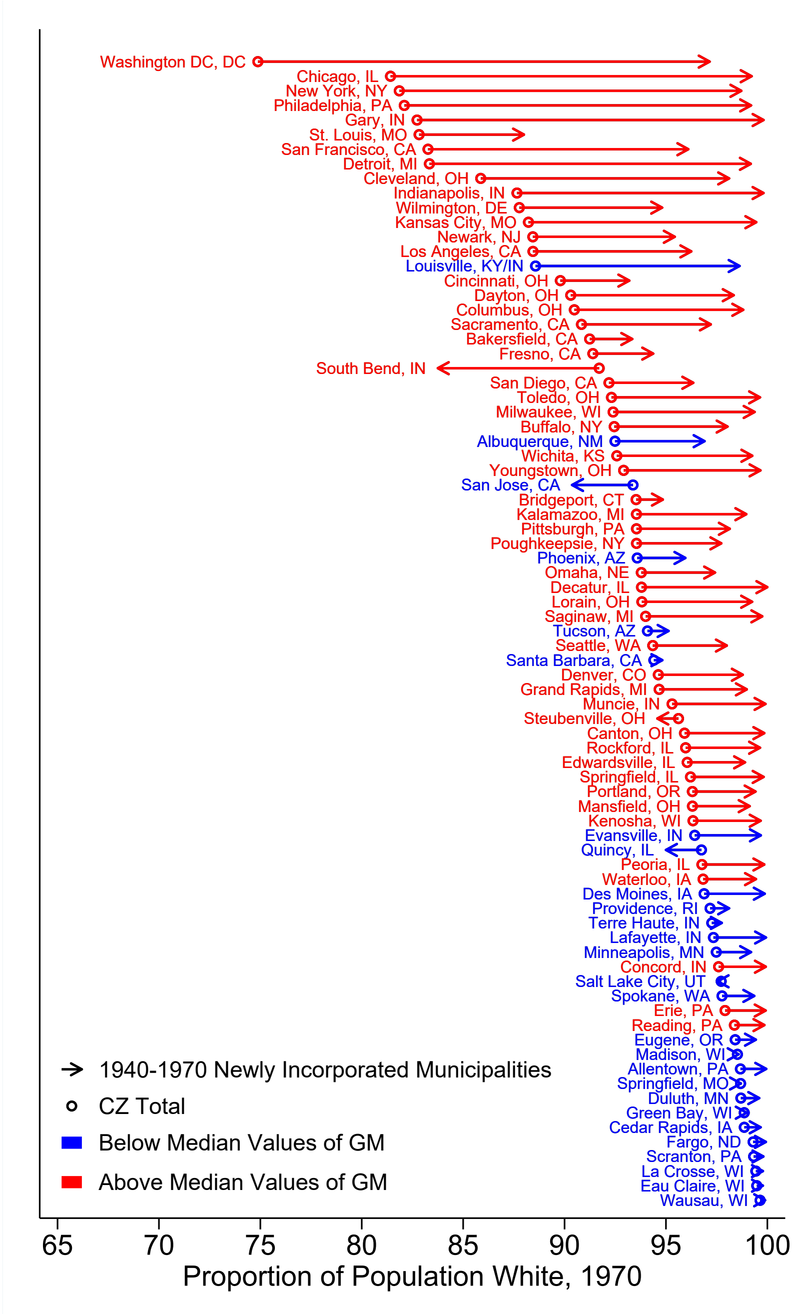
Notes: Shades in Panels A and B indicate share of White residents in each of the municipalities; red markers indicate municipalities incorporated between 1940-1970. The large White space above Cleveland is Lake Erie. The data on the share of White residents we use here is from the 2020 Census, by which time several of the newly incorporated municipalities in Cleveland had diversified relative to the time of their founding. Panel C shows a map of established links from Southern counties to Cleveland, OH, and Columbus, OH. Panel D shows the evolution of the urban Black share over the course of 1940-1970. Panel E shows the evolution of the number of municipalities and school districts over 1940-1970.

Table 1: The Effect of the Great Migration on Jurisdictions Per Capita using the Shift-Share Design

	C. Goodman	Census of Governments			Census
	Municipalities		School districts	Special Districts	Main City Share
	(1)	(2)	(3)	(4)	(5)
Panel A: First Stage					
$\widehat{GM}$	2.185***	2.185***	2.423***	2.185***	2.185***
	(0.302)	(0.302)	(0.370)	(0.302)	(0.302)
Panel B: OLS 1940-1970					
GM	0.004*	0.007**	0.427***	-0.029***	-0.925***
	(0.002)	(0.003)	(0.089)	(0.007)	(0.105)
Panel C: 2SLS 1940-1970					
GM	0.006*	0.010***	0.553***	-0.026***	-1.125***
	(0.004)	(0.004)	(0.135)	(0.007)	(0.127)
1940-70 Avg.	-0.26	-0.33	-12.95	0.64	-3.37
Panel D: OLS 1940-2010					
GM	0.010***	0.014***	0.440***	-0.048***	-1.194***
	(0.003)	(0.004)	(0.090)	(0.009)	(0.152)
Panel E: 2SLS 1940-2010					
GM	0.012***	0.016***	0.568***	-0.041***	-1.398***
	(0.005)	(0.005)	(0.137)	(0.012)	(0.188)
1940-2010 Avg.	-0.39	-0.49	-13.31	1.04	-7.96
1940 Avg.	1.49	1.61	14.09	0.89	32.86
First State F-Stat	52.50	52.50	42.91	52.50	52.50
Observations	130	130	118	130	130

Notes: Regression results according to equations in the Empirical Strategy section, weighted by 1940 CZ urban population. All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost in 1920. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure 2: Most Incorporations in 1940-1970 are Mostly White



Notes: Share of White residents in 79 of the 130 CZs in our sample (those with one or more incorporations between 1940-70 and non-missing place-level racial data in 1970), depicted as circles, and share of White residents in municipalities that were incorporated in 1940-1970, at the tip of the arrows. Some CZs are not shown in this figure because they either had no incorporations or were missing data on racial shares by municipality in those years. Newly incorporated municipalities have a lower share of White residents in only four of the 79 CZs for which we can conduct this exercise.

Table 2: Municipalities Incorporated between 1940 and 1970: Is racial exclusion a key motivator?

	2010 Muni Characteristics			Percentage of Municipal Revenues		Percentage of Municipal Land Uses		Muni-District Similarity
	(1) Percentage White	(2) Land Area	(3) 2010 Household Income	(4) Special Assessments	(5) Fines and Forfeitures	(6) Single Family	(7) Apartments	(8) Exclusive District
Above Median GM X Inc. 1940-70	9.336***	-68.146**	-13.241***	-1.751***	0.708**	10.185***	-0.466**	0.129**
	(2.044)	(27.977)	(4.255)	(0.599)	(0.287)	(2.288)	(0.195)	(0.055)
Above Median GM	-12.826***	44.943*	2.302	0.108	0.516***	-0.183	0.365*	-0.081
	(3.085)	(24.980)	(3.417)	(0.423)	(0.156)	(2.518)	(0.214)	(0.052)
Incorporated 1940-70	12.626	-368.061*	2.428	0.869	-0.641	14.881	-2.518**	-0.055
	(9.044)	(196.790)	(14.611)	(1.257)	(1.062)	(13.873)	(0.984)	(0.214)
Omitted Category Avg.	81.01	221.56	66.11	1.00	0.85	76.32	0.94	0.19
Observations	7836	7845	7836	7738	7738	7716	7716	7849

Notes: All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost, weighted by municipality population. The sample includes all contemporary (2023) municipalities in the 130 CZs in our analysis. Exclusive district is a 0/1 indicator for at least one school district that only serves that municipality. Omitted Category Average is the average for municipalities not incorporated between 1940 and 1970 in Below-Median exposure CZs, weighted by municipality population. Robust standard errors in parentheses. $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Downstream: School Segregation and Achievement

	School District Segregation		School District Achievement			
	(1) Variance Ratio	(2) Dissimilarity Index	(3) Interquartile Range	(4) Variance	(5) Black	(6) White
GM	0.013***	0.003***	0.008***	0.003**	-0.007**	0.000
	(0.002)	(0.001)	(0.002)	(0.001)	(0.003)	(0.002)
Dep. Var. Mean	0.253	0.283	0.318	0.072	-0.129	0.114
Observations	130	130	130	130	130	130

Notes: The first column is the Black-White variance ratio, a common measure of exposure between minority and majority groups. The second column is the Black-White dissimilarity Index, a common measure of evenness between majority and minority groups. Both columns 1 and 2 are constructed using 2017 NCES CCD data (NCES, 2017) Columns 3-6 use 2008-2019 test score data, pooled by school district across all grades, years, and subjects, as constructed by (Reardon et al., 2024). We pool by school district due to potential issues with the micro-level race data. Column 3 measures the difference between the 75th and 25th percentiles of school district achievement within each CZ. Column 4 measures the variance in school district achievement. Columns 5 and 6 measure the exposure of Black and White students to high achieving school districts, or the level of achievement of the school district that the average Black or White student attends in a CZ. We construct this by taking the mean of achievement across school districts within a CZ, weighted by the school districts' Black or White enrollment, respectively. Regression results according to equations in the Empirical Strategy section, weighted by 1940 CZ urban population. All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix for Online Publication

Townships. Townships are a weaker form of general-purpose government that is common in the Midwest, but not in other parts of the country. Some municipal incorporations during the time period we study could have been the result of a conversion from a township to a municipality. The Census of Governments data source includes measures of townships, so we conduct our primary analysis on townships to test for whether our effects are driven primarily by conversion from townships. Appendix Table A11 presents these results on 1940-70 outcomes. We find that the Great Migration significantly increased the number of townships per capita in our data, suggesting that the municipality results we document are not simply the result of township conversion (and thus masking a constant count of general-purpose governments). Instead, though some townships may have been converted in the Midwest, these results suggest more may have been created.

Counties. County governments are separate layer of local governance. However, they serve primarily to execute state functions and change very rarely in the postwar era.

Goodman Data Details. The backbone of this dataset is the Census' Governments Master Address File (U.S. Census Bureau, 2012b). This is taken as the universe of municipal governments as of 2012, which Goodman then matches to the year of incorporation using data from state agencies and municipal leagues. Goodman is able to record the year of incorporation for 95.67 percent of municipalities nationwide. While this is extremely comprehensive, there is heterogeneity in the unreported data: the states of Oklahoma and Nebraska both have sub-50 percent reporting rates (although none of our 130 CZs are in Oklahoma).

Census of Government 1942 Data Issues. See the "Special Caveat Regarding Data for 1942" in the County Area Counts notes.

Scaling the Endogenous Regressor. Our modeling diverges from that of Derenoncourt (2022a) in terms of scaling. Her work uses percent changes (rather than percentage point) and transforms the endogenous variable and the instrument into a rank/percentile form, to address the skew of the underlying distribution of changes in the urban Black share. However, we find using percentage point changes to disaggregate changes in Black urban population from changes in total urban population to be important. Moreover, we find expressing the effect in terms of absolute, rather than relative, changes to be more informative. Our main results are robust to using the original scaling (see Appendix Table A6.

Using LASSO to Predict Outmigration. We estimate the decadal migration outflow rate for each Southern county using a Least Absolute Shrinkage and Selection Operator (LASSO) regression to select supply-side county-level characteristics that could drive outmigration rates, with a penalty for the absolute number of predictors, as follows:

$$\tilde{\mathbf{Z}}_{j,t-10} = \left\{ \tilde{\mathbf{Z}}_{j,t-10} \subseteq \mathbf{Z}_{j,t-10} : \min_{\delta_0,\delta_1} \left\{ \sum_{j=1}^{J} \left(\text{mig rate}_{j,t} - \delta_0 - \tilde{\mathbf{Z}}'_{j,t-10}\delta_1 \right)^2 \right\} \text{ s.t. } \sum_{r=1}^{R} |\delta_r| \leq p \right\}$$

where p is the tuning parameter and the predictors in $\mathbf{Z}_{j,t-10}$ are the predictors. The set of push factor county-level characteristics at the decadal level is drawn from (Derenoncourt, 2022b). Variables selected by LASSO in $\mathbf{Z}_{j,t-10}$ include percent acreage in cotton, percent tenant farms, share of the labor force in agriculture, an indicator for being in a tobacco-growing state, the interaction between tobacco growing state and share in agriculture, WWII spending per capita, share of the labor force in mining, an indicator for being in a mining state (OK and TX), and the interaction between the mining state and share in mining.

Placebo tests. Following Adão et al. (2019), we conduct a placebo test to assuage concerns about our standard errors being understated due to correlations between the "shares" each CZ has in our instrument, resulting in dependence between residuals. We construct 1,000 placebo instruments, where we substitute the shocks $\mathbf{Z}_{t-10}$ in our original instrument for $r_i \sim \mathcal{N}(0,5)\ \forall i \in [1,1000]$. Since the variation in these instruments is randomly generated, we would expect to see the results reject the null hypothesis in 1% or 5% of cases at the specified significance level. In Figure A3, we see our placebo results are similar, all outcomes lying between 5.4% and 16% significant at the 5% level across all outcomes, far below the 55% found in the example described in Adão et al. (2019).

Alternative instruments. We construct three alternative instruments, following (Derenoncourt, 2022a). The first of these residualizes the Southern county outmigration rates by state fixed effects, accounting for any correlation between shocks to Southern states and northern CZs. The second of these drops the 15 Southern counties coded as central in MSAs with a 1990 population over one million, accounting for any nationwide shocks to urban areas. The third of these constructs the pre-period weights using Southern state of birth, rather than 1935-39 Southern residence, which accounts for correlation between shocks to the original set of origin counties and their destination CZs. The results are shown in Figure A2, where we see similar point estimates in all outcomes and that an overidentification test does not reject the null hypothesis that all instruments are estimating the same parameter in all outcomes barring school districts.

Instrumenting for White Out-Migration. Appendix Tables and use a traditional shift-share instrumental variables design, without the stage zero LASSO estimator based on exogneous push factors. In Appendix Table , we define our instrument in a way that is analogous to the main specification, $\widehat{GM}_\ell = \frac{\widehat{\text{WhiteMig}}_{\ell,1940-70}}{\text{UrbPop}_{\ell,1940}}$. Recall that the reason we do not express the instrument as a percentage point change is because it requires a non-linear transformation of the predicted values, something recognized as problematic for shift-share estimation in Borusyak et al. (2022). Defined this way, the first stage breaks down.

In Appendix Table , we ignore this issue with the non-linear transformation and construct our instrument as the predicted percentage point change in the urban White share, matching our endogenous regressor in this specification, the actual percentage point change in the urban White share. In this construction, the first stage holds up. Both tables show negative correlations in OLS between changes in urban White share and jurisdictional fragmentation, opposite of our main effects. Neither table presents evidence that changes in urban White share have a causal effect on jurisdictional fragmentation in 2SLS. These findings are important because they suggest our main findings are not simply a feature of population growth or the in-migration of outsiders from the South.

Segregation Indices. The variance ratio is defined as $VR = \frac{{}_mP^*_m - \pi_m}{1-\pi_m}$, where π_m is the proportion minority enrollment in the CZ and ${}_mP^*_m = \sum_{i \in CZ} \frac{t_{im}}{T_m}\frac{t_{im}}{t_i}$ is the isolation index, where t_{im} and t_i are the minority and total enrollment in school district i and T_M is the aggregate minority enrollment in the CZ. It ranges from 0 to 1 and can be interpreted as the excess segregation between school districts, given the overall racial composition of the CZ. The dissimilarity index is defined as $D = \frac{1}{2}\sum_i \frac{t_i|\pi_{im} - \pi_m|}{2T\pi_m(1-\pi_m)}$ where, in addition to variables defined above, T is the total enrollment in the CZ and π_{im} is the proportion minority enrollment in school district i. It ranges from 0 to 1 and can be interpreted as the proportion of minority students that would have to change school districts to achieve an even racial distribution.

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Table A1: Summary statistics

	Mean	10th Percentile	Median	90th Percentile
Panel A: Outcome Variables				
$\Delta_{1940-70}$ Number of Municipalities, Per Capita (C. Goodman)	-0.26	-0.65	-0.28	0.12
$\Delta_{1940-70}$ Number of Municipalities, Per Capita (CoG)	-0.33	-0.78	-0.30	0.08
$\Delta_{1940-70}$ Number of School Districts, Per Capita	-12.95	-33.12	-8.18	-1.26
$\Delta_{1940-70}$ Number of Special Districts, Per Capita	0.64	-0.16	0.46	1.95
$\Delta_{1940-70}$ Main City Share	-3.37	-19.31	-2.59	9.14
Panel B: Treatment Variables				
GM	6.01	0.01	3.58	16.68
$\widehat{GM}$	1.28	-0.12	0.33	4.00
Panel C: Control Variables				
Sum of shares control	0.10	0.00	0.03	0.27
Coastal CZ	0.15	0.00	0.00	1.00
Average Transport Cost out of CZ, 1920	9.49	7.03	8.08	15.89
Observations	130	130	130	130

Notes: Summary statistics (unweighted) for outcome variables (Panel A), treatment variables (Panel B), and control variables (Panel C). Sum of shares represents the sum of the share of all 1935-39 sending county to destination city migration links. Coastal CZ is the average of a dummy variable. Transportation costs represent the 1920 dollar cost of rail transportation to a county outside of the CZ, averaged over all counties in the CZ.

Table A2: Balance Tests: 1940 Observables

	$\widehat{GM}$
Average precipitation	0.270
	(0.335)
Average temperature	-0.958
	(0.896)
Coastal CZ	0.019**
	(0.009)
Share of LF employed in manufacturing, 1940	0.375
	(0.467)
Meters of Railroad per Square Meter of Area, 1940	0.000
	(0.000)
Above 90th percentile area incorporated	0.031
	(0.030)
Above 95th percentile area incorporated	0.041
	(0.030)
Average Transport Cost out of CZ, 1920	-0.047*
	(0.026)

Notes: Each coefficient comes from a separate regression of the baseline covariate on the instrument. All specifications include census region fixed effects and CZ-level controls for the sum of shares, and are weighted by 1940 CZ urban population (mirroring the main specification). Data on climate from Vose et al. (2014), on topography from U.S. Census Bureau (2018), on transportation costs from Donaldson and Hornbeck (2016), and on railroads from Atack (2016). Transportation costs represent the 1920 dollar cost of rail transportation to a county outside of the CZ, averaged over all counties in the CZ. Robust standard errors in parentheses. $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Pre-trends

	IV	Reduced Form
New municipalities per capita, 1910-20	-0.006	-0.012
	(0.005)	(0.011)
New municipalities per capita, 1920-30	-0.000	-0.000
	(0.002)	(0.004)
New municipalities per capita, 1930-40	0.001	0.002
	(0.002)	(0.004)
New municipalities per capita, 1910-40	-0.005	-0.011
	(0.007)	(0.017)

Notes: Each coefficient comes from a separate regression, where the outcome variable is the change in municipalities per capita over the listed time period in the Goodman data. All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost, and are weighted by 1940 CZ urban population (mirroring the main specification). Robust standard errors in parentheses. $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Main effects, 1950-1970, avoiding the 1942 CoG measurement issues

	C. Goodman	Census of Governments				Census
	Municipalities		School districts	Townships	Special districts	Main City Share
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: First Stage						
$\widehat{GM}$	2.185***	2.185***	2.423***	2.185***	2.185***	2.185***
	(0.302)	(0.302)	(0.370)	(0.302)	(0.302)	(0.302)
Panel B: OLS						
GM	0.003	0.004**	0.278***	0.010***	-0.017***	-0.711***
	(0.002)	(0.002)	(0.055)	(0.003)	(0.006)	(0.092)
Panel C: Reduced Form						
$\widehat{GM}$	0.008	0.011*	0.870***	0.033***	-0.036***	-1.994***
	(0.006)	(0.006)	(0.190)	(0.009)	(0.012)	(0.355)
Panel D: 2SLS						
GM	0.004	0.005**	0.359***	0.015***	-0.016***	-0.912***
	(0.002)	(0.002)	(0.073)	(0.003)	(0.005)	(0.108)
First Stage F-Stat	52.50	52.50	42.91	52.50	52.50	52.50
Dep. Var. Mean	-0.16	-0.19	-7.11	-0.37	0.45	-2.65
1940 Dep. Var. Mean	1.49	1.61	14.09	2.29	0.89	32.86
Observations	130	130	118	130	130	130

Notes: Regression results according to equations in the Empirical Strategy section, weighted by 1940 CZ urban population. All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost. Note that the scaling of the reduced form differs from the scaling of the OLS and 2SLS estimates as described in the Empirical Strategy section. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A5: Main effects, 1940-1970, without controls for imbalanced baseline covariates

	C. Goodman		Census of Governments			Census
	Municipalities		School districts	Townships	Special districts	Main City Share
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: First Stage						
$\widehat{GM}$	2.338***	2.338***	2.547***	2.338***	2.338***	2.338***
	(0.290)	(0.290)	(0.349)	(0.290)	(0.290)	(0.290)
Panel B: OLS						
GM	0.004	0.007**	0.457***	0.018***	-0.028***	-0.939***
	(0.002)	(0.003)	(0.083)	(0.005)	(0.007)	(0.112)
Panel C: Reduced Form						
$\widehat{GM}$	0.013*	0.021**	1.431***	0.058***	-0.057***	-2.601***
	(0.008)	(0.009)	(0.383)	(0.015)	(0.019)	(0.432)
Panel D: 2SLS						
GM	0.006*	0.009***	0.562***	0.025***	-0.024***	-1.112***
	(0.003)	(0.003)	(0.124)	(0.006)	(0.007)	(0.120)
First Stage F-Stat	65.10	65.10	53.30	65.10	65.10	65.10
Dep. Var. Mean	-0.26	-0.33	-12.95	-0.57	0.64	-3.37
1940 Dep. Var. Mean	1.49	1.61	14.09	2.29	0.89	32.86
Observations	130	130	118	130	130	130

Notes: Regression results according to equations in the Empirical Strategy section, weighted by 1940 CZ urban population. All specifications include census region fixed effects and a CZ-level control for the sum of shares. Note that the scaling of the reduced form differs from the scaling of the OLS and 2SLS estimates as described in the Empirical Strategy section. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A6: Main effects, 1940-1970, using percentile transformation of instrument and endogenous regressor

	C. Goodman		Census of Governments			Census
	Municipalities		School districts	Townships	Special districts	Main City Share
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: First Stage						
Percentile $\widehat{GM}$	0.656***	0.656***	0.579***	0.656***	0.656***	0.656***
	(0.108)	(0.108)	(0.121)	(0.108)	(0.108)	(0.108)
Panel B: OLS						
Percentile GM	0.000	0.002	0.157***	0.004**	-0.013***	-0.279***
	(0.001)	(0.001)	(0.033)	(0.002)	(0.002)	(0.051)
Panel C: Reduced Form						
Percentile $\widehat{GM}$	0.002**	0.003***	0.162***	0.005***	-0.009***	-0.267***
	(0.001)	(0.001)	(0.036)	(0.002)	(0.003)	(0.051)
Panel D: 2SLS						
Percentile GM	0.003**	0.004***	0.279***	0.008***	-0.014***	-0.407***
	(0.001)	(0.002)	(0.057)	(0.003)	(0.003)	(0.069)
First Stage F-Stat	36.66	36.66	22.94	36.66	36.66	36.66
Dep. Var. Mean	-0.26	-0.33	-12.95	-0.57	0.64	-3.37
1940 Dep. Var. Mean	1.49	1.61	14.09	2.29	0.89	32.86
Observations	130	130	118	130	130	130

Notes: Both the instrument and the endogenous regressor are transformed in these specifications to percentile/rank among all 130 (or 118) CZs. All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost, and are weighted by 1940 CZ urban population. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A7: Main results, 1940-1970, including a quadratic term

	C. Goodman		Census of Governments			Census
	Municipalities		School districts	Townships	Special districts	Main City Share
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: First Stage						
$\widehat{GM}$	2.185***	2.185***	2.423***	2.185***	2.185***	2.185***
	(0.302)	(0.302)	(0.370)	(0.302)	(0.302)	(0.302)
Panel B: OLS						
GM	0.010	0.016**	1.084***	0.013	-0.073***	-1.029***
	(0.006)	(0.007)	(0.293)	(0.011)	(0.016)	(0.237)
GM^2	-0.000	-0.000	-0.024**	0.000	0.002***	0.004
	(0.000)	(0.000)	(0.009)	(0.000)	(0.000)	(0.006)
Panel C: Reduced Form						
$\widehat{GM}$	0.047***	0.059***	3.306***	0.100***	-0.127***	-4.316***
	(0.012)	(0.012)	(0.588)	(0.024)	(0.033)	(0.649)
$\widehat{GM}^2$	-0.002***	-0.003***	-0.210***	-0.003***	0.005***	0.129***
	(0.000)	(0.001)	(0.047)	(0.001)	(0.001)	(0.032)
Panel D: 2SLS						
GM	0.027***	0.030***	2.405***	0.042***	-0.058***	-1.631***
	(0.006)	(0.007)	(0.468)	(0.013)	(0.016)	(0.337)
GM^2	-0.001***	-0.001***	-0.065***	-0.001**	0.001***	0.015**
	(0.000)	(0.000)	(0.015)	(0.000)	(0.000)	(0.007)
First Stage F-Stat	52.50	52.50	42.91	52.50	52.50	52.50
Dep. Var. Mean	-0.26	-0.33	-12.95	-0.57	0.64	-3.37
1940 Dep. Var. Mean	1.49	1.61	14.09	2.29	0.89	32.86
Observations	130	130	118	130	130	130

Notes: Regression results according to equations in the Empirical Strategy section, weighted by 1940 CZ urban population, with the addition of a quadratic term. All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost. Note that the scaling of the reduced form differs from the scaling of the OLS and 2SLS estimates as described in the Empirical Strategy section. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A8: Main effects, 1940-1970, including European migration control

	C. Goodman		Census of Governments			Census
	Municipalities		School districts	Townships	Special districts	Main City Share
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: First Stage						
$\widehat{GM}$	1.668***	1.668***	1.869***	1.668***	1.668***	1.668***
	(0.306)	(0.306)	(0.511)	(0.306)	(0.306)	(0.306)
Panel B: OLS						
GM	-0.000	0.003	0.333***	0.007	-0.031***	-0.802***
	(0.003)	(0.003)	(0.090)	(0.005)	(0.009)	(0.160)
Panel C: Reduced Form						
$\widehat{GM}$	0.005	0.013	0.990**	0.033**	-0.046**	-1.878***
	(0.008)	(0.010)	(0.423)	(0.014)	(0.021)	(0.418)
Panel D: 2SLS						
GM	0.003	0.008	0.530**	0.020**	-0.028**	-1.126***
	(0.005)	(0.006)	(0.217)	(0.008)	(0.012)	(0.159)
First Stage F-Stat	29.76	29.76	13.36	29.76	29.76	29.76
Dep. Var. Mean	-0.26	-0.33	-12.95	-0.57	0.64	-3.37
1940 Dep. Var. Mean	1.49	1.61	14.09	2.29	0.89	32.86
Observations	130	130	118	130	130	130

Notes: Regression results according to equations in the Empirical Strategy section, weighted by 1940 CZ urban population. All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost. All specifications also include the instrument for European migration from Sequeira et al. (2020) as a control to test for whether European migration is a potential confounder. Note that the scaling of the reduced form differs from the scaling of the OLS and 2SLS estimates as described in the Empirical Strategy section. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A9: White migration effect, 1940-1970, traditional SSIV, instrument mirrors main specification

	C. Goodman		Census of Governments			Census
	Municipalities		School districts	Townships	Special districts	Main City Share
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: First Stage						
$\widehat{WM}$	0.400	0.400	0.400	0.400	0.400	0.400
	(0.242)	(0.242)	(0.242)	(0.242)	(0.242)	(0.242)
Panel B: OLS						
WM	-0.004*	-0.007***	-0.402***	-0.014***	0.029***	0.869***
	(0.002)	(0.002)	(0.085)	(0.004)	(0.006)	(0.110)
Panel C: Reduced Form						
$\widehat{WM}$	-0.001	-0.003	0.315*	0.000	0.004	0.401
	(0.005)	(0.007)	(0.177)	(0.009)	(0.011)	(0.307)
Panel D: 2SLS						
WM	-0.001	-0.008	-2.333	0.001	0.011	1.003*
	(0.013)	(0.017)	(4.539)	(0.022)	(0.024)	(0.545)
First Stage F-Stat	2.73	2.73	2.73	2.73	2.73	2.73
Dep. Var. Mean	-0.26	-0.33	-12.95	-0.57	0.64	-3.37
1940 Dep. Var. Mean	1.49	1.61	14.09	2.29	0.89	32.86
Observations	130	130	118	130	130	130

Notes: Results come from a traditional SSIV, without the push-factor stage zero. WM is the change in the urban White share from 1940 to 1970 at the CZ level. The instrument mirrors our main specification: $\widehat{GM}_\ell = \frac{\widehat{\text{WhiteMig}}_{\ell,1940-70}}{\text{UrbPop}_{\ell,1940}}$. All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost, and are weighted by 1940 CZ urban population. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A10: White migration effect, 1940-1970, traditional SSIV, instrument scaled to percentage point change

	C. Goodman		Census of Governments			Census
	Municipalities		School districts	Townships	Special districts	Main City Share
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: First Stage						
$\widehat{WM}$	2.639***	2.639***	2.639***	2.639***	2.639***	2.639***
	(0.641)	(0.641)	(0.641)	(0.641)	(0.641)	(0.641)
Panel B: OLS						
WM	-0.004*	-0.007***	-0.402***	-0.014***	0.029***	0.869***
	(0.002)	(0.002)	(0.085)	(0.004)	(0.006)	(0.110)
Panel C: Reduced Form						
$\widehat{WM}$	0.014	0.009	0.799	-0.025	-0.005	2.246**
	(0.015)	(0.020)	(3.192)	(0.029)	(0.030)	(0.933)
Panel D: 2SLS						
WM	0.005	0.003	0.217	-0.009	-0.002	0.851***
	(0.006)	(0.008)	(1.014)	(0.010)	(0.011)	(0.259)
First Stage F-Stat	16.96	16.96	16.96	16.96	16.96	16.96
Dep. Var. Mean	-0.14	-0.17	-4.06	-0.25	0.26	-14.64
1940 Dep. Var. Mean	0.63	0.68	4.57	0.81	0.42	50.41
Observations	130	130	118	130	130	130

Notes: Results come from a traditional SSIV, without the push-factor stage zero. WM is the change in the urban White share from 1940 to 1970 at the CZ level. The instrument is also scaled as a percentage point change in the urban White share. All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost, and are weighted by 1940 CZ urban population. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A11: Main effects, Township Outcome

	Census of Governments
	Townships
	(1)
Panel A: First Stage	
$\widehat{GM}$	2.185***
	(0.302)
Panel B: OLS	
GM	0.015***
	(0.004)
Panel C: Reduced Form	
$\widehat{GM}$	0.051***
	(0.015)
Panel D: 2SLS	
GM	0.023***
	(0.006)
First Stage F-Stat	52.50
Dep. Var. Mean	-0.57
1940 Dep. Var. Mean	2.29
Observations	130

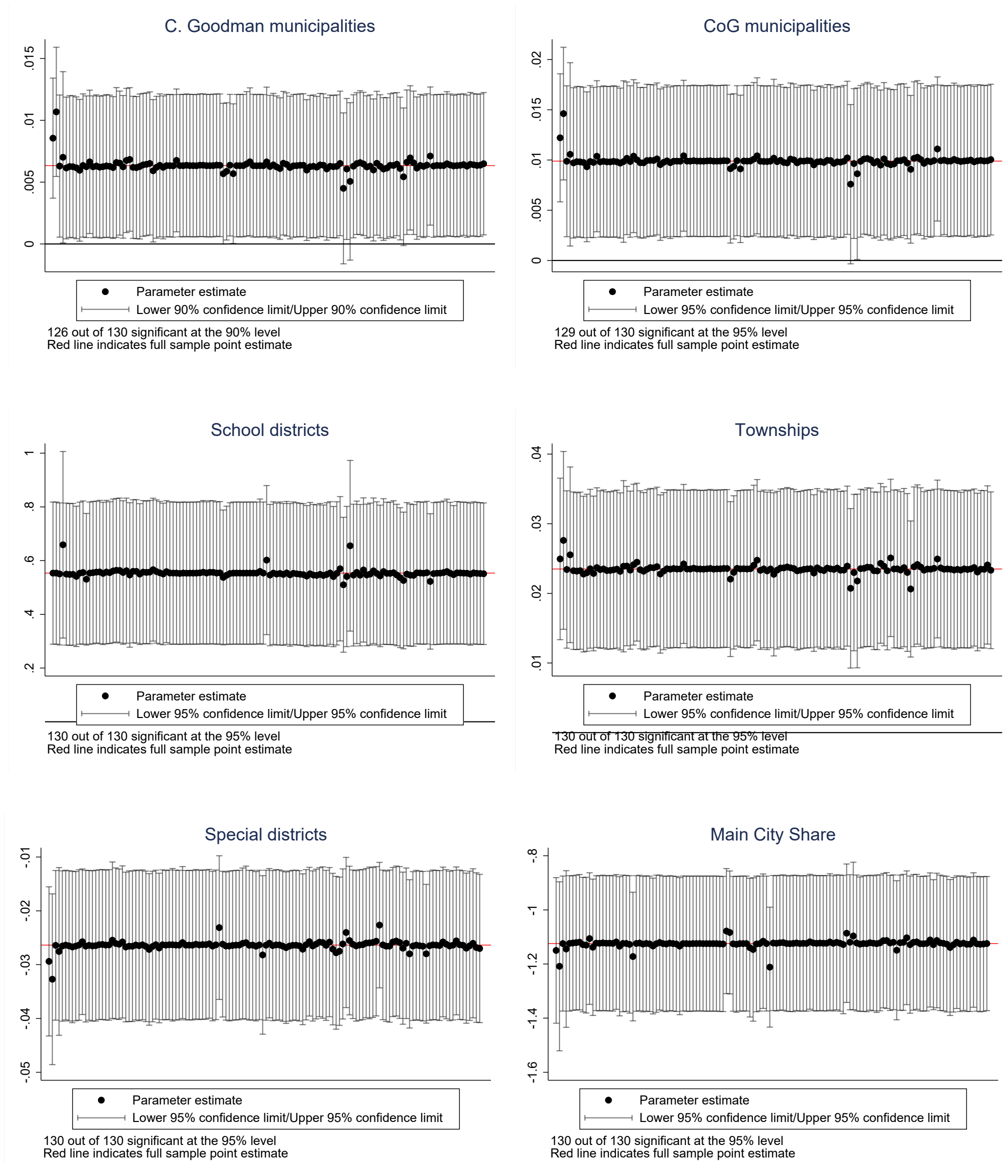
Notes: Regression results according to equations in the Empirical Strategy section, weighted by 1940 CZ urban population. All specifications include census region fixed effects and a CZ-level control for the sum of shares. Note that the scaling of the reduced form differs from the scaling of the OLS and 2SLS estimates as described in the Empirical Strategy section. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A12: Municipalities Incorporated between 1940 and 1970: Additional variables

	(1) Adjacent to Principle City	(2) Outstanding Debt as Pct of Municipal Revenues
Above Median GM X Inc. 1940-70	-0.046	-27.132
	(0.144)	(37.523)
Above Median GM	0.005	-11.683
	(0.038)	(12.737)
Incorporated 1940-70	0.462	50.974
	(0.280)	(177.372)
Below Median Avg.	0.250	150.680
Observations	7719	7738

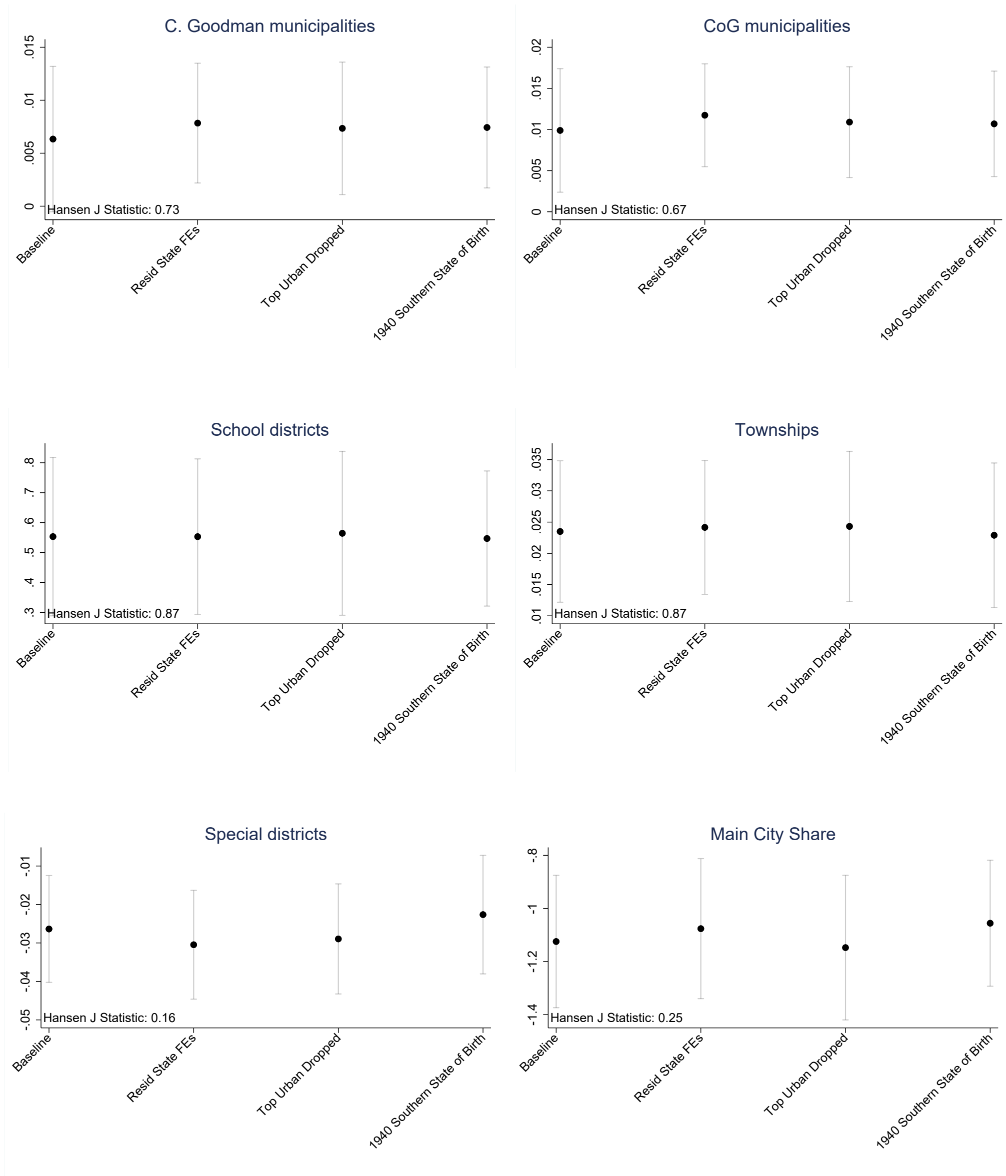
Notes: All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost, weighted by municipality population. The sample includes all contemporary (2023) municipalities in the 130 CZs in our analysis. Adjacency comes from authors' calculations using the TIGER/Line shapefiles from U.S. Census Bureau (2018). Adjacent is a 0/1 indicator for municipal boundaries adjacent to boundary of the central city; this specification drops central cities. Municipal finance data comes from U.S. Census Bureau (2012a). Robust standard errors in parentheses. $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure A1: Leave-one-out IV Tests, Balanced Controls



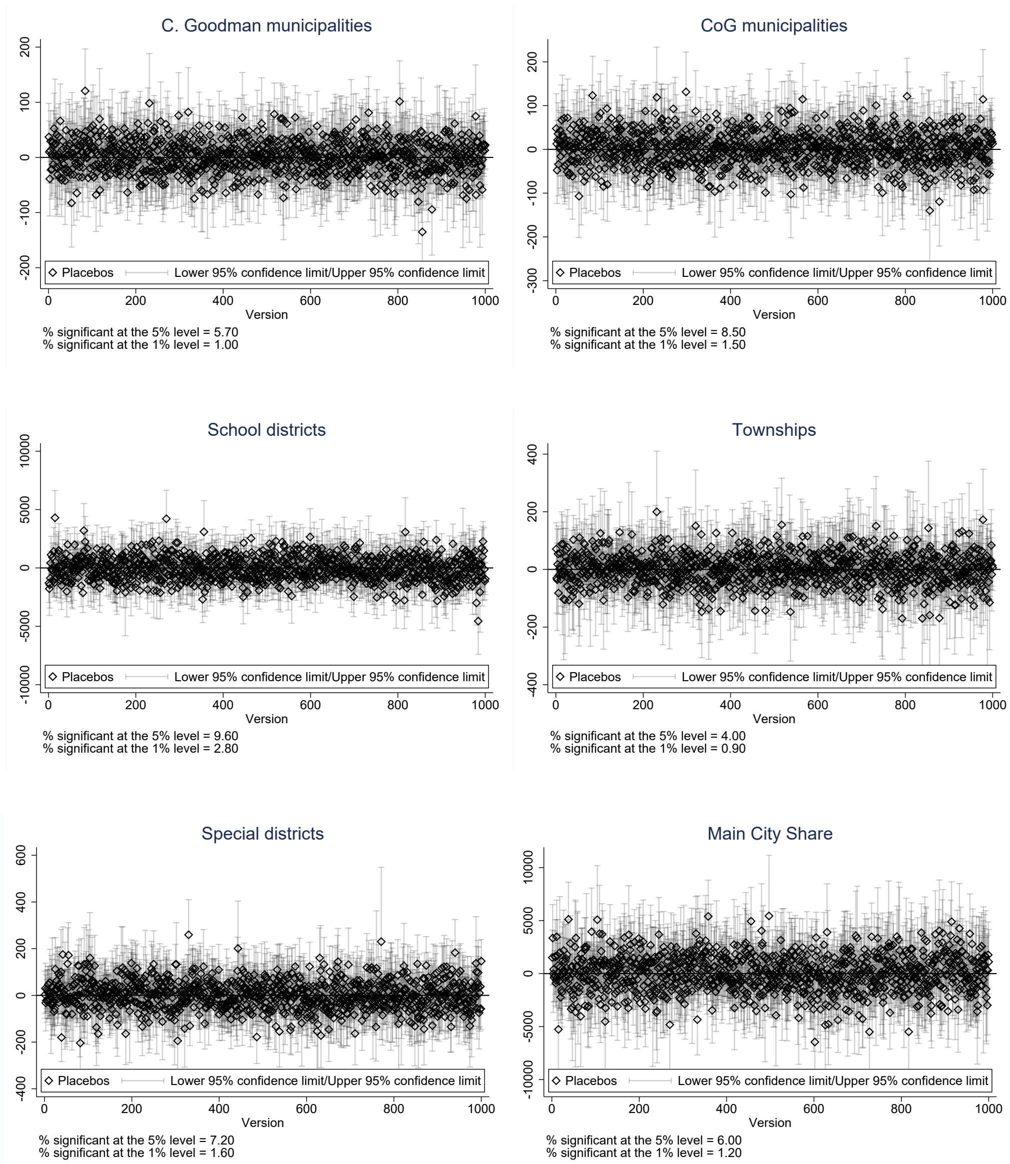
Notes: Regression results according to equations in the Empirical Strategy section, weighted by 1940 CZ urban population. All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost. Each parameter estimate comes from a regression that drops one CZ at a time. Robust standard errors generate 95% confidence intervals.

Figure A2: Overidentification IV Tests, Balanced Controls



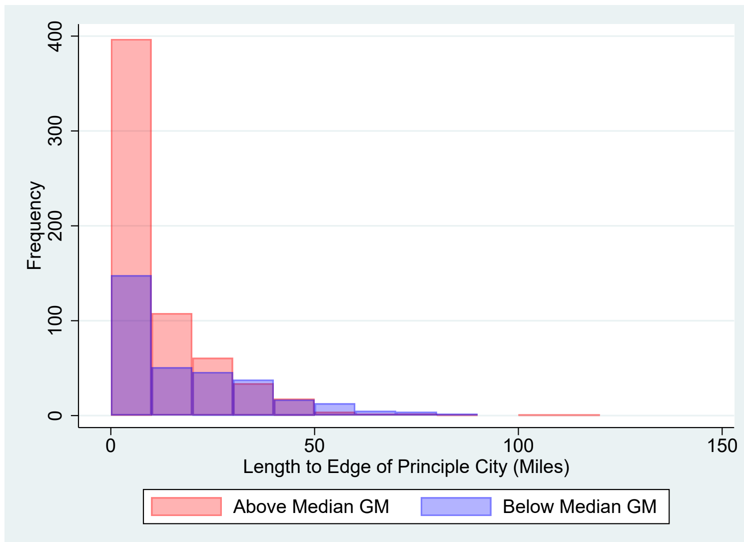
Notes: Point estimates come from our baseline instrument and three alternative instruments, where all specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost, and are weighted by 1940 CZ urban population. Robust standard errors generate 95% confidence intervals.

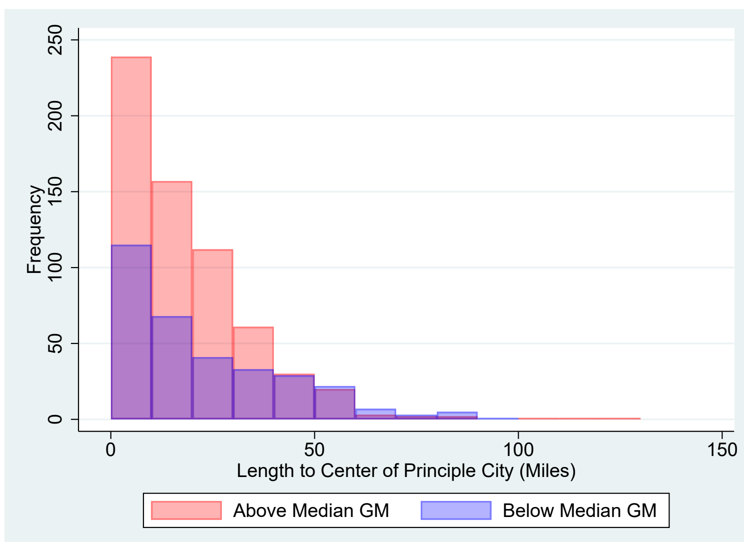
Figure A3: Placebo Tests, Balanced Controls



Notes: Regression results according to equations in the Empirical Strategy section, weighted by 1940 CZ urban population. All specifications include census region fixed effects and CZ-level controls for the sum of shares, coastal, and 1920 transportation cost. Each of the 1,000 instruments is constructed using randomly generated variation in Southern county-level shocks. Robust standard errors generate 95% confidence intervals.

Figure A4: Distribution of Distance to Principle City, 1940-70 Incorporations





Notes: Distributions present length to edge and length to center of the principal city for each of the nearly 1,000 municipalities incorporated between 1940 and 1970 in our 130 sample CZs. More municipalities were incorporated in Above Median GM CZs, which drives part of the differences in these distributions. In addition, new municipalities in Above Median GM CZs are bunched closer to zero, suggesting they primarily take the form of adjacent or inner-ring sururbs rather than far-flung exurbs.