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

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Abstract

Local political jurisdictions determine a large share of public service quality. Many U.S. metropolitan areas are fragmented into dozens of jurisdictions, which can to exacerbate inequality in access to high-quality public services. We use a shift-share migration instrument to study the effect of the Great Migration from 1940-1970 on jurisdictional fragmentation. An exogenously higher urban Black share caused a large increase in per-capita municipalities, and school districts, and a reduction in special districts. Newly incorporated municipalities used exclusionary zoning practices to create barriers for poor households. Without this fragmenting effect, there would be XXX fewer school districts today.

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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 urban studies and history suggests that jurisdictional fragmentation often served to exclude minorities from access to high-quality public goods (Danielson, 1976, Burns, 1994, Jenkins, 2021). Consistent with such a mechanism, there is causal evidence that inflows of historically marginalized populations has led to residential resorting based on race (Card et al., 2008, Boustan, 2012a), and to lower rates of social mobility for minorities (Derenoncourt, 2022a). Nevertheless, there is little quantitative evidence on the historical drivers of jurisdictional fragmentation itself, and specifically, on the role of race in shaping the structure of the polities tasked with public good provision in the American city.

This study addresses this gap by examining the impacts of a pivotal demographic event that increased Black Americans' population share in many U.S. cities: the Second Great Migration.[1] Between 1940 and 1970, four million African Americans migrated from the South to cities in the North and West of the U.S. These decades also witnessed the birth

[1] The First Great Migration took place starting in the 1910s.

of many new local governments, a dramatic contraction in the number of school districts, and high urban and suburban population growth, suggesting this episode of migration may have been particularly influential in the delineation of American local polities. The aim of our study is to determine whether (and to what extent, if any) the Great Migration caused jurisdictional fragmentation in U.S. urban areas.

Answering this question is challenging for at least two reasons. First, we require a historical catalogue of each local government in the country. Second, we must hold other factors constant when studying the empirical relationship between demographic change and the proliferation of new local governments. It could be the case, for instance, that Great Migration destinations simply witnessed more population growth, and this necessitated the foundation of new local governments to provide services for previously unpopulated areas. Therefore, recovering the causal effect of the influx of Black residents on jurisdictional fragmentation requires a source of exogenous variation in the flow of Black migrants across metropolitan areas.

We overcome these obstacles by combining various historical measures of political jurisdictions in the post-war era (U.S. Census Bureau, 2014, Goodman, 2023) with a migration shift-share design (Card, 1990, Boustan, 2010, Derenoncourt, 2022a, Shertzer and Walsh, 2019).[2] In our dataset, we observe the number of municipalities, school districts, townships, and special districts both in 1940 and 1970, allowing us to document how the number of jurisdictions per capita (our preferred measure of fragmentation) varies across 130 commuting zones over the course of the Great Migration. We use a shift-share instrumental variable research design, based on exogenous migration push factors combined with pre-existing migration links between Southern counties and destination commuting zones.

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

We find that the Great Migration was an important driver of the jurisdictional fragmentation of US commuting zones. Our preferred specification indicates that a one standard-deviation exogenous increase in the share of urban Black residents causes a XX% (XX%) increase in the number of municipalities (townships) per capita and leads to a much slower rate of local school district consolidation. In commuting zones that were strongly affected by the Great Migration, the principal city ended up serving a much smaller share of residents. Overall, we estimate that there would be roughly XXX fewer municipalities and XXX fewer school districts today if the Great Migration had not had this fragmenting effect on Northern and Western metropolitan areas.

Our evidence is consistent with the narrative that the exclusion of Black residents lay at the heart of the proliferation of new local governments during this time period. Historians document that some communities incorporated to defend against annexation from the main city, which had become increasingly diverse after the arrival of Black households (Rothstein, 2017). Incorporating as a separate entity effectively avoided sharing services and tax revenue with the rest of the city. Correspondingly, we document that these newly created municipalities were often entirely White.

In addition, we present evidence that jurisdictions created during the Great Migration period are more likely to have a large share of their residential land zoned for single family housing, effectively limiting the development of multi-family housing typically used by lower income households. This is again consistent with the thesis that the motive for jurisdictional fragmentation was largely exclusionary. In tandem, we show evidence that newly created local jurisdictions obtained a larger share of public revenue from fines and forfeitures, which may suggest the pursuit of more aggressive policing tactics that tend to be linked with the marginalization of minority groups.

Our results are robust to a wide range of specification checks. Importantly, we show that White migration from the South did not have a comparable effect on jurisdictional fragmentation, indicating that our findings are not simply a feature of population growth.

Related literatures. In addition to the literature in history and urban studies mentioned earlier, our work speaks to research in the political economy of jurisdictional formation (Casella, 2001, Alesina et al., 2004, Weese, 2015, Grossman et al., 2017). Our contribution is to use state-of-the-art causal inference methods to study the role of community heterogeneity on jurisdictional proliferation. We also provide direct evidence on the mechanisms underlying these effects.

Our work also speaks to a newer literature on the effects of the Great Migration on the political economy of local governments in destination cities (Boustan, 2010, Tabellini, 2019, Sahn, 2021, Derenoncourt, 2022a, 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. This fragmentation *permanently* decreased the ability of public policy to provide equitable access to high-quality public goods.

2 Historical Background

2.1 Jurisdictional Fragmentation

Jurisdictional fragmentation refers to 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 (Alesina and Spolaore, 1997, Alesina et al., 2004, Grossman and Lewis, 2014, Weese, 2015). A central finding in this literature is that the number of jurisdictions trades off the benefits of scale economies against the cost of more heterogeneous communities. In the U.S., this tension is particularly salient with respect to race, and the role of Black residents in particular. 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).

We begin by providing a brief overview of the historical process of jurisdictional fragmentation in U.S. metropolitan areas. These processes turn out to be remarkably different for municipalities and townships, school districts, and special districts. Hence, we discuss the evolution of each of these types of political jurisdictions and their relationship to race separately.

Incorporation, consolidation, and annexation. Municipalities are the primary provider of general-purpose local government services, such as public safety, trash disposal, road maintenance, and other types of infrastructure. In the Midwest and the Northeast, townships offer an additional and slightly weaker form of general-purpose government. Municipalities and townships have home rule powers granted by state constitutions that endow them with the powers of running their own police department, controlling land use, and providing other city services in a well-defined territory (Briffault, 2004). Nationally, the number of municipalities has grown from 16,220 municipalities in 1942 to 18,517 in 1972, whereas the number of townships has fallen from 18,919 in 1942 to 16,991 in 1972, in large part due to their conversion into municipalities. Recent evidence suggests that municipalities incorporate in part as a mechanism to exclude households by race and income (Henderson and Thisse, 2001, Wyndham-Douds, 2023).

After a municipality incorporates, its boundaries may continue to change due to consolidation and annexation. Consolidation refers to the merging of multiple municipalities into a single entity, such as the consolidation of New York City and Brooklyn in 1898. Annexation is the extension of municipal boundaries into unincorporated county territory. In the course of the first half of the 20th century, many states introduced constitutional barriers to consolidation, granting more powers to affected residents.[3] As consolidation became increasingly difficult, principal cities would often turn to municipal annexation to expand their tax base. They would often do so in a way that circumvented the poorest communities in the area (Anderson, 2010). Austin (1999) argues that annexations are in part driven by a desire to offset the political and racial effects of urban 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 125,000 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). 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. After the 1954 Brown ruling, there were also notable moves toward private education, the so-called segregation academies (Grady and Hoffman, 2018). Still, a vast majority of students attended public schools throughout the period we study, and differences in funding across districts were stark: they were mostly funded by local tax dollars and the federal/state government had not yet adopted policies to remediate funding disparities (Lafortune et al., 2018).

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).

[3] Tricaud (2023) shows for the case of French municipalities that residents may resist consolidation and annexation because of loss of services and increased construction activity in the larger municipality.

Many school districts faced lawsuits challenging the racial imbalance of their schools as unconstitutional. In tandem, many districts were legally compelled or otherwise voluntarily developed programs to desegregate their schools. A large literature has shown that the subsequent decrease in racial segregation improved outcomes for students of color (Johnson, 2019, Billings et al., 2014, Reber, 2010). However, there is also evidence of white flight to other districts during this period (Boustan, 2012b).[4] Researchers have explored the determinants of school district consolidation in the context of the school desegregation period, concluding that demographically homogeneous communities had a higher probability of merging school districts (Gordon and Knight, 2009).

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, in particular special districts, 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 commuting zone (Goodman and Leland, 2019).

Compared to the other political jurisdictions discussed so far, 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.

[4] The 1987 Milliken v. Bradley decision ruled that the 1954 mandate applies only within school districts, cementing the existing incentives perpetuating between-district segregation.

2.2 The Great Migrations and Local Governments

Over the course of 1940-1970, four million Black people migrated out of the U.S. South to escape long-standing cultural and institutional discrimination under Jim Crow law and purse better employment opportunities in the rapidly industrializing North, known as the (Second) Great Migration. They settled in cities in the Northern and Western U.S., which triggered a number of fundamental changes in the demographic and political makeup of these cities that reduced opportunities for Black people who grew up there (Boustan, 2010, Collins, 2021, Derenoncourt, 2022a). Derenoncourt (2022) documents that local governments shifted expenditures to policing and incarceration, and White residents shifted from public to private schools, although there is no significant change in educational spending. However, as she points out, this lack of significant impact on educational expenditures could mask an increase in spending in suburban districts and a decrease in spending in the urban core. This reallocation would be facilitated if more suburban districts are preserved rather than absorbed into larger districts, in line with our investigation.

Tabellini (2019) documents that the policies and public finances of municipalities in destination cities were affected by an earlier wave of out-migration from the South.[5] Housing values dropped in destination cities, leading local governments to reduce their tax revenue and public expenditures rather than increase tax rates. He does not find any evidence for changes in the composition of spending.

Several recent studies examine other margins along which policies and governance were affected by the influx of Black migrants in the postwar era. Sahn (2021) studies the impact of the Great Migration on exclusionary zoning, finding that these restrictive

[5]He studies the First Great Migration, which took place between 1915-1930 and shifted about 1.5 million people to the North. The Second Great Migration in the years 1940-1970 is the focus of Derenoncourt (2022a) and the present study.

land use policies were introduced as a response to the demands of urban White voters. Grumbach et al. (2023), building on Trebbi et al. (2008), show that the Great Migration also caused a shift from mayor-council systems to city manager systems, thereby reducing the influence of Black voters and elected representatives.

2.3 Case Study: Cleveland, OH, versus Columbus, OH

Before providing more details on our data and research design, it is useful to see our argument applied to a comparative case study. This serves to make concrete how the Great Migration affected jurisdictional fragmentation as well as to demonstrate the mechanics of our identification strategy. To do so, we compare the commuting zones (CZs) of Cleveland, OH, and Columbus, OH.

Figure 1 shows maps of all municipalities in the two CZs, with colors denoting their share of White residents. It is apparent that Cleveland is much more segregated across municipalities than Columbus: there are many more municipalities that are mostly White or mostly non-White in Cleveland, whereas municipalities in Columbus are more racially diverse. We can also see that the central city in each CZ—the cities of Cleveland and Columbus, respectively—make up a very different share the urban 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.[6]

Figure 2 illustrates how the Great Migration may have contributed to the pattern of

[6]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.

municipal fragmentation in Cleveland and more integrated municipal services in Columbus. The panel on the left shows Cleveland and Columbus as well as their five most strongly established Northern 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 have one of their top five origin counties in common) indicates the strength of predicted out-migration in each decade between 1940 and 1970 based on various 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, the panel on the top right 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, the panel on the bottom right 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.

Overall, this comparative case study illustrates our hypothesis that the share of urban Black residents responded to exogenous migration shocks experienced in Southern counties, which in turn induced the creation of new municipalities, prevented the continued growth of the main city, and disrupted school district consolidation trends. To test whether these relationships hold up causally across a large set of U.S. metropolitan areas, we now discuss our data and design across all 130 non-Southern CZs.

3 Data and Empirical Strategy

3.1 Data

Our dataset draws together data on local governments, population by race, and various other characteristics for 130 non-Southern CZs in 1940 and 1970, along the lines of Derenoncourt (2022a). Relative to her work, our contribution in terms of data construction is to assemble detailed data on jurisdictional counts for all major types of local governments—municipalities, school districts, townships, and special districts—from various sources.[7] To this end, we rely on data from the Census of Governments, the decennial census, and a new dataset with the year of municipal incorporation of almost all currently existing municipalities across the country by Goodman (2023).

We measure the number of municipalities in 1940 and 1970 in two ways. First, we use the Goodman data to count the number of municipalities whose incorporation date precedes a given year of interest. Since it is constructed using the set of municipalities that existed in 2012, we do not observe municipalities that existed during our reference period but were consolidated, annexed, or otherwise dissolved by 2012. Thus, these data could under-count the number of municipalities in a CZ in 1940 and 1970.[8] The second measure of municipalities relies on surveys from the Census of Governments that were conducted in 1942 and every five years since 1952 (U.S. Census Bureau, 2014). While these data were collected contemporaneously and are thus not subject to the survival bias of the Goodman data, there are several other data issues, especially in the 1942 survey.[9]

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

[8] 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).

[9] First, given that the survey years for our purposes are 1942 and 1972, the outcome variable must be

Other types of local governments, in particular school districts, townships, and special districts, are also measured using the Census of Governments and are thus subject to the same caveats. But given that our results for municipalities are very similar no matter whether we use the Goodman data or the Census of Governments data, we believe these other types of jurisdictions are also likely to be measured fairly accurately.

Turning to population data by race, we follow Derenoncourt (2022b) in using the 1940 full count census and the 1972 County and City Data Book (CCDB) as a basis for 1940 and 1970 urban populations, respectively.[10] Defining urban population as being in a census-defined city of over 25,000 residents in either 1940 or 1970, we aggregate these data to the CZ level to calculate our endogenous variable, as defined in the next section. For this we use only cities with non-missing total and Black populations in both the CCDB as well as the census, while also restricting to non-Southern cities, which leaves us with 296 cities across 130 CZs.[11] We draw CZ-level covariates on climate from Vose et al. (2014), on topography from U.S. Census Bureau (2018), on t costs from Donaldson and Hornbeck (2016), on ports from National Atlas of the United States (2014), on railroads from Atack (2016), and on municipal incorporations from Goodman (2023).

We gather auxiliary data sources to answer additional hypotheses. First, we acquire data on residential land use zoning from CoreLogic's parcel level records on current property characteristics (as of 2023). These files help us categorize parcels into either single or multi family land-use codes. We link indicators of this parcel-level information to the Census Bureau's official maps of municipality boundaries in 2023 (TIGER/Line shape-

interpreted as having a two year lag relative to the instrument. Second, there are some data quality concerns regarding the 1942 Census (see "Special Caveat Regarding Data for 1942" in the County Area Counts notes). As a robustness check, we show our results hold using only the 1952-1972 data.

[10] We explored designing our analysis as a stacked panel at the CZ-decade level, rather than the 1940-1970 long differences, however the CCDB does not record Black populations in 1950, only whites and non-whites.

[11] We follow (Derenoncourt, 2022b) closely in filling in missing data for some of the cities and CZs, in particular for the Butte, MT, Amsterdam, NY, and Louisville, KY, CZs.

files of Census Places) using GIS methods. We measure the share of parcels in each municipality that are zoned for single family housing and for apartments, and merge this to information on GM intensity and date of municipal incorporation.

Summary statistics for our analysis dataset are in Table A1 of the appendix. Panel A shows the change in the number of municipalities, school districts, townships, and special districts per 10,000 between 1940 and 1970. While the total number of municipalities and townships grew in this period, the population in these jurisdictions grew even faster, resulting in a drop in jurisdictions per capita on average. Many school districts consolidated during this period, which was compounded by rapid population growth, leading to a drop from around 4.03 school districts per 10,000 in 1940 down to only 0.46 in 1970, a drop of 3.57 per 10,000. Bucking these trends in decreasing jurisdictions per capita, the number of special districts per 10,000 actually grew during this period. In particular, starting off at 0.42 special districts per 10,000 inhabitants, this number grew by more than 60% (0.26) by 1970.

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) ℓ, $\mathbf{X}_\ell$ 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 (we expand on how this is measured below). 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, (sum of shares? 1935-1940 black southern migrants? why?), and imablanced coavariates...

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:[12]

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

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.[13] We scale both variables

[12]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).

[13]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. 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

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.

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.[14] The term $\widehat{m}_{j,1940-70}$ is the total predicted outmigration from southern county j, defined by

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

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

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

in which $\text{mig rate}_{j,t}$ is county j net Black migration rate between years t and $t - 10$ (as in **?**) and $\tilde{\mathbf{Z}}_{j,t-10}$ is a set of predictors of out-migration chosen by a LASSO procedure.[15]

the effect in terms of absolute, rather than relative, changes to be more informative. Nonetheless, our main results are robust to using the original scaling.

[14]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.

[15]Following (Derenoncourt, 2022a), we define this as

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

where p is the tuning parameter and the predictors in $\mathbf{Z}_{j,t-10}$ are 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. All data from Derenoncourt (2022b).

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 in Goldsmith-Pinkham et al. (2020). Alternatively, it is also satisfied if migratory links ("shares") are endogenous but push factors ("shifts") are exogenous, as in the interpretation of shift-share instruments in 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 coviariates in 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. Results without these controls are shown in Table A5.

Second, in a regression akin to a pre-trend test, we test for whether our instrument predicts lagged observations of one of our key outcome variables, the change in municipalities per 10,000 contemporaneous residents as measured in Goodman (2023). Using a 30-year interval from 1910 to 1940, we show in Table A3 that we find no evidence of pre-trends. We also present IV estimates and estimates at the decadel level back to the beginning of the century. All point estimates are negative. Due to data unavailability, we are not able to conduct this test for Census of Government outcomes.

Finally, an additional basic identification concern, applying not only to SSIV specifications but also to other quasi-experimental designs based on exogenous shocks, is the concern that the basic SSIV does not account for non-random variation in the probability of shock exposure. One way to think of 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 offers a simple fix for SSIV, controlling for the sum of shares (explain), which is akin to controlling for strata dummies in an RCT. All specifications include this control.

following (both Borusyak papers),

4 Results

4.1 Main Results: Municipalities

Table 1 shows the main findings on the sample of 130 non-Southern CZs, controlling for variables that are unbalanced at baseline. The table is divided into four panels, corresponding to separate regressions for the first stage, OLS, reduced form, and 2SLS coefficients. Specifications across columns (1)-(6) show results for different types of local governments, expressed in the number of jurisdictions per 10,000. Examining the coefficients in the first stage (Panel A, which are the same across all outcomes by design) shows 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.

Turning to the OLS results in Panel B, we see that a percentage point increase in migration is associated with a 0.004-0.007 increase in the number of municipalities per 10,000, depending on the measure of municipal counts we use. The standard deviation (SD) of our migration variable is 7.67, and the 1940 number of municipalities per 10,000 was 0.63-

0.68. This suggests that a one-SD increase in migration is associated with a 5-8% increase in municipalities per capita ($7.67 \times 0.004/0.63 = 0.05$; $7.67 \times 0.007/0.68 = 0.08$).

The 2SLS results show that a one-SD increase in the urban Black share generates a 7-11% increase in municipalities per capita ($7.67 \times 0.006/0.63 = 0.07$; $7.67 \times 0.010/0.68 = 0.1$). A larger 2SLS coefficient implies that the OLS slightly understates the true effect. 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. Another way to scale the effect of interest is to compare it to the average drop in municipalities per 10,000 over this period, which was around 0.14 to 0.17. The Great Migration prevented about 33-45% of this drop for a CZ affected by an additional SD of Black in-migration ($-7.67 \times 0.006/0.14 = 0.33$; $-7.67 \times 0.010/0.17 = 0.45$).

Appendix Table A4 presents heterogeneity results by whether the central city in each CZ has an above or below median share of its perimeter bordering an incorporated municipality, waterways, or national parks prior to 1940. The logic of this test is to determine the extent to which our effects are driven by newly-created municipalities within or bordering the central city in an attempt to fight annexation, as opposed to suburbs newly created as Whites fled the central city. XXXX - need a sentence about this finding.

4.2 Main Results: Other Jurisdictions

Turning to school districts in column (3), we see that the OLS coefficient is about 59% ($7.67 \times 0.311/4.03$) relative to the baseline number of school districts per 10,000. After instrumenting with predicted migration, we find that a one-SD increase in migration caused a 68% ($7.67 \times 0.358/4.03$) increase in school districts per 10,000. This again suggests that the OLS coefficient is slightly downward-biased. The number of school districts was falling rapidly in this period, at a rate of about 3.57 per 10,000 inhabitants. This suggests a one-SD larger migration prevented about two-thirds of this drop ($-7.67 \times 0.358/3.57 = 0.69$). The effects of the Great Migration are particularly large for school districts, where cementing segregation has particularly deleterious impacts on inequities in long-term public service provision quality.

Estimates in column (4) suggest the Great Migration also had a large effect on the creation (or preservation) of townships. Relative to the 1940 base, a one-SD increase in migration caused an increase in townships per 10,000 by 22% ($7.67 \times .023/0.81 = 0.22$). In contrast, the number of special districts per capita fell significantly in response to the Great Migration, as shown in column (5). Given the contrasting theories on the role of special districts, our evidence provides support for the interpretation that they are a means to fill-in important gaps in local public goods across existing jurisdictions that were less likely to be provided if local governments were more fragmented. Finally, column (6) shows that the main city in the CZ made up a substantially smaller share of the overall population in the CZ if it experienced a large Great Migration shock, in line with the example of Cleveland, OH, from Section 2.3.

4.3 Mechanisms: Incorporation, Land Use Regulation, and Public Finance

While it is outside the scope of this paper to 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. Figure 3 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 CZ has an overall share of White residents of around 82%, but the share in the newly incorporated municipalities there was nearly 100% in 1970. Newly incorporated municipalities have a lower share of White residents in only four of the 79 CZs for which we can conduct this exercise.[16] 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.

A standard justification in economics for this pattern might argue that residents in newly-created municipalities could pool their tax revenue to provide high-quality local public goods in their own neighborhoods without having to share with others, a focus on income differences. In addition, however, and specific potentially to race-based motivation, municipal incorporation offered institutional support to attempts by residents to prevent the amalgamation of local school districts into the school district of the principal city. The large treatment effects on school distrits per capita are consistent with this interpretation.

Norridge, IL, offers a striking illustration of a newly incorporated and mostly White bedroom community. It is entirely surrounded by its principal city, Chicago, which had gradually annexed neighborhoods in its vicinity in the 1940s. To prevent annexation by Chicago, the local improvement association moved to incorporate Norridge in 1948 (Perry, 2005). Norridge 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 exhibit Confederate imagery up into the 1970s.[17]

In addition to municipality demographics, policy variation can be used to shed light on the motive for jurisdictional fragmentation. Using parcel level data on residential

[16]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.

[17]The 1967 yearbook uses a cartoon of a Confederate soldier throughout. The 1969 yearbook depicts a motorcycle rider waving a Confederate flag with the caption "grasping on to the pole of life". The mascot was called "Rebel" up until 1973, when it was renamed to "R" (see https://www.ridgewood1970.com/do-you-remember for the high school's yearbooks).

developments across all cities in our sample, we measure information reported by county authorities on residential land-use zoning codes in 2023.[18] We measure the share of the housing stock in a given city that is located in areas classified as ”single family residence”, among other categories of the land use code. The first two columns of Table 2 show that municipalities incorporated in the 1940-1970 period used exclusionary zoning to set up barriers for low income households to move in. In particular, we see that they were much more likely to zone for single family residences rather than other land uses such as apartment buildings and other types of multi-family housing. Columns (3) shows that they were more likely to be funded through fines and forfeitures, possibly by policing in a more aggressive and discriminatory fashion. Column (4) shows that they are less likely to be funded by special assessments (targeted property tax increases to fund specific public goods), which is consistent with our main finding on special districts.

4.4 Mechanisms: What types of heterogeneity matter?

Black southern migrants differ from incumbent 1940 urban residents not only in their race, but also in being poorer than the average incumbent and simply being a cultural outsider. XXX White southern migrants also relocated to our sample CZs between 1940 and 1970. Using an alternative push-factor shift-share IV that uses predicted White out-migration to instrument for changes in the urban White share, we find no evidence that White migrants causally impact jurisdictional fragmentation in Table A10. Though the 2SLS estimates are noisy, the OLS estimates show opposite signed and statistically significant effects for each of our primary outcomes variables. These findings are again suggestive that the primary causal phenomenon we document may be specific to Black migrants and exclusionary racial motivations, rather than motivated by any outsider or by economic differences.

[18] These measures are based on the CoreLogic Real Estate dataset, which nearly encompasses the universe of residential units in the US.

Importantly, White southern out-migrants are on average poorer than Black southern out-migrants in this period (DATA??? IS THIS TRUE????).

4.5 Robustess Exercises

We conduct a series of robustness exercises to justify the assumptions and design of our model. These exercises show our results are not driven by any one CZ, correlated sending county shares, known data quality issues, and the chosen functional form of our instrument.

Leave-one-out and placebo tests. First, we conduct a leave-one-out test to ensure our results are not driven by the inclusion of any one CZ. In figure A2, we see the point estimates are quite stable across all subsets of 130 sample CZs. 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. Additionally, we construct alternative instruments as done by (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 seen in Figure A4, 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.

We also check our results using the original percentile instrument from Derenoncourt (2022a). This is created using the same predicted 1940-70 Black southern migration and 1940/1970 urban total and black populations, except it is transformed into a percentage change and then an ordinal 0-100 rank variable (as opposed to our percentage point difference). In Table A6, we see our findings are robust to this transformation. As the purpose of this transformation is to account for the right tail in the distribution of GM, we include an additional check against this concern by including a quadratic term of the instrument in Table A7.

Data quality checks and long-run outcomes. We also conduct several robustness tests specific to our data. As previously mentioned, we estimate our results using 1950-1970 outcomes, to check if our findings are being driven by the known data quality issues in the 1942 Census of Governments. We see our results are robust to this in Table A8. Next, we test for the long-run effects, specifying our outcomes as the percentage point change between 1940 and 2010. In Table A9, we see larger and more precise point estimates in the same direction as our baseline specification.

Again following Derenoncourt (2022a), we estimate the model including the Sequeira et al. (2020) instrument for European migration as a control to see whether that is a potential confounder. The results are found in Table A11.

5 Conclusion

We study the effect of the Great Migration on the proliferation of political jurisdictions in U.S. urban areas. Using a migration shift-share instrument, we find that Black households moving to Northern commuting zones caused a substantial increase in the number of municipalities, townships, and school districts per capita, as well as a decrease in special districts and in the share of residents served by the principal city. We find evidence that this effect was mediated through the creation of new municipalities that almost exclusively served White residents. These municipalities may have also prevented local school districts from amalgamating with other school districts in the area. These White municipalities used exclusionary zoning and aggressive fines and forfeitures.

While the fragmentation of local governments due to the Great Migration that we document in this paper is an important phenomenon in its own right, we cannot speak to the welfare consequences of these effects. Jurisdictional fragmentation comes with both costs and benefits to households, with costs likely to be concentrated among low income households. Future work that documents how changes in the degree of fragmentation affects outcomes such as house prices may provide an avenue for progress along these lines, such as ongoing work on school district secessions (Biasi et al., 2023).

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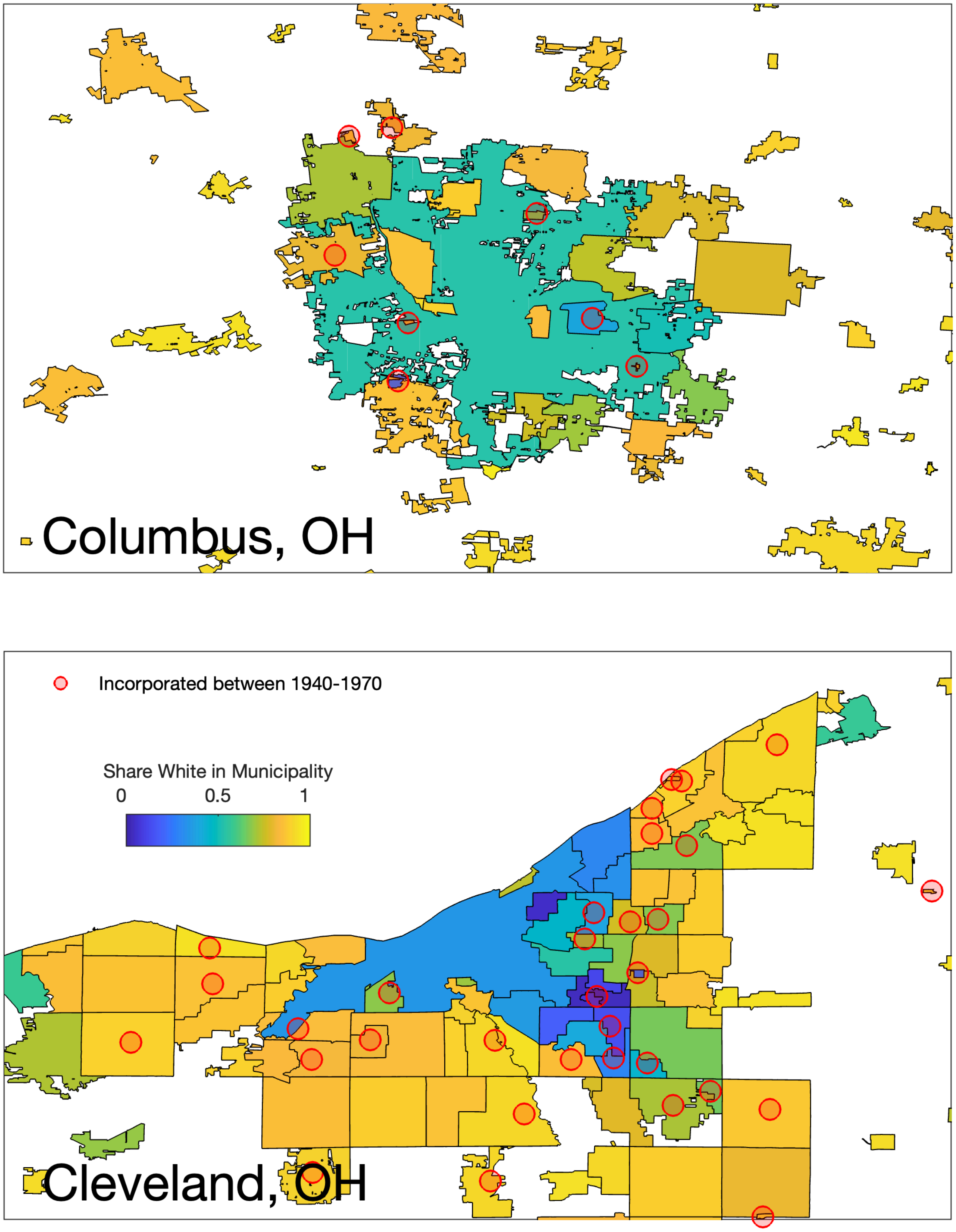
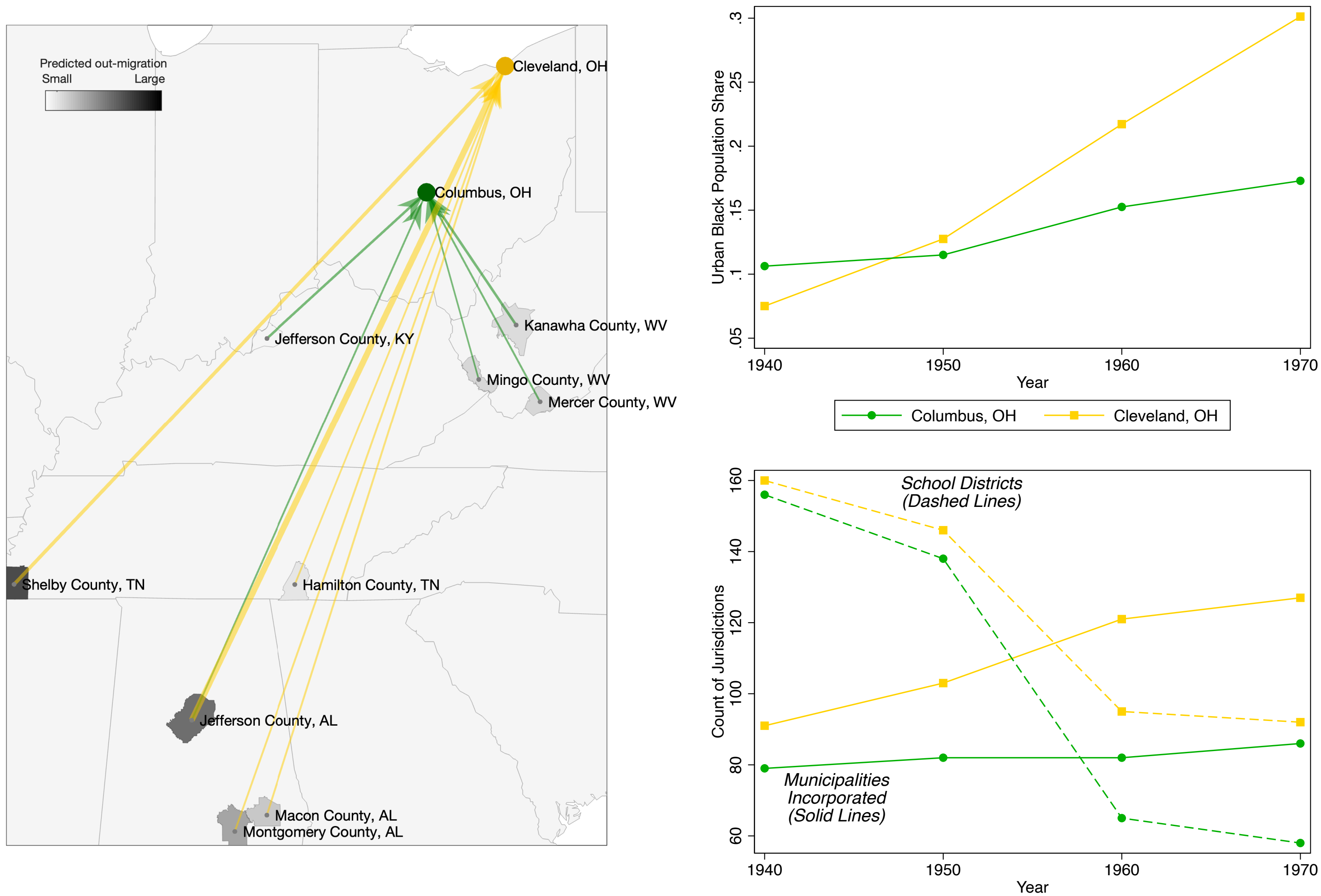
Figure 1: Municipal Fragmentation: Cleveland, OH, versus Columbus, OH



Map of municipalities in Columbus, OH (top panel) and Cleveland, OH (bottom panel). Colors indicate share of White residents in each of the municipalities; red markers indicate municipalities incorporated between 1940-1970.

Figure 2: Illustration of empirical investigation using Cleveland and Columbus, OH



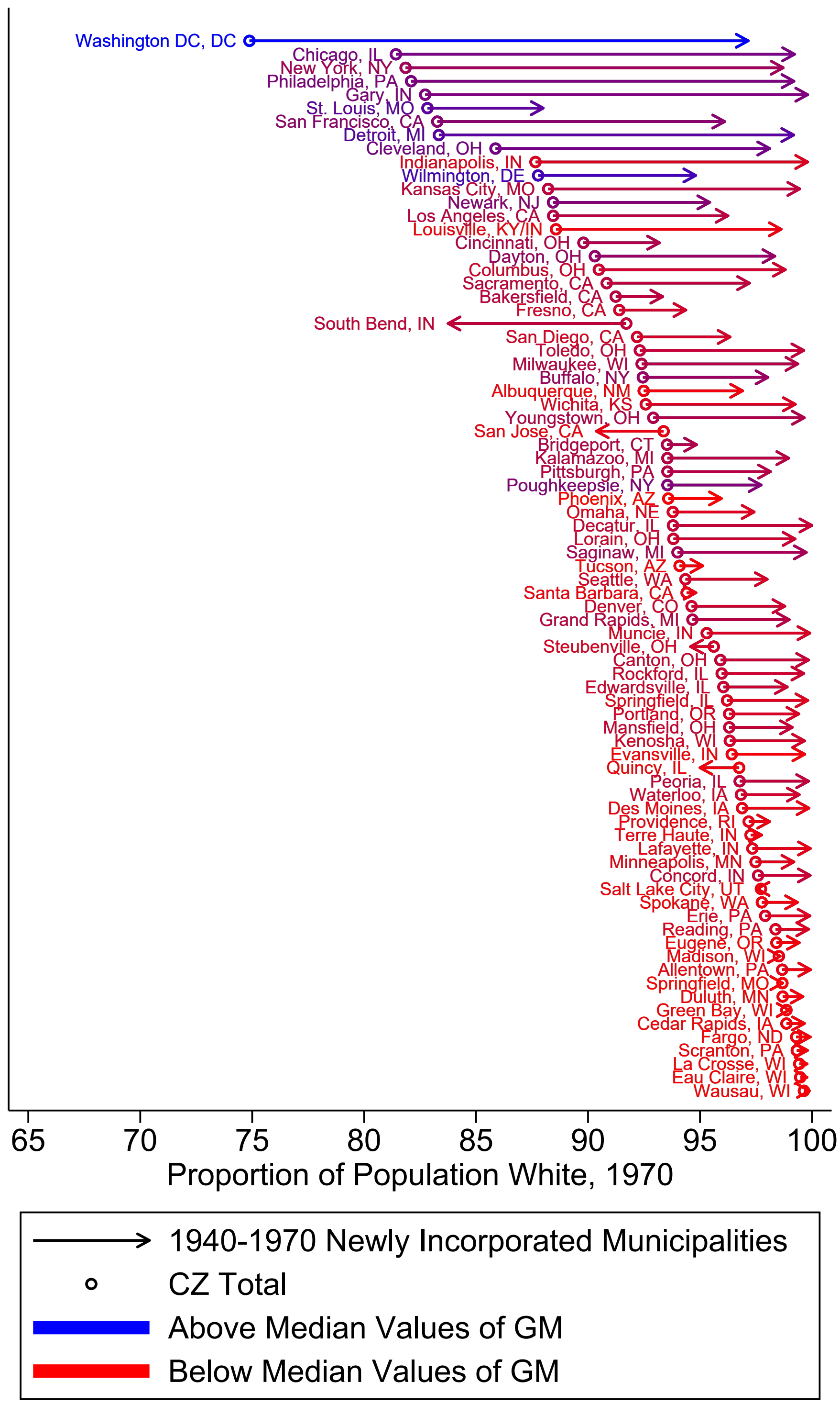
The panel on the left shows a map of established links from Southern counties to Cleveland, OH, and Columbus, OH. The panel on the top right shows the corresponding effect on the share of urban Black population over the course of 1940-1970. The figure on the bottom right shows the change in the number of municipalities and school districts over 1940-1990. See text for details.

Table 1: The effect of the Great Migration on jurisdictions per capita using the shift-share design

l*6¿X

	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	0.004*	0.007**	0.427***	0.015***	-0.029***	-0.925***
	(0.002)	(0.003)	(0.089)	(0.004)	(0.007)	(0.105)
Panel C: Reduced Form						
$\widehat{GM}$	0.014*	0.022**	1.341***	0.051***	-0.058***	-2.458***
	(0.008)	(0.009)	(0.377)	(0.015)	(0.018)	(0.436)
Panel D: 2SLS						
GM	0.006*	0.010***	0.553***	0.023***	-0.026***	-1.125***
	(0.004)	(0.004)	(0.135)	(0.006)	(0.007)	(0.127)

Figure 3: Most incorporations in 1940-1970 are mostly White



Share of White residents in 79 of 130 CZs of our data (those with sub-CZ racial data in 1970), depicted as circles, and the share of White residents in municipalities that were incorporated in 1940-1970, at the tip of the arrows.

Table 2: Land-use Zoning and Public Revenues in Newly Formed Local Governments

l*8¿X

	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

Second stage coefficients from a two-stage least squares regression at the municipality level of an indicator (0/1) variable of above/below median values of GM_ℓ and it's interaction with an indicator for whether a municipality was incorporated between 1940-70. We instrument for these with their $\widehat{GM}$ analogues. Thus, the coefficient on the interaction term can be interpreted as the difference in effect of municipal incorporation on the five outcomes between CZs with above and below median levels of Black migration. We include the incorporation indicator as well as all baseline and robustness variables as controls, weight by population, and cluster standard errors at the CZ level. Sample includes all municipalities in our 130 Northern CZs. Land use data comes from Corelogic. Municipal finance data comes from U.S. Census Bureau (2012a). $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix for Online Publication

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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 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. All statistics are expressed with 1940 urban population weights.

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, control for the share of the urban population made up of 1935-1940 Black southern migrants, and are weighted by 1940 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), on ports from National Atlas of the United States (2014), on railroads from Atack (2016), and on municipal incorporations from Goodman (2023). Transportation costs represent the 1920 dollar cost of rail transportation to a county outside of the CZ, averaged over all counties in the CZ. $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

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. All specifications include census region fixed effects, control for the share of the urban population made up of 1935-1940 Black southern migrants, and are weighted by 1940 urban population (mirroring the main specification). $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Main effects, 1940-1970, Heterogeneity by Enclosedness

l*6¿X

	(1)	(2)	(3)	(4)	(5)	(6)
	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						
$\widehat{GM}$	2.183***	2.183***	2.230***	2.183***	2.183***	2.183***
	(0.292)	(0.292)	(0.378)	(0.292)	(0.292)	(0.292)
Panel B: OLS						
GM	-0.005	-0.001	0.436***	0.003	-0.043***	-1.126***
	(0.007)	(0.008)	(0.131)	(0.013)	(0.012)	(0.198)
GM_X_prop_enclosed1940	0.013	0.010	-0.359	0.018	0.040*	0.914**
	(0.013)	(0.014)	(0.330)	(0.029)	(0.021)	(0.367)
Panel C: Reduced Form						
$\widehat{GM}$	0.005	0.006	1.278**	0.047	-0.076***	-2.719***
	(0.020)	(0.021)	(0.538)	(0.031)	(0.028)	(0.605)
GM_hat_X_prop_enclosed1940	0.008	0.029	-0.830	0.000	0.082	1.477
	(0.042)	(0.043)	(1.197)	(0.097)	(0.061)	(2.078)

Table A5: Main effects without balance controls

l*6¿X

	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)

Table A6: Main effects, 1940-1970, using the percentile instrument by Derenoncourt (2022a)

l*6¿X

	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)

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

l*6¿X

	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)

Table A8: Main results avoiding the 1942 CoG measurement issues: 1950-1970

l*6¿X

	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)

Table A9: Main effects over the long-run into the present, 1940-2010

l*6¿X

	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***	0.014***	0.440***	0.027***	-0.048***	-1.194***
	(0.003)	(0.004)	(0.090)	(0.006)	(0.009)	(0.152)
Panel C: Reduced Form						
$\widehat{GM}$	0.027**	0.036**	1.377***	0.080***	-0.089***	-3.054***
	(0.012)	(0.014)	(0.384)	(0.021)	(0.032)	(0.630)
Panel D: 2SLS						
GM	0.012***	0.016***	0.568***	0.036***	-0.041***	-1.398***
	(0.005)	(0.005)	(0.137)	(0.008)	(0.012)	(0.188)

Table A10: White migration effect, 1940-1970

	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

”$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$”

Table A11: Main effects, 1940-1970, including European migration control

l*6¿X

	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)

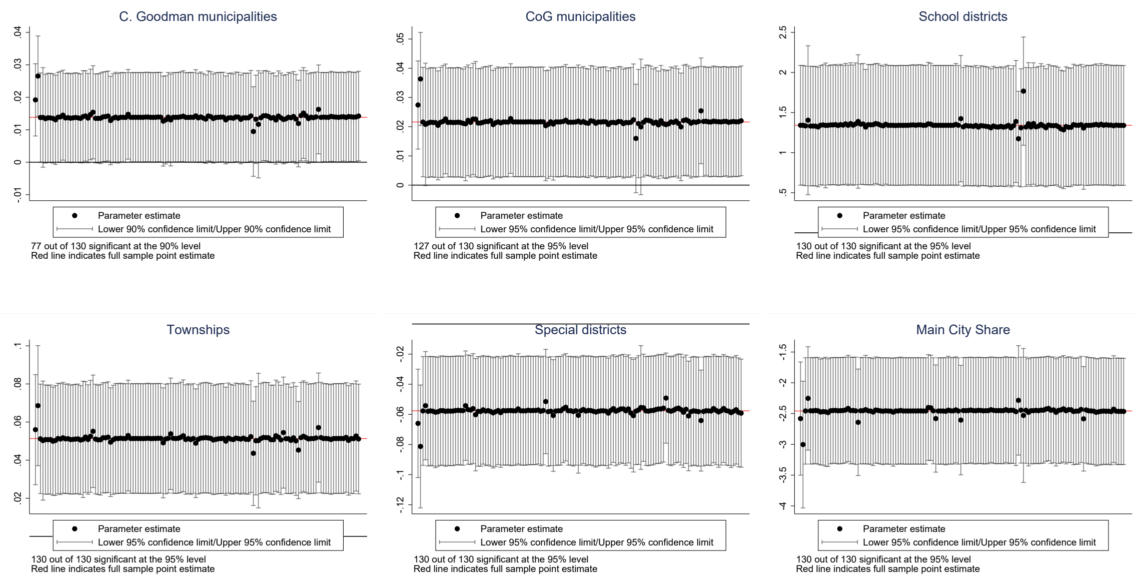

Figure A1: Leave-one-out Reduced Form Tests, pretrendsd Controls

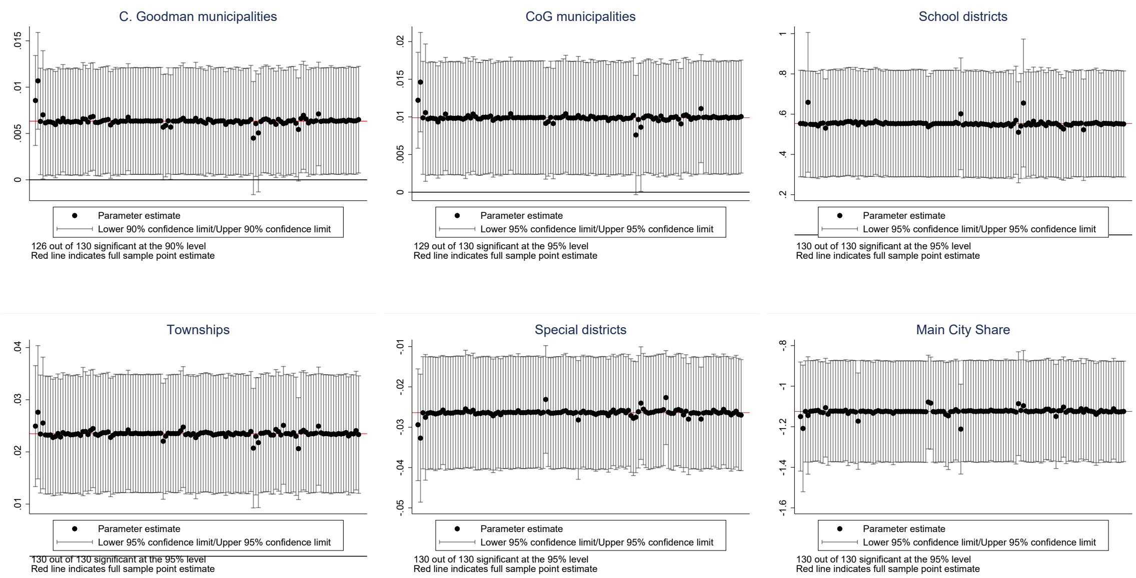

Figure A2: Leave-one-out IV Tests, Balanced Controls

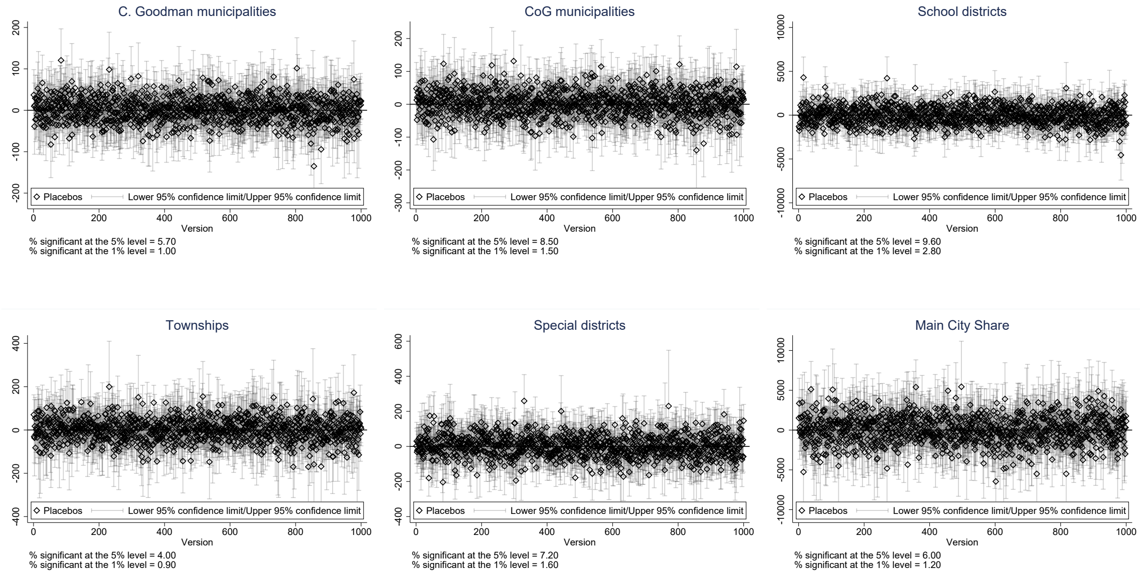

Figure A3: Placebo Tests, Balanced Controls

Figure A4: Overidentification IV Tests, Balanced Controls

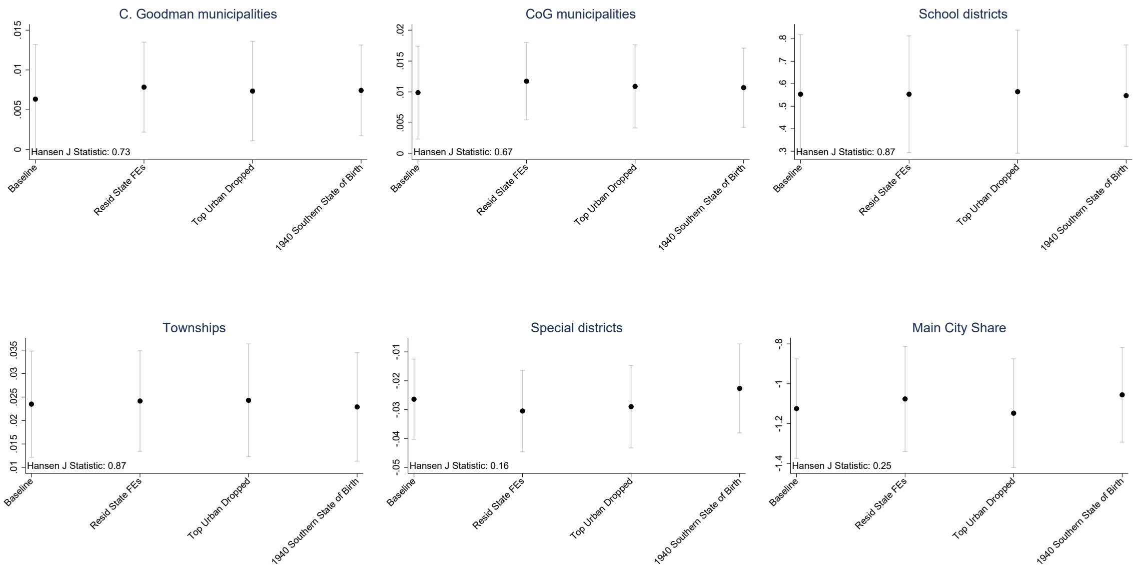

Figure A5: Distribution of Distance to Principle City, 1940-70 Incorporations