The Green Books and the Geography of Segregation in Public Accommodations *

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Abstract

Jim Crow segregated African Americans and whites by law and practice. The causes and implications of the associated *de jure* and *de facto* residential segregation have received substantial attention from scholars, but there has been little empirical research on racial discrimination within public accommodations during this time period. We digitize an important historical tool created to assist African Americans in navigating both types of segregation: The Negro Motorist Green Books. We generate a novel dataset consisting of the geocoded location of over 4,000 unique businesses that served African American patrons between 1938-1964. Our preliminary analysis reveals several new facts about discrimination in public accommodations that contribute to the broader literature on racial segregation. First, the largest number of Green Book establishments were found in the North, while the South had the highest number of Green Book establishments per capita. The West had both the lowest number of establishments, as well as the lowest number per capita. Second, World War II was associated with large increases in the number of non-discriminatory public accommodations throughout the entire country, a result that is driven by counties with high WWII enlistment rates. Third, out of the Green Book establishments located in cities for which the Home Owner's Loan Corporation (HOLC) drew residential security maps, the vast majority (over 60%) are located in the lowest-grade, redlined neighborhoods.

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"Do you remember any good stopping places
in Arizona or western Texas?
Anything in Phoenix or El Paso?
And what is the best route from here to the coast?
I have never driven it, you know."

— Arna Bontemps, quoted by Wilkerson (2010)

Jim Crow segregated African Americans and whites by law and practice. The causes and implications of the associated *de jure* and *de facto* residential segregation has received substantial attention from scholars. Consensus is that residential segregation has caused or exacerbated racial disparities in income, employment, education, political influence, and homeownership (Cutler and Glaeser, 1997; Card and Rothstein, 2007; Ananat and Washington, 2009; Ananat, 2011; Aaronson, Hartley, and Mazumder, 2018). Relatively less attention has been paid to understanding segregation's role in access to public accommodations and business ownership.[1,2]

This paper makes use of an important historical tool created to assist African Americans in navigating segregation to uncover regional, county, and city-level patterns of discrimination in access to public accommodations. From 1936 to 1964, Harlem postal worker Victor Green published travel guides for African American motorists. Colloquially known as the *Green Books*, these directories listed hotels, businesses, restaurants, and other services that were friendly towards African American clientele during a time when travel could be uncomfortable, at best, and dangerous, at worst. By digitizing and geocoding the location of all establishments listed in the Green Books between 1938 and 1964, we provide a unique lens into the geography of racial discrimination in public accommodations during Jim Crow.[3]

Our preliminary analysis reveals several new facts related to the history of accessibility of public accommodations to African Americans. First, the largest number of Green Book establishments were found in the North, while the South had the highest number of Green Book establishments per capita. The West had both the lowest number of establishments, as well as the lowest number per capita. The finding that the South had the highest number of establishments per capita is not dissimilar from patterns of residential segregation found in

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[1] An exception would be Roback (1986)'s study of segregated streetcars. Roback's central thesis differs from our paper, as she questions whether the development of the Jim Crow system was motivated by political factors or changed attitudes towards blacks.

[2] In contrast to studying how segregation affected the demand for services among African Americans, Cook (2012) examines the strategies black inventors developed to cope with consumer-side discrimination, with a particular emphasis on the strategies implemented by Garret A. Morgan, inventor of both the gas mask and traffic light.

[3] Although a Green Book was published in 1936 and 1937, we have been unable to locate a copy of the publication during these earliest years.

(Logan and Parman, 2017), if the presence of a large number of Green Book establishments per capita indicates a high level of discrimination by white businesses.

Second, the number of Green Book establishments nearly doubled during World War II. This result is driven by counties that experienced the highest enlistment rates, a finding that may be driven by occupational upgrading among blacks (Ferrara, 2019), or profit-maximizing behaviors on the part of business owners faced with a changing racial composition among consumers in their local markets. We do not find the expansion of Green Book establishments to be related to casualties in WWII.

The final pattern we investigate relates the location of Green Book establishments within cities to the practice of redlining, wherein the Home Owner's Loan Corporation (HOLC) drew residential security maps of 239 American cities in the 1930s to caution lenders against lending to patrons in high-risk neighborhoods (Aaronson et al., 2018). Nearly 50% of the Green Book establishments are located in cities for which digitized HOLC security maps are available, the vast majority of which (64%) were located in the lowest-grade, redlined neighborhoods.[4] The next largest group of Green Book establishments were located in no-grade (likely business district) areas. While we hesitate to draw strong conclusions about establishments in D-grade versus no-grade neighborhoods, we suggest that this may reflect racial differences in business owners.

The remainder of the paper is outlined as follows. Section 2 provides a background of the Green Books and describes our digitization process. Section 3 presents our findings across regions, counties, and cities; and Section 4 provides a brief summary of the direction of our project and concludes.

2 The Green Books

The *Negro Motorist Green Books* (henceforth, Green Books) were a series of travel guides published during the Jim Crow era, which originated from Victor Hugo Green, an African American postal employee from Harlem, New York City. Green's objective was to provide information on businesses that African American motorists could frequent without jeopardizing their safety. Although, the Jim Crow laws that segregated the Southern US did not extend to the North, much of the North was still segregated in practice. The Green Books provided a directory of safe places African American tourists could rely upon while travelling.

The first Green Book was published in 1936 as a ten-page pamphlet containing New York

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[4]The HOLC maps that we use come from the Digital Scholarship Lab at the University of Richmond which digitized and georeferenced HOLC maps for dozens of cities. These are available here: `https://dsl.richmond.edu/panorama/redlining/`

City establishments that served African Americans.[5] The idea behind the Green Books was borne from Green's own experience with racial discrimination while travelling with his wife, Alma, in 1936 (Brown, 2017). During this time period, African American motorists were often advised to drive below the speed limit and even under the cover of night to avoid confrontations with police (Sugrue, 2010). At a time when lynchings were still occurring in the southern US and sundown towns barred African Americans from entering after dark, the threat of racial discrimination on the road was not only uncomfortable for African American travellers, but could also result in a potentially life-threatening encounter.

Green's original publication listing non-discriminatory establishments in New York City in 1936 was so successful, that coverage was expanded across the country in the following year. While the original intention of the Green Book was to help African American motorists undertake their journeys safely, by providing listings of gas stations, hotels, motels, and tourist homes, Green also recognized the importance of the Green Books for African Americans seeking other types of services within cities, including restaurants, bars, barber shops and beauty parlors, pharmacies, and more.

> *The idea of "The Green Book" is to give the Motorist and tourist a Guide not only of the Hotels and Tourist Homes in all of the large cities, but other classifications that will be found useful wherever he may be.* –1947 Edition of the Green Book, pg. 1.

Although many shops and services were included in the Green Books, the vast majority of establishments were those providing accommodation and food and beverages (see Figure 2). Publication of the Green Books halted from 1942-1946, when virtually all domestic resources were diverted to sponsoring America's engagement in World War II (Landry, 1988). The books continued to be published until 1964, when the Civil Rights Act outlawed racial segregation that had once necessitated the Green Books (McGee, 2010).

Figure 1 provides an example of the entries in the 1956 Green Book. Establishments were organized by cities within states and included exact street addresses. Information on businesses that were friendly towards African Americans spread largely through word-of-mouth; however, businesses could also pay to have an advertisement of their establishment included in the books. Figure 11 of the appendix includes an example of the types of advertisements that appeared in the publications.

We digitize all entires, including advertisements, in the 21 Green Books that are published in the New York Public Library's (NYPL) Digital Collections.[6] Figure 3 plots the

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[5]To our knowledge there are no known copies of this original Green Book.

[6]The complete collection can be found here: `https://digitalcollections.nypl.org/collections/the-green-book`. The NYPL collection does not include 1958.

total number of Green Book establishments listed in each year. Since the 1937 Green Book only contained advertisements, we focus on the series from 1938 onward.[7] One of the most striking aspects of Figure 3 is the large growth in the number of Green Book establishments during World War II, a point that we return to in Section 3.2. The second notable feature of Figure 3 is that there was a sharp drop in the number of Green Book establishments after 1955. Since this drop warrants further investigation, we restrict our attention to the pre-1955 period in what follows.

Initially, the Green Book establishments were located in the Southern and Northeastern US, with a small number of businesses open to serving African Americans in the easternmost regions of the Midwest. Figure 4(a) shows the location of all Green Book establishments in 1938, while Figure 4(b) provides a detailed look at establishments in Georgia. By 1955, Green Book establishments were present in every state in the continental US, aside from Montana and North Dakota.[8]

3 The Expansion of Green Book Establishments Across Regions, Counties, and Cities

3.1 Geography: the Northeast had the highest number of establishments, while the South had the highest establishments per capita

Figure 6(a) displays the evolution of the number of Green Book establishments in the United States listed in each year between 1939 and 1955.[9]. In every year, there were over twice as many Green Book establishments in the Northeast compared to the next highest region. This difference is likely driven by the large quantity of listings in New York City and Newark, where the Green Books originated. Figure 5 displays the geographic dispersion of Green Book establishments per 1000 black residents in 1950.[10] While the Northeast and Midwest certainly appear to have a greater density of Green Book establishments in relation to the African American population, there are a substantial number of counties across the entire US that do not have any Green Book establishments.

Since the absence of Green Book establishments likely reveals important information

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[7]In subsequent years, businesses were listed separately based on whether or not they paid for advertisements.

[8]These states do show up in later editions of the Green Book.

[9]We start our analysis in 1939 because this is the first year with nationwide coverage of the Green Books and we end it in 1955 due to the aforementioned drop in listings, which is not yet well understood.

[10]Note that this is in contrast to some of the other statistics displayed in terms of per capita for the whole population. Future drafts will focus exclusively on the number of establishments per African American population.

about the geography of discrimination, if a county does not appear in the Green Books, we infer a count of 0 establishments for that county-year. After doing this, we are able to construct a balanced-panel of counties for the duration of the Green Book publications. To compute the number of Green Book establishments per capita, we divide the number of establishments by the county population using the county population estimates for census years in the ICSPR Historical, Demographic, Economic, and Social Data (Haines and Inter-university Consortium for Political and Social Research, 2010). From 1938-1941 we use population in 1940 and from 1947-1955 we use population in 1950.[11] Figure 6(b) indicates that, despite the large different in the number of Green Book establishments between the North and the rest of the country, the South had the highest number of establishments per capita.

The growth in establishments per capita in the South presents an interesting puzzle regarding how to interpret the presence of Green Book establishments. On the one hand, a large number of Green Book establishments per capita in a region suggests that the area is potentially friendly towards African Americans. However, one may also take this as a signal that there is a high degree of discrimination that necessitates listing safe establishments in the Green Books. One potentially confounding factor is that the trends in Figure 6(b) are in per capita terms for the whole population, rather than the African American population. We caution that once we account for this distinction in future work, we may draw different conclusions.

3.2 World War II: the expansion of Green Book establishments is correlated with per-capita enlistments in WWII

This section looks at the large increase in the presence of Green Book establishments during World War II mentioned earlier in relation to Figure 3. There are several reasons to believe that World War II impacted the growth of Green Book establishments. First, Ferrara (2019) shows that World War II induced occupational upgrading among African American workers, since casualties among whites generated labor shortages in semi-skilled occupations. As African American workers filled these positions, wages, home ownership, house values, and education increased among blacks. This may have led to greater automobile ownership among African Americans, or simultaneously generated more demand for services. On the other hand, World War II may have led to an increase in the number of non-discriminatory establishments if businesses were discriminating due to a profit-maximizing motive. For instance, if businesses were deliberately refusing service to blacks because they knew they

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[11]Recall that publication of the Green Books stalled during WWII.

would lose their white clientele, then World War II may be related to the growth in Green Book establishments through a change in the existing demographic composition of consumers within counties. Put differently, it may have been in profit-maximizing firms' interests to serve African American clientele if a large portion of their white clientele left to serve during the war.

To get a sense of the geographic variation in enlistments and the growth in the number of Green Book establishments Table 1 displays several relevant summary statistics by region. We split our sample into pre-WWII, which we define as 1939-1941, and post-WWII, which we define as 1947-1949. From here we calculate the average number of establishments ("Avg. Num Est") and the average establishments per capita ("Avg. Num Est PC"), which we use to compute two measures of change in the presence of Green Book establishments. First, we compute the level change as the difference in the pre- and post-WWII number of establishments ("Change in Avg.") or establishments per capita ("Change in Avg. PC"). E.g., for county i:

$$\text{Change in Avg. Post-Pre}_i = \frac{\sum_{t=1947}^{1949} \text{Num\_Est}_{i,t}}{3} - \frac{\sum_{t=1939}^{1941} \text{Num\_Est}_{i,t}}{3} \tag{1}$$

For the subset of counties that had a positive value of pre-WWII Green Book establishments, we compute the growth (in %) in either the number of establishments ("Growth in Avg.") or the number of establishments per capita ("Growth in Avg. PC").[12] E.g., for county i:

$$\text{Growth in Avg. Post-Pre}_i = \frac{\frac{\sum_{t=1947}^{1949} \text{Num\_Est}_{i,t}}{3} - \frac{\sum_{t=1939}^{1941} \text{Num\_Est}_{i,t}}{3}}{\frac{\sum_{t=1939}^{1941} \text{Num\_Est}_{i,t}}{3}} \tag{2}$$

In the years leading up to WWII, counties in the North had a higher number of Green Book listings, on average, while Southern counties had a higher average count per capita. The largest level-change in the number of establishments was observed in the Northeast, while the largest level change in the number of establishments per-capita was driven by Southern counties. Conditional on having at least one Green Book establishment in the three years leading up to WWII, both the South and Midwest saw the number of establishments more than double. Growth in the per capita measure was also substantially higher in the Midwest. Conditional on having at least one Green Book establishment in the three years leading up to WWII (N=105), establishments per capita grew by an average of 89% across the Midwest. For comparison, this is 23 percentage points higher than in the South, which experienced the next highest growth rate in establishments per capita.

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[12]We restrict to counties with a positive value, rather than "with at least one", because we are averaging over three years of data in the pre-period. So that if counties had one establishment in one year and 0 in the other years, they would have 0.33 establishments in the pre-period.

We probe the relationship between WWII and growth in Green Book establishments further, by investigating the degree to which enlistment and casualties in WWII relate to Green Book listings. Figure 7(a) shows the number of Green Book establishments in counties where enlistment was in the highest and lowest deciles. The growth in the number of Green Book establishments is driven by counties that experienced high levels of enlistment. Naturally be driven by counties with higher populations, Figure 7(b) displays the growth in the number of Green Book establishments for counties with high and low enlistment per-capita. This figure shows that counties in the top decile of enlistment per capita experienced a more rapid expansion of non-discriminatory establishments.

While enlistment may have temporarily changed the demographic composition in counties, a more permanent change could have been induced by casualties in the war. Figure 7(c) shows the growth in Green Book establishments for counties in the top and bottom decile of the distribution of casualties. The pattern is very similar to that of enlistments. Counties with the highest number of casualties experienced an expansion of non-discriminatory establishments and those with few casualties did not. Figure 7(d) displays the expansion of Green Book establishments for counties in the top and bottom decile of per-capita casualties. Here, the trends are more comparable, with top decile counties expanding slightly more than bottom decile counties.

We remain agnostic on the underlying channels that could be driving the relationship between enlistments and casualties and growth in Green Book establishments, but note that this will be the focus of future work.

3.3 Redlining: Green Book business expansion was overwhelmingly restricted to redlined neighborhoods

Our final objective is to consider how the location and expansion of Green Book establishments is related to characteristics within cities. In the 1930s, the Home Owners Loan Corporation (HOLC) produced city maps that classified the relative riskiness of lending across neighborhoods. Maps were drawn for over 200 cities, dividing neighborhoods into ratings of A (least risky) to D (riskiest).[13] These maps introduced were used to inform mortgage lenders about the risk-profile of different neighborhoods. As a result, subsequent access to credit was affected by neighborhood classification.[14] We overlay HOLC maps with the exact location of Green Book establishments to determine the grade of the neighbor-

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[13]Some neighborhoods were not given any rating. These were predominantly business districts.

[14]Aaronson et al. (2018) provide a thorough discussion of the historical debate surrounding the exact use of HOLC maps by lenders. They find evidence that HOLC classification had causal impacts on home-ownership rates, house values, and rents that continue to persist.

hood in which each establishment is located. Fifty percent of Green Book establishments are found in cities for which redlining maps are available.

Figure 8 displays the location of Green Book establishments in 1956 with the HOLC map for Newark and the New York City Buroughs. Visually, it appears that the majority of Green Book establishments are located in redlined neighborhoods. Indeed, out of the establishments that appear in cities for which the georeferenced HOLC security maps are available, an overwhelming majority of them (64%) appear in "D-grade" neighborhoods. Approximately 27% occur in neighborhoods that did not receive a rating from the HOLC, likely business districts, and only 0.4% are located in "A-grade" neighborhoods.

We examine trends in the number of Green Book establishments by HOLC grade in Figure 8, where it is clear that Green Book establishments expanded most quickly in "D-grade" neighborhoods. Neighborhoods that did not receive a grade, but were located within cities for which we have HOLC security maps also experienced a reasonably large increase in the number of establishments, though still small in comparison to "D-grade" areas. "A-grade" neighborhoods experienced almost no growth in Green Book establishments. In fact, in 1955–the year with the highest number of Green Book establishments in "A-grade" neighborhoods–there were a total of 7 Green Book establishments in "A-grade" neighborhoods out of all cities in the U.S. for which the HOLC security maps are available.

Identifying the location of Green Book establishments within cities likely has important implications for understanding the degree to which variation in Green Book establishments reflects differences in black business ownership or differences in discriminatory practices on the part of white owners. Given that the racial composition of a neighborhood was an explicit determinant of the HOLC grade assigned to a neighborhood Aaronson et al. (2018), Green Book establishments in "D-grade" neighborhoods are likely black-owned businesses and those in "No-Grade" (business) districts may have been white-owned.[15]

4 Conclusion

The Green Books present an unprecedented historical account of segregation in public accommodations during Jim Crow. By digitizing and geocoding the location of all establishments listed in the publications, we are able to provide new insights into the geography, determinants, and implications of this type of discrimination. Our preliminary analysis has uncovered three new facts related to national, county-level, and city-wide access to non-discriminatory public accommodations.

Specifically, while the Northeast had the largest number of non-discriminatory estab-

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[15]We are currently investigating this distinction by comparing the Green Book establishments to the Negro Business Directory of the State of Wisconsin (1950-1951).

lishments, the South had the highest number per capita. There was also a large growth in the number of Green Book establishments over the duration of World War II. This result is driven by counties with high enlistment in the army. Finally, within cities for which the Home Owner's Loan Corporation residential security maps are available, the vast majority of Green Book establishments are located in neighborhoods that were given the lowest grade, redlined neighborhoods.
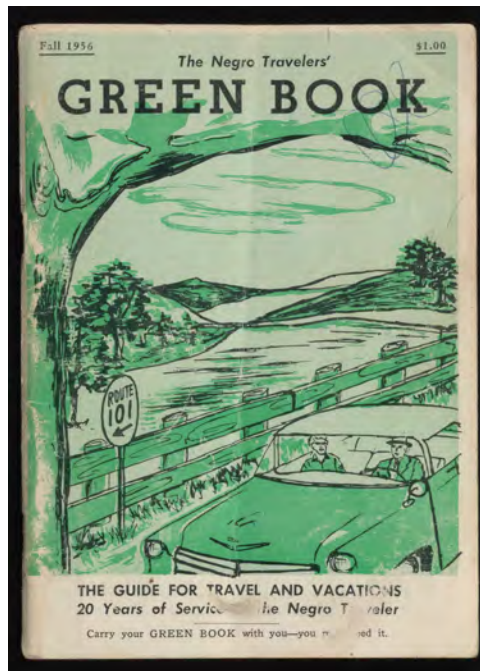
This project has several avenues for future work. So far we have not commented on trends in the number of establishments per African American population. This may influence some of the patterns we have found thus far. We are also interested in understanding what the Green Book locations tell us that other pre-existing measures of segregation and discrimination have not. Future work will examine the correlation between lynching, existing segregation measures and segregation laws, and the expansion of Green Book locations.

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A Tables and Figures

(a) Front page of 1956 Green Book

(b) Example from Georgia in the 1956 edition

Figure 1: Sample of the Green Book publications from the year 1956 and the state of Georgia. Reproduced from the New York Public Library Digital Collections.
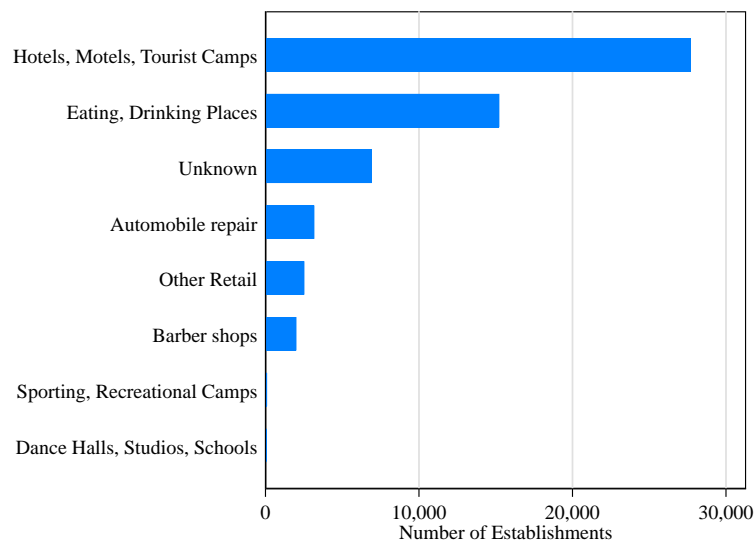
Figure 2: Frequency of establishment types in all years according to the Census of Business classification of type.
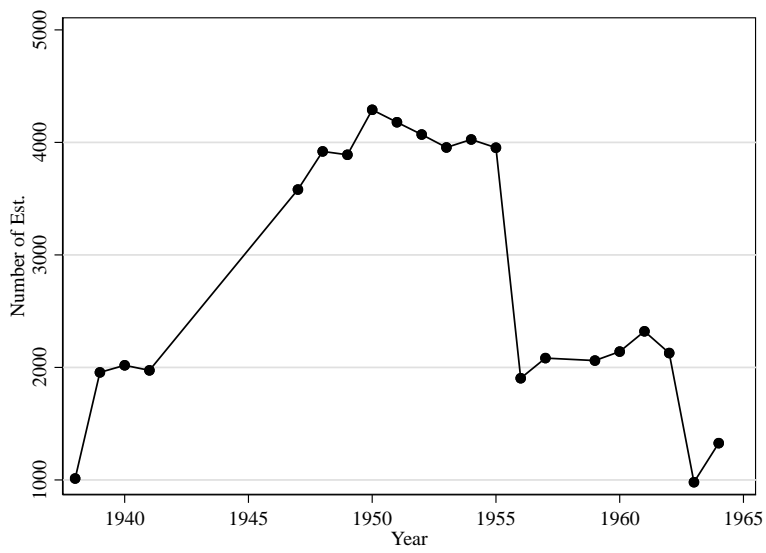
Figure 3: Number of Green Book establishments listed for the United States in each publication of the travel guides.
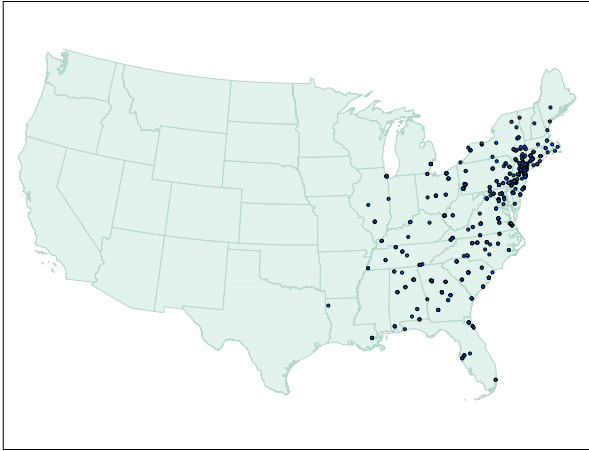
(a) All Green Book locations in continental USA (1938)
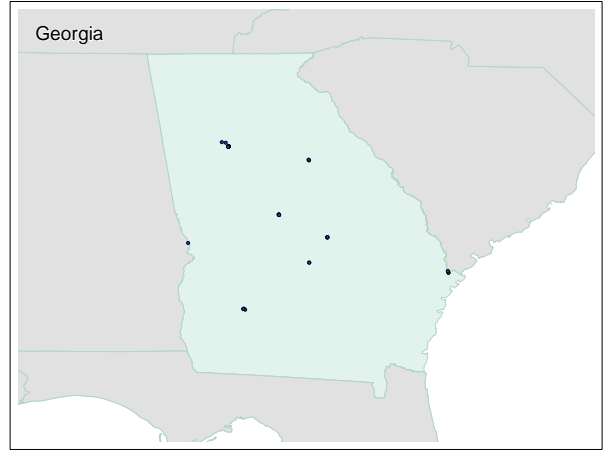
(b) All Green Book locations in Georgia (1938)
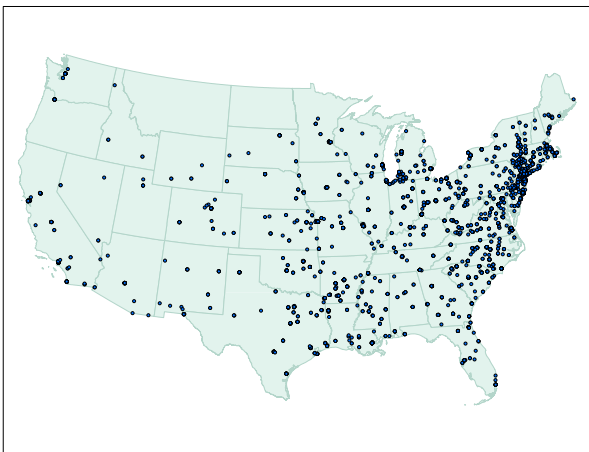
(c) All Green Book locations in continental USA (1955)
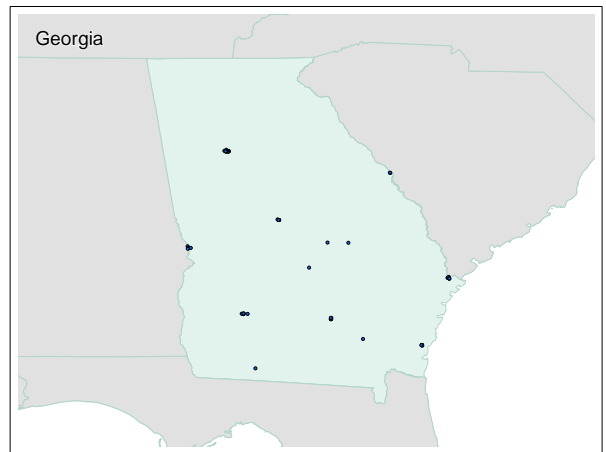
(d) All Green Book locations in Georgia (1938)

Figure 4: Location of Green Book establishments in 1938 and 1955 in continental USA and state of Georgia.
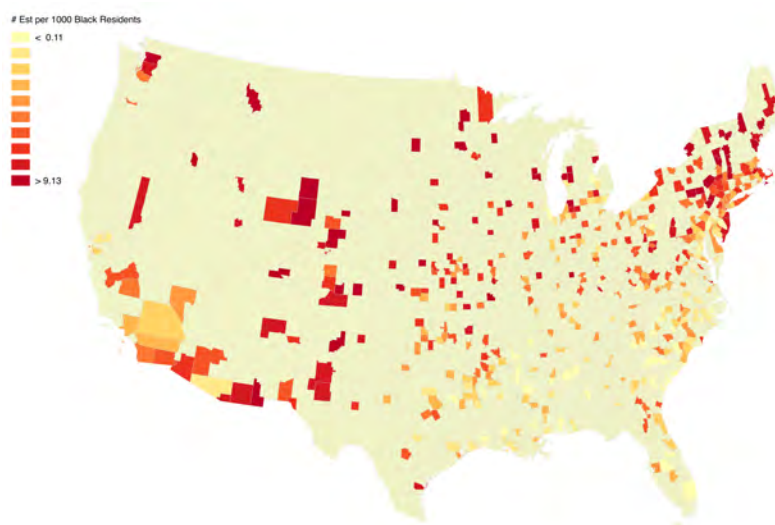
Figure 5: The number of Green Book establishments per 1000 African American residents in 1950.
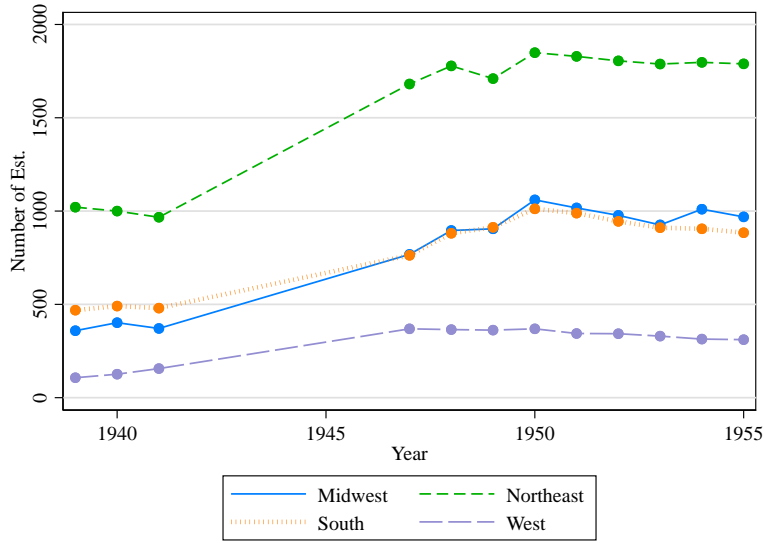
(a) Number of Establishments by Region
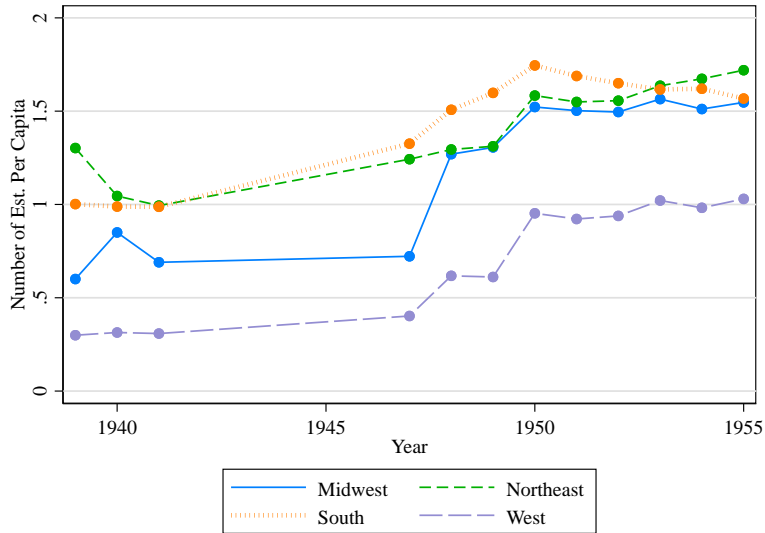
(b) Establishments Per Capita by Region

Figure 6: Total number of Green Book establishments and establishments per 100,000 people by region. Number of establishments in 1939-1941 are weighted by the county population .

Table 1: Regional growth in Green Book presence during World War II

	Midwest (1)	Northeast (2)	South (3)	West (4)	Total (5)
Avg. Num Est Pre-WW2	0.335	1.299	0.533	0.262	0.598
	(1.63)	(6.31)	(2.04)	(1.49)	(3.40)
Avg. Num Est Post-WW2	0.763	2.208	0.973	0.737	1.144
	(5.23)	(12.70)	(4.04)	(6.02)	(7.48)
Change in Avg. Post-Pre	0.429	0.909	0.440	0.476	0.547
	(4.14)	(7.78)	(2.79)	(4.86)	(5.02)
Growth in Avg. Post-Pre	114.43	61.08	116.60	130.51	96.91
	(412.18)	(317.56)	(293.36)	(363.85)	(338.50)
Avg. Num Est PC Pre-WW2	0.714	1.114	0.993	0.307	0.833
	(8.35)	(3.96)	(3.40)	(1.37)	(5.56)
Avg. Num Est PC Post-WW2	1.099	1.283	1.477	0.544	1.176
	(12.67)	(4.56)	(5.49)	(2.45)	(8.29)
Change in Avg. PC Post-Pre	0.385	0.169	0.489	0.238	0.344
	(6.20)	(3.57)	(4.46)	(2.21)	(4.73)
Growth in Avg. Post-Pre	89.21	43.23	69.29	62.41	63.94
	(379.66)	(289.85)	(221.89)	(234.12)	(290.51)

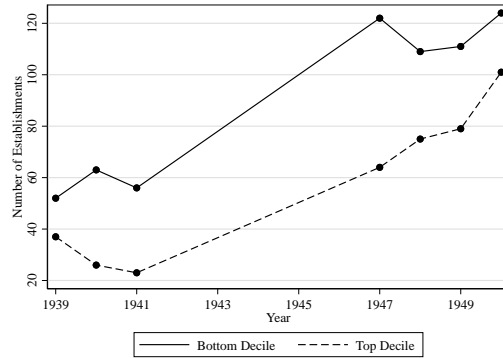Notes: Sample means and standard deviations in parentheses.
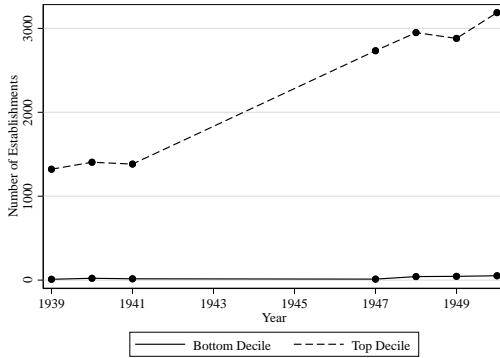
(a) N. establishments by enlistment
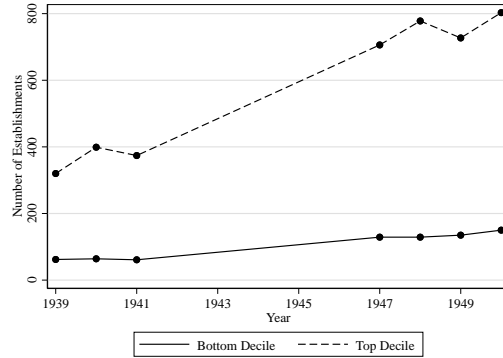
(b) N. establishments by enlistment per capita

(c) N. establishments by deaths

(d) N. establishments by deaths per capita

Figure 7: Growth in the number of Green Book establishments in relation to enlistment and casualties in World War II. Bottom decline refers to the bottom decile of the enlistment or deaths distribution, while top decile refers to the top decile of the enlistment or deaths distribution.
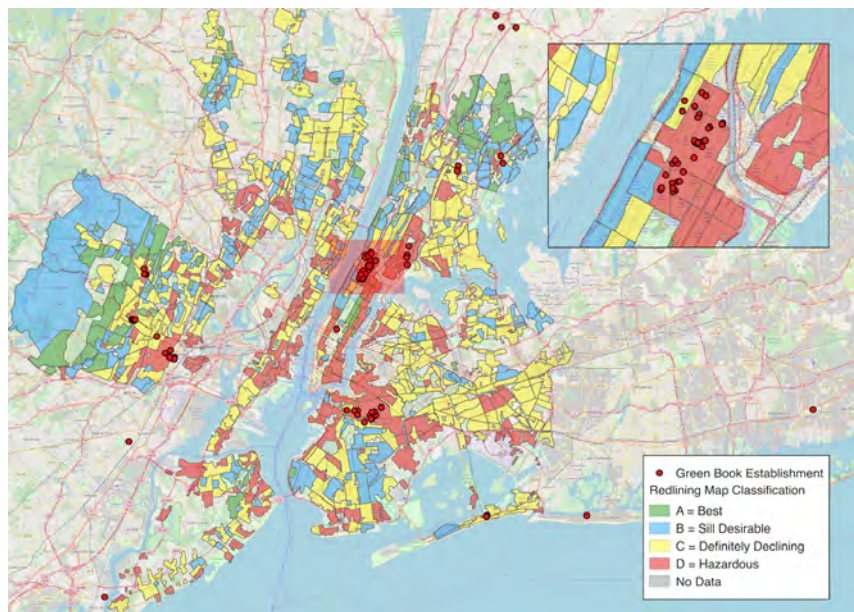
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Figure 8: Redlining and the location of Green Book establishments in New York, NY, and Newark, NJ in 1956.
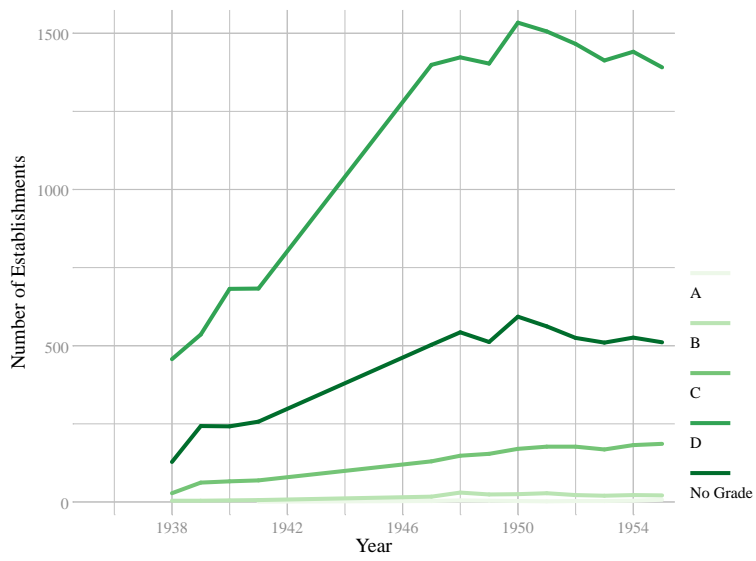
Figure 9: Number of establishments over time by HOLC grade.

B Additional Information on Data Construction

B.1 Geocoding Addresses

This section outlines the procedure used to geocode each of the Green Book establishment addresses. An initial pass was implemented by running all addresses through the U.S. Census Geocoder.[16]. This produced either an exact match, a non-exact match, a tie, or no match. Exact matches occur when one unique address is found that matches the input address. About 50% of the addresses returned an exact match. Non-exact matches occur if the geocoder was able to locate a similar, but not exact match to the input address. Ties occur when there are more than one addresses that match the input address. In some cases, the geocoder is not able to locate the input address. In the case of a tie or "no match", the input addresses must be searched by hand.

A second pass was implemented by hand checking each address in Google Maps[17]. Exact matches that returned latitude and longitude coordinates that were different from the Google Maps coordinates were assumed to be correct if there was less than a 1 mile difference between the two sets of points. Addresses that were above this threshold were rechecked for typos and historical context.

Addresses that did not return an initial exact match were mostly matched by hand through Google Maps. The remaining missing addresses were imputed using a majority rule.

A final high-level error-check was completed by running the coordinates through a feature manipulation engine to verify that they lay within the state boundaries of the state corresponding to the coordinates' entry in the Green Books. About 11% of addresses were not able to matched at all, in which case the centroid of the city was assigned as the geocoded location of the establishment.

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[16]The geocoder can be found here: `https://www.census.gov/geo/maps-data/data/geocoder.html`.

[17]This was done by hand because Google's terms of service limit the number of searches that can be done in a set period of time, effectively prohibiting the use of a script to systematically check addresses.

C Additional Figures

Figure 10: An example of an advertisement found in the 1956 Green Book for the "Amigo Motel and Cafe" in Tucumcari, New Mexico.
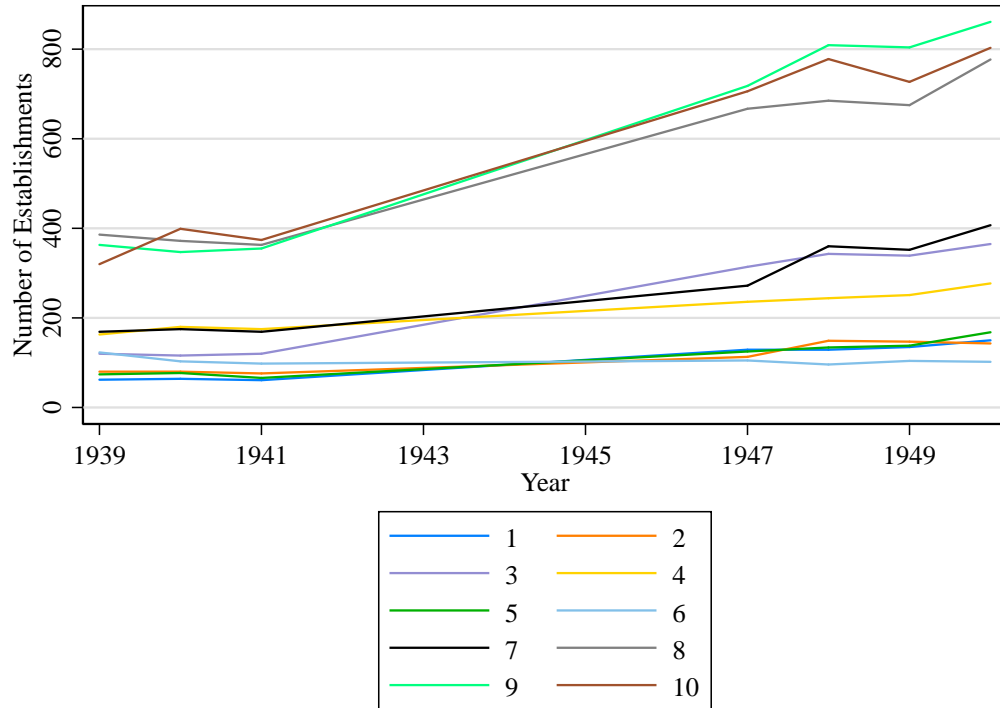
Figure 11: Growth in the number of Green Book establishments for all deciles of the enlistment rate during World War II.