cities, whites are less likely to support a ban on interracial marriage than whites in less segregated cities, which runs counter to the results in column 2.

Column 4 examines a question asked in 1990 only: respondents were asked their support for "living in a neighborhood where half of your neighbors were blacks." Forty-six percent of white respondents registered opposition. In more segregated cities, whites are more likely to oppose living in a majority-black neighborhood, and the coefficient is larger quantitatively than in the previous regressions, although it is not statistically significant.[36]

The survey data are thus generally consistent with the housing price evidence. There is no relation between stated black preferences for segregation and observed levels of segregation, which suggests that, at least in the modern era, segregation is not driven by black tastes for integration. There is a positive relation between segregation and white attitudes toward housing segregation, although this is not true for white attitudes about blacks more generally. In the absence of older data, however, we cannot examine how these results have changed over time.

VII. Case Studies: Cleveland, Atlanta, and Sacramento

To provide more qualitative evidence on the factors influencing segregation over time, we consider case studies of segregation in three particular cities. We chose cities that are representative of the urban experience over the past century: Cleveland, a typical midwestern city with a ghetto born during the post–World War I period; Atlanta, a southern capital that has historically been segregated but has seen segregation fall substantially in the past two decades; and Sacramento, a rapidly growing western city that has never experienced the segregation of Cleveland or Atlanta, despite having equally rapid increases in the black population. For each city, we gathered census tract data for as long a time as possible: since 1910 in Cleveland, since 1940 in Atlanta, and since 1950 in Sacramento. We then matched census tracts over time so that we could look at changes in segregation for constant physical units (see Cutler et al. [1997] for more details).

[36] We also found little relation between other measures of racism, such as the stated willingness to vote for a black for president or beliefs about the inherent intelligence of blacks, and the level of segregation, which suggests that discrimination is a multifaceted phenomenon, and only tastes about living near blacks are related to observed levels of segregation.

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Cleveland[37]

Cleveland had a very small black population in 1910. As panel A of table 9 shows, only 2 percent of Cleveland was black in 1910. While blacks in Cleveland were disproportionately concentrated in certain parts of the city (the index of dissimilarity was 66 percent), these areas were not primarily black (the index of isolation was only 8 percent). Historical accounts of Cleveland describe this early period as a relatively golden age of black-white relations and integration in the city.

Cleveland boomed during and after World War I, attracting (and actively recruiting) a large number of blacks from the rural South. Between 1910 and 1940, Cleveland's black population grew by nearly 8 percent annually. With this growth came the institutional framework that would enforce racial barriers. Kusmer (1976) notes that after the first large immigration wave, white resistance to integrated facilities grew. Previously integrated facilities, such as pools, universities, and schools, became segregated. In addition, there is some suggestion that black migrants to Cleveland preferred a more segregated housing structure. One entire church congregation of blacks in Alabama, for example, moved to Cleveland in the 1920s and settled in an all-black area. These two factors led to increased segregation. This shows up in both of our measures of housing segregation: by 1940, dissimilarity in Cleveland was 84 percent and isolation was 63 percent. At midcentury, segregation in Cleveland appears to be driven by collective actions on the part of whites, with some role from black demand as well. This impression is corroborated by the scattered available data on housing costs. In 1918, the Cleveland Chamber of Commerce estimated that blacks paid 65 percent more than whites for equivalent housing.

Between 1940 and 1970, the Cleveland ghetto grew in physical area. Of the 28 census tracts in the city of Cleveland that reached 25 percent black between 1940 and 1960, 27 were over 75 percent black within two decades of reaching 25 percent black (see table 9). Segregation in Cleveland remained high. Between 1940 and 1970, the index of dissimilarity increased from 84 to 87 percent, and the index of isolation rose from 63 to 72 percent.[38]

[37] Moore (1953), Wye (1973), Kusmer (1976), and Galster (1990) all provide historical evidence on this city.

[38] Segregation does not rise much over this period of great black migration. Between 1940 and 1970, most integrated tracts were integrated only because, as the black ghetto expanded, whites and blacks temporarily lived together as tracts switched from being completely white to being completely black. Therefore, for highly segregated cities, neighborhood change may make integration appear to be higher.

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TABLE 9

A. Changes in Racial Composition of Census Tracts

Characteristics of City	Cleveland 1910	Cleveland 1940	Cleveland 1970	Cleveland 1990	Atlanta 1940	Atlanta 1970	Atlanta 1990	Sacramento 1950	Sacramento 1970	Sacramento 1990
Number of blacks (thousands)	8	85	331	355	105	309	735	5	37	101
Black share of population	2%	10%	16%	20%	35%	22%	26%	3%	5%	7%
Dissimilarity index	.659	.843	.873	.824	.719	.776	.648	.557	.623	.478
Isolation index	.076	.630	.720	.708	.575	.635	.489	.106	.202	.136
Number of matched census tracts	82	106	252	254	53	123	209	27	105	120

B. Characteristics of Census Tracts with Racial Change

	Central City			Suburbs:	Central City		Suburbs:	Central City		Suburbs:
	1910–30	1940–60	1970	1960–70	1940–60	1970	1960–70	1950–60	1970	1960–70
Tracts reaching 25% black	15	28	12	10	31	13	8	3	2	1
Number greater than 75% black 20 years after reaching 25% black	10	27	8	5	24	11	4	0	0	0

Note.—The sample is census tracts that have been matched over time to be constant areal units.

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Since 1970, segregation in Cleveland has fallen. Of the 12 city tracts that reached 25 percent black between 1960 and 1970, one-third were less than 75 percent black as of 1990. Suburbanization has also moderated segregation. Only half of the suburban census tracts that reached 25 percent black in the post–World War II period were over 75 percent black within two decades.[39] This change in segregation appears to be due to a reduction in the formal mechanisms enforcing segregation. Recent surveys of Cleveland show that whites are not fundamentally opposed to living in integrated areas (Keating 1994). Formal barriers to black mobility, such as restricted covenants, have been reduced or eliminated over the past half century. Where segregation remains, it appears to be propped up by whites' willingness to pay more for mainly white neighborhoods (i.e., decentralized racism).

Atlanta

The first significant black settlements in Atlanta took place during Reconstruction and consisted of "clusters" around the city's periphery, still apparent today (Kellogg 1977). Facing a rising black population, Atlanta's civic leaders made many attempts to legally enforce residential segregation, particularly after the bloody riot of September 22, 1906 (Crawford 1967). The city explicitly zoned by race in 1913 and 1916; these laws were deemed unconstitutional in 1917. In 1929, the city passed a law forbidding anyone (of either race) from moving into a house on a street in which "the majority of the residences . . . are occupied by those with whom said person is forbidden to intermarry" (quoted in Bayor [1996]). This legislation was also deemed unconstitutional. Failing at attempts to zone by race, the city undertook programs of highway development, public housing construction, and slum clearance that displaced many blacks and steered many others to already-crowded black areas. During the urban renewal period of the 1950s and 1960s, critics accused local officials of pursuing a policy of "Negro removal" in their attempts to revitalize the central business district (Bayor 1989).

Thus, even more than Cleveland, Atlanta's history is one of collective enforcement of racial barriers by whites. To a large extent, these efforts were successful. In 1940 (the first year in which census tract data are available), Atlanta was the most segregated of 16 southern

[39] The relative integration of suburban tracts does not appear to be an artifact of using census tracts, which may be too large outside of cities to capture the relevant segregation. City-suburb differences in segregation appear for all three case study cities if we use block groups (a significantly smaller geographic unit) rather than tracts to measure segregation.

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cities according to both the dissimilarity and isolation indices. Centralized white racism seems clearly to blame.

In the past few decades, however, the city has changed. The Hartsfield administration of the 1940s, 1950s, and 1960s was committed to racial change: the police force was integrated a decade before other southern cities, school desegregation was accomplished easily, and the city termed itself "the City Too Busy to Hate" (Allen 1996; Bayor 1996). Atlanta was a relatively peaceful home for the civil rights movement, and the city elected its first black mayor in 1974 without much incident.

The result was a substantial decline in segregation over the past two decades, particularly in the suburbs. Between 1970 and 1990, the share of blacks living in the suburbs of Atlanta increased from 36 to 56 percent, and the suburbs (with a few exceptions) are much more integrated than the city. Additionally, blacks have been making inroads into previously white areas of the city. Of the 26 census tracts in the metropolitan area that were less than 1 percent black in 1970, only six remained under 5 percent black in 1990. Thus, with the reduction in formal barriers to integration and the active promotion of a racially harmonious society, Atlanta has made great, though incomplete, strides toward integration.

Sacramento

Sacramento has historically attracted more attention for its Asian and Hispanic populations than for its black residents (Leland 1989). Still, the black population of Sacramento has grown substantially in the post–World War II period, averaging 7.5 percent per year between 1950 and 1990. In 1950, Sacramento's black population was spread unequally (dissimilarity was 56 percent), but blacks were such a small presence even in their main neighborhood that isolation was relatively low (11 percent).

Between 1950 and 1970, urban renewal projects and highway construction dispersed the black population throughout the city. The goal was not particularly to remove blacks, but rather to disperse the poor in general; the city wanted to create a barrier to the further advance of "blighted" areas. Pockets of black residences, each more concentrated than the older neighborhood, developed throughout the city. As a result, both dissimilarity and isolation rose by seven to 10 percentage points.

Despite this increase, segregation in Sacramento remained below that of Cleveland and Atlanta. As table 9 shows, none of the tracts that became 25 percent black between 1950 and 1970 went on to become 75 percent black. In fact, each of these tracts declined in

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black share in the subsequent 20 years as whites moved into these areas. In addition, many tracts that were essentially entirely white in 1970 had a moderate (5–15 percent) share of blacks in 1990.

Several factors likely explain the difference between segregation in Sacramento and that in Cleveland and Atlanta. Sacramento's black population moved to the city in a different time period than either Atlanta's or Cleveland's migrants, and the blacks who came to California were much more likely to be skilled, urban, and northern than the migrants to the older cities. Thus the black demand for segregated areas was probably lower in Sacramento. The city's development also took place in an era in which laws and social norms prevented centralized racism from being a major force. Finally, racist beliefs appear to be less prevalent in the West than in the Midwest or the South, and therefore white demand for segregated areas may have been lower as well.

Lessons from the Case Studies

While not definitive, our comparison of three representative cities provides support for the empirical patterns we noted above. In Cleveland, segregation was driven by the growth of the black population, both because some blacks desired segregated areas and also because black in-migration sparked racial hatred among whites. Collective action racism also played a substantial role in the formation of the ghetto in Atlanta. Recent years have seen the decline of formal barriers to integration and thus a reduction in segregation. Segregation remains high in many cities, but in areas with more rapid population change, such as Sacramento, patterns of stable integration are developing.

VIII. Conclusion

Our examination of segregation in the past century leaves us with two conclusions. First, the level of segregation in urban America rose for nearly a century and then modestly declined. Segregation in the United States increased continuously from 1890 to 1970, a period in which ghettos were first born and then cemented themselves in urban life. Since 1970, segregation has been falling. Second, despite these large changes in segregation over time, segregation across cities is very persistent and is strongly related to city size. Larger cities have much higher levels of segregation than smaller cities, and this has been true for most of the last century.

Our qualitative and quantitative evidence suggests that in the mid-twentieth century, segregation reflected collective actions on the

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part of whites opposing integration, as opposed to desire for segregation on the part of blacks new to urban America. Restrictive covenants, explicit or implicit threats of violence, and generally adverse social conditions kept blacks out of white areas. Black areas of cities were crowded, and blacks paid more for housing than whites paid in equivalent areas. Over time, formal barriers to integration were eliminated, but discriminatory white tastes remained. Whites still prefer to live with other whites more than blacks prefer to live in white areas. Decentralized racism operating through the price mechanism has replaced centralized, legally enforced racism, and racial differences in housing persist.

The implications of these results for the future are mixed. Segregation has declined over the past 20 years, and this may be related to the elimination of formal barriers to integration. Indeed, the decline in segregation occurred mainly because formerly all-white areas now have small numbers of black residents, which is strongly suggestive of a lowering of walls against black mobility. At the same time, there are more completely black areas in our cities than there have ever been in the past, and large amounts of segregation linger. Possibly, large reductions in segregation will have to await greater change in attitudes toward racial integration than we have experienced in the recent past.

Appendix A

Proof of Proposition

We denote $\phi_W = N_W/(N_W + N_B)$ and use the fact that for the housing market to clear it must be true that $\phi_W f_W = (1 - \phi_W) f_B$. We also denote d_W as the intercept of $D_W(f_W)$ and d_B as the intercept of $D_B(f_B)$. Differentiation of equation (3) yields

$$\frac{\partial S}{\partial C} = \frac{\partial S}{\partial d_W} = \frac{\partial S}{\partial d_B} = \frac{1}{\phi_W D_B'(f_B) + (1 - \phi_W) D_W'(f_W)} > 0, \quad \text{(A1)}$$

$$\frac{\partial (P_B - P_W)}{\partial C} = \frac{\partial (P_B - P_W)}{\partial d_B} = \frac{(1 - \phi_W) D_W'(f_W)}{\phi_W D_B'(f_B) + (1 - \phi_W) D_W'(f_W)} > 0, \quad \text{(A2)}$$

and

$$\frac{\partial (P_B - P_W)}{\partial d_W} = \frac{-\phi_W D_B'(f_B) f_W}{\phi_W D_B'(f_B) + (1 - \phi_W) D_W'(f_W)} < 0. \quad \text{(A3)}$$

Substituting these terms into equation (4) for $X = d_B$ or $X = C$ yields

$$\frac{\partial S(P_B - P_W)}{\partial X} = \frac{S(1 - \phi_W) D_W'(f_W) + (P_B - P_W)}{\phi_W D_B'(f_B) + (1 - \phi_W) D_W'(f_W)}, \quad \text{(A4)}$$

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