Covenants without Courts: Enforcing Residential Segregation with Legally Unenforceable Agreements

By RICHARD R.W. BROOKS[*]

In 1917 the U.S. Supreme Court ended the country's brief experiment with racial zoning laws, deeming them unconstitutional *state* action under the Fourteenth Amendment.[1] The Constitution, however, did not prohibit *private* parties, the Court declared in a later opinion, from agreeing to racially segregate neighborhoods.[2] In the wake of that opinion, a swell of activity among private actors filled deeds with restrictions prohibiting the sale, rental, use and occupancy of properties by persons of designated races, ethnicities, nationalities and religions—collectively known as racial or racially restrictive covenants. Restrictive covenants were extensively used in cities, like Chicago, where some estimates suggest that at one point they covered three quarters of the city's residential housing stock.

No one doubts that covenants were widely used, but not everyone agrees they mattered much. Louis Wirth, the noted Chicago sociologist, felt covenants were ineffective because homeowners were simply too tempted by premiums they could garner selling to blacks. When neighbors sought judicial enforcement against these violators, historian Arnold Hirsch observed that the courts were largely unresponsive. Black housing opportunities, according to Hirsch, were mainly constrained by a general housing shortage and through violence, not by covenants. Gunnar Myrdal took the opposite view, saying that if the Supreme Court ruled covenants unconstitutional (which it did in 1948),[3] segregation in the North would be nearly doomed. Of course, not only does segregation continue today, it is by many measures considerably worse than it was when Myrdal made this statement. Yet that fact alone doesn't imply that covenants were ineffective in the first half of the twentieth century, or later for that matter.

The two opposing views share one basic assumption. Judicial enforcement of covenants was the linchpin of their effectiveness. It was a common enough position,[4] but one somewhat at odds with subsequent practice. Well after the Court ruled judicial enforcement of racial restrictive covenants unconstitutional, lawyers continued to write them into deeds. Realtors, banks, insurers and government agencies continued to reference racial covenants in their decisions and policies. Title companies continued to report them for decades. Recorders of deeds today still continue their ministerial administration of these covenants, carrying them forward notwithstanding a number of law suits in the 1970s and 1980s. Home buyers and sellers, finally, continued to be guided by them.[5]

Observing the behaviors of these actors suggests a more complicated, less court centric, account of covenants and legal agreements generally. Covenants were signals that coordinated the behavior of a variety of private individual and institutional actors—signals that remained effective without judicial unenforceability.

I. A Simple Model of Covenants

Consider the stage game depicted in Figure 1, played between homeowners, i and j, each having the option of selling to black buyers (sell) or not (stay).[6] The payoff to i and j from living

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[1] *Buchanan v. Warley*, 245 U.S. 60 (1917).

[2] *Corrigan v. Buckley*, 271 U.S. 323 (1926).

[3] *See Shelley v. Kraemer*, 334 U.S. 1 (1948).

[4] *See e.g.*, "The effectiveness of restrictive covenants depends in the last analysis on the court orders enforcing the private agreement." The Report of President Truman's Committee on Civil Rights, *To Secure These Rights*, 1947.

[5] In 2005, a homeowner lost a suit against a black buyer because, he claimed, "a deed restriction prevented him from selling to certain minorities." Richmond Times Dispatch, 12/9/05, B-1.

[6] Assume homeowner i is an individual player and let j represent another individual or some aggregation of other homeowners in the neighborhood. The strategies are (*1*) sell to blacks and (*2*) stay in their homes (or equivalently sell only to white buyers, who by assumption will offer no premium over the value of the house to the current homeowners).

in an exclusively white neighborhood is 2, how-ever, each would receive a premium, 3, if she sells to a black buyer when the other does not, leaving the other with a payoff of 0 from liv-ing in an integrated neighborhood. When both i and j sell to black buyers each receives 1, re-flecting a lower market value when a neighbor-hood experiences racial transition of this sort. These payoffs generate a prisoner's dilemma, where each neighbor prefers to stay put and get 2, rather than selling to blacks for a payoff 1—an undesirable and yet inevitable outcome.

The self-defeating outcome results from the homeowners' inability to credibly commit to staying put or selling only to whites. The conse-quence of this inability are great: a selling spree of homes at prices below the ex ante values to the homeowners. Homeowners therefore have incentive to identify commitment mechanisms that counter the impulse to sell to blacks. Res-idential discrimination norms, backed by social sanctions–like ostracism, threats and violence–offer one route toward commitment. Legal sanc-tions, primarily racial restrictive covenants, pro-vided another. Covenants were used to supple-ment norms thought too weak to maintain com-mitment. There can be no doubt that legally enforceable covenants were useful commitment mechanisms. But that's not all they did.

Covenants also coordinated behavior through other channels, none of which required subse-quent judicial enforcement. Having at one time the imprimatur of binding law, covenants contin-ued to receive a nod of validity among a number of salient institutional actors. Moreover, they were signals to realtors (who directed blacks to non-covenanted neighborhoods),[7] to lenders (who would not grant mortgages to blacks in covenanted neighborhoods), to federal hous-ing agencies (that would not issue or guaran-tee mortgages granted to blacks in covenanted neighborhoods), and to insurers (who would not insure blacks in covenanted neighborhoods). These intermediaries were able to use covenants to cooordinate transactions in order to to main-tain neighborhood racial exclusivity, and there-fore (in their view) sustain property values, an outcome in which they were all highly invested.

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[7]In some places realtors expressed greater commitment to respecting the boundaries created by covenants after the Court ruled then unenforceable.

Between neighboring white homeowners, ex-isting covenants could be part of a correlated equilibrium in the presence of multiple equil-bria, as would be the case, for instance, if the payoffs from the {stay, stay} strategy combina-tion were changed from 2 to 4. Here the fact that covenants are said to "run with the land," meaning they attach to the property and perpet-uate even when the original signators are long gone, implies that they remain observable sig-nals, made all the more visible through registry of deeds and reports of title companies.

Between white homeowners and prospective black buyers, covenants served expressive func-tions, raising the transaction costs to many blacks seeking to buy into a neighborhood and the value to whites who place value on such ex-pression; covenants, enforceable or not, were signals to black purchasers of the community's resistance to their presence. To white homeown-ers, even those not personally committed to dis-criminating against black buyers, the public ex-pression of covenants established norms of com-munity expectation, making it harder to deviate from discriminating by inviting black buyers to make offers and openly investigate purchase.

Covenants served all of these functions be-fore 1948, when they were judicially enforce-able. When courts stopped enforcing covenants, these functions did not cease. The legal commit-ment mechanism of covenants was lost, but the conventional and coordination ends they served were not. Reliance on covenants was weakened without assurances from courts, yet covenants remained an active mechanism in perpetuating racial residential segregation in the second half of the twentieth century. If this is the case we might expect to see some changes in housing values and the racial composition of covenanted neighborhoods after 1948 (since, after all, a valuable commitment strategy was gone), but not full convergence since covenants were still at work. Observing this wouldn't prove that covenants continued to matter despite their un-enforceability, but a failure to see this pattern would cut strongly agains the claim that they did.

II.   Empirical Analysis

An impact of unenforceable covenants may be estimated by comparing housing and population

characteristics of neighborhoods with covenants to those largely without covenants before and after the Court's 1948 ruling. Chicago, where as previously mentioned covenants were extensive, provides a useful basis for carrying out such a comparison.

A.   Data

Neighborhood data for the analysis were organized by Wirth et al. in the Chicago *Factbook*. The *Factbook* reports Census data by Community Areas—neighborhood definitions constructed by Wirth and others that corresponds roughly to commonly known Chicago neighborhoods. Decennial figures, from 1930 to 1990, on housing value and other aggregate characteristics of dwellings and residents are used.[8] Reporting inconsistencies in *Factbooks* across decades necessitated some adjustments.[9] Proxies for covenants in community areas ware based on from various sources compiled by Plotkin (1998).[10]

B.   Methodology

A difference-in-differences estimator, δ, the main coefficient of interest, is derived through the following equation:

$$depvar_{i,t} = \alpha + \beta\, year_t + \gamma\, covenant_i$$
$$+ \delta\, year_t \cdot covenant_i + \bar{\phi}\bar{X}_{i,t} + \varepsilon_{i,t}.$$

[8]Among other measures, the data include median age of housing units, units without toilets, indoor running water or hot water, the number of dilapidated units, average persons per room, units owner-occupied and a variety of statistics concerning residents, including their age, gender, race, nationality, income, education and occupational, employment and marital status.

[9]A distinct housing value is reported in 1930, for example. Consequently that year is excluded from the regression models, although it informs other aspects of the analysis. Additionally, while only 75 community areas are reported through 1970, two more are reported in later years. Community area #76 is excluded from the analysis because it sits on the outskirts (the western edge) of the city, consisting mostly of non-residential airport land (OHare field). Community area #77 was constructed by carving the preexisting area #3 in two. The two areas are merge here and coded as area #3 for consistency going backward.

[10]Covenants exists in tract books at the Chicago Recorder of Deeds. The previously "most extensive study of covenants done in Chicago[, was] undertaken by local NAACP attorney Loring Moore in connection with the covenant case, [*Tovey v. Levy*, 401 Ill. 393, 82 N.E. 2d 441 (1948)], in 1947." (**?**, 6) See Testimony Before Mayer Goldberg, Master-in-Chancery, Defendants Exhibits 2A-2H for *Tovey v. Levy*.

The dependent variable ($depvar_{i,t}$) is the log median housing value or the percent black in community area i during time period t. The independent variables included year dummies ($year_t$), a covenant proxy ($covenant_i$)—equal to one if community area i was significantly covered by covenants and equal to zero otherwise— and a vector of independent variables, $\bar{X}$, describing various neighborhood characteristics ($\varepsilon_{i,t}$ is the error term). Community area fixed effects are included in some models.[11] The intercept, α, represents the average housing value (or percent black) in a community area *without* covenants in 1940; β reflects the change in the dependent variables between 1940 and $year_t$; the coefficient γ indicates the relationship between covenants and the dependent variable prior to 1950; δ measures the mean difference between covenant and noncovenant community areas between the base year (1940) and $year_t$.

C.   Results

Looking at the data for 1940, significant variation is observable among covenanted community areas. Some were upper or middle class while others were poor or working class; some were close to extant black neighborhoods while others were relatively far away. Compared to neighborhoods where covenants were largely absent, covenanted areas tended to be closer to high concentrations of blacks, who principally occupied 3 contiguous community areas jointly known as as *Bronzeville* or the black belt. Otherwise, many covenanted and noncovenanted areas looked quite similar in terms of neighborhood class and proximity to black neighborhoods.[12]

[11]The drawback of that is the community area fixed-effect absorbs all the variation from the *covenant* variable, rendering it unidentifiable because neighborhood covenants are (counterfactually) constant over time and space in the dataset.

[12]For instance, focusing on the average housing value in the covenanted areas (i.e., \$4,966), there was an equal number of community areas that exceed this average in both the covenanted and the noncovenanted sample. There were also thirteen noncovenanted (and ten covenanted) areas that had a greater percentage of white collar workers than the average figure in covenanted areas (i.e., 49.5%). In other words, the covenanted areas were not exclusively the better-off communities nor were they exclusively the communities that bordered black community areas. It is an interesting story how, in many poor and working class neighborhoods, covenants came to be used along with violence

Results from the analysis of the pooled sample of decennial data (1940 to 1990) are reported in Table 1. The dependent variable for the first four models is the log median housing value and for the next four models it is percent black. Figures in the table indicate coefficient estimates from the model (standard errors are reported in parentheses below the coefficients). Consider the second model, which adds a variable, *proximity*, indicating whether a community area borders the black belt or is separated from it by some number of other areas. The coefficient on *covenant* (0.20, significant at 90 percent) suggests covenanted areas were had a median housing value roughly 22 percent greater than noncovenanted areas when covenants were enforceable.

The impact of the Court's order rendering covenants unenforceable may be inferred from the coefficients on the interactions of *covenant* and *year*. As might be expected, the signs are negative, indicating a decline in the value of covenanted neighborhoods following the Court's order. However, the decline becomes meaningful, in magnitude and statistical significance, only in later decades. The coefficient on *covenant x 1990*, −0.36, is highly significant, but the results for the prior years are considerably weaker. The pattern survives the inclusion of neighborhood fixed effects and other controls (see Models 3 and 4).

Turning to the percent black dependent variable, the significant negative coefficient on *covenant* in Model 6 indicates that blacks were less likely (by 13.50 percentage points) to reside in covenanted areas. Following the Court's order, again as might be expected, the coefficients on the interactions of *covenant* and *year* show the percentage of blacks in covenanted neighborhoods increasing, although neither as much nor as quickly as one might expect. Departing from a relatively modest and statistically insignificant increase of 2.59 in 1950, the significant coefficient on *covenant x 1960*, 26.04, indicates a 26 percentage point increase in the black population of covenanted areas compared to noncovenanted ones between 1940 and 1960.

and threats; a mix of strategy often born out of mixed motives: it seems wealthy neighborhoods would facilitate covenants in white working class communities adjacent to black neighborhoods in an apparent attempt to firm up a buffer zones between themselves and black neighborhoods (**?**, 7).

The difference between 1940 and 1970, captured by *covenant x 1970*, is roughly 39 percentage points, suggesting another big leap the following decade. These patterns, again, survive inclusion of neighborhood fixed effects and other controls (see Models 7 and 8).[13]

III. Conclusion

In 1948 the Supreme Court ruled racial restrictive covenants henceforth unenforceable. However, the practice of incorporating such covenants into deeds remained lawful until the Fair Housing Act, 1968. In the intervening years, and no doubt after, lawyers, lenders, insurers and government agencies continued to rely on covenants as proxies for the racial exclusivity of neighborhoods.[14] So-called neighborhood improvement associations and real estate boards sanctioned realtors who facilitated sales to blacks in covenanted neighborhoods. Black buyers were as discouraged by unenforceable covenants as segregationists were emboldened by them. None of this is say that legal enforceability or the Court's change of heart were irrelevant; these things surely matter to the lives of millions of disadvantaged Americans, both practically and symbolically. When judges were taken out of the mix—no longer enlisted by private parties to enforce their segregationist preferences through covenants—residential integration faced one less obstacle, but only one less.

[13]Finally, a number of spatial models were run, attempting to account for proximity to the black belt, but the results were largely unchanged.

[14]In addition to the FHA, the Home Owner's Loan Corporation (HLOC) and Veterans Administration (VA) established mortgage appraisal processes that relied on racial restrictive covenants. The FHA would not insure mortgages for blacks seeking to buy a home with a disabling covenant, despite their unenforceability. FHA commissioner, Franklin D. Richards, proclaimed "that the agency would [continue to] insure properties subject to racial restrictive covenants in the future." (**?**, 225). Under pressure from the NAACP and the American Jewish Congress, President Truman reach a compromise with FHA leadership wherein the agency would continue its discriminatory policy but only with respect to covenants filed and recorded prior to February 15, 1950. Though the FHA thereafter toned down its vocal advocacy for covenants, its continued implicit endorsement of them was lost on no one.

j

	sell	stay
i sell	1 1	3 0
stay	0 3	2 2

TABLE 1—BASIC RESULTS

	Dependent variable							
	ln(median housing value)				percent black			
Independent variables[a]	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
covenant	0.13	0.20*	—	—	-1.79	-13.50**	—	—
	(0.10)	(0.10)			(3.97)	(5.28)		
covenant x 1950	-0.05	-0.06	-0.06	-0.05	1.45	2.59	2.75	2.71
	(0.05)	(0.05)	(0.05)	(0.06)	(2.59)	(2.52)	(2.61)	(2.01)
covenant x 1960	-0.11	-0.11	-0.11	-0.04	25.94***	26.04***	25.63***	25.12***
	(0.08)	(0.08)	(0.08)	(0.09)	(7.39)	(7.41)	(7.40)	(6.47)
covenant x 1970	-0.13	-0.13	-0.13	-0.02	39.01***	39.10***	38.70***	38.30***
	(0.08)	(0.08)	(0.08)	(0.09)	(8.19)	(8.21)	(8.20)	(7.83)
covenant x 1980	-0.18	-0.18	-0.18	-0.07	41.44***	41.53***	41.13***	42.32***
	(0.11)	(0.11)	(0.11)	(0.12)	(9.13)	(9.14)	(9.13)	(9.06)
covenant x 1990	-0.36***	-0.36***	-0.31***	-0.20*	43.71***	44.89***	44.59***	46.49***
	(0.11)	(0.11)	(0.11)	(0.12)	(8.87)	(8.83)	(8.88)	(8.78)
proximity	—	0.09***	—	—	—	-15.62***	—	—
		(0.03)				(2.42)		
owner-occupied	—	—	—	0.003	—	—	—	-0.85***
				(0.003)				(0.27)
percent black	—	—	—	-0.003***	—	—	—	—
				(0.001)				
year dummies	yes	yes	yes	yes	yes	yes	yes	yes
com. area dummies	no	no	yes	yes	no	no	yes	yes
N	438	438	438	438	438	438	438	438
Adjusted R^2	0.32	0.37	0.62	0.64	0.26	0.50	0.45	0.47

[a]Significance at 0.10, 0.05 and 0.01 denoted by *, ** and ***, respectively. Standard errors, clustered at community areas, are reported in parentheses.

COMMUNITY SETTLEMENT MAP FOR 1950

CHICAGO-O'HARE INTERNATIONAL AIRPORT

Legend:
— CITY LIMITS
---- BUILT-UP AREAS
— COMMUNITY AREAS
--- SHORELINE
RIVERS & HARBORS
GERMAN
IRISH
SWEDISH
NORWEGIAN
DUTCH
CZECH/SLOVAK
BLACK
SCOTTISH
POLISH
ITALIAN
UKRAINIAN
LITHUANIAN
JEWISH
CHINESE
GREEK
YUGOSLAV
RUSSIAN
MEXICAN
FRENCH
HUNGARIAN
AUSTRIAN
JAPANESE
PUERTO RICAN

COMMUNITY AREA NAMES

1 ROGERS PARK
2 WEST RIDGE
3 UPTOWN
4 LINCOLN SQUARE
5 NORTH CENTER
6 LAKE VIEW
7 LINCOLN PARK
8 NEAR NORTH SIDE
9 EDISON PARK
10 NORWOOD PARK
11 JEFFERSON PARK
12 FOREST GLEN
13 NORTH PARK
14 ALBANY PARK
15 PORTAGE PARK
16 IRVING PARK
17 DUNNING
18 MONTCLARE
19 BELMONT CRAGIN
20 HERMOSA
21 AVONDALE
22 LOGAN SQUARE
23 HUMBOLDT PARK
24 WEST TOWN
25 AUSTIN
26 WEST GARFIELD PK
27 EAST GARFIELD PK
28 NEAR WEST SIDE
29 NORTH LAWNDALE
30 SOUTH LAWNDALE
31 LOWER WEST SIDE
32 LOOP
33 NEAR SOUTH SIDE
34 ARMOUR SQUARE
35 DOUGLAS
36 OAKLAND
37 FULLER PARK
38 GRAND BLVD
39 KENWOOD
40 WASHINGTON PK
41 HYDE PARK
42 WOODLAWN
43 SOUTH SHORE
44 CHATHAM
45 AVALON PARK
46 SOUTH CHICAGO
47 BURNSIDE
48 CALUMET HEIGHTS
49 ROSELAND
50 PULLMAN
51 SOUTH DEERING
52 EAST SIDE
53 WEST PULLMAN
54 RIVERDALE
55 HEGEWISCH
56 GARFIELD RIDGE
57 ARCHER HEIGHTS
58 BRIGHTON PARK
59 MCKINLEY PARK
60 BRIDGEPORT
61 NEW CITY
62 WEST ELSDON
63 GAGE PARK
64 CLEARING
65 WEST LAWN
66 CHICAGO LAWN
67 WEST ENGLEWOOD
68 ENGLEWOOD
69 GREATER GRAND CR
70 ASHBURN
71 AUBURN GRESHAM
72 BEVERLY
73 WASHINGTON HGTS
74 MOUNT GREENWOOD
75 MORGAN PARK
76 O'HARE

* THE LOCATIONS OF VARIOUS SETTLEMENTS ARE SOMETIMES APPROXIMATE. THE NEIGHBORHOODS WERE NEVER TOTALLY HOMOGENEOUS. THE SIZE OF THE COLOR CODED AREAS IS NOT INDICATIVE OF THE DENSITY OF THE POPULATION.
THE LOCATION OF THESE SETTLEMENTS WAS BASED ON CENSUS DATA, PARISH AND CONGREGATION RECORDS, GENERAL HISTORIES AND OTHER SOURCES INCLUDED IN THE BIBLIOGRAPHY OF HISTORIC CITY — THE SETTLEMENT OF CHICAGO.
FOR EASIER REFERENCE THE PRESENT STREET PATTERN OF THE CITY HAS BEEN SHOWN IN A LIGHT SCREEN.

LAKE MICHIGAN

SCALE IN MILES

CITY OF CHICAGO
RICHARD J. DALEY, Mayor
DEPARTMENT OF DEVELOPMENT AND PLANNING
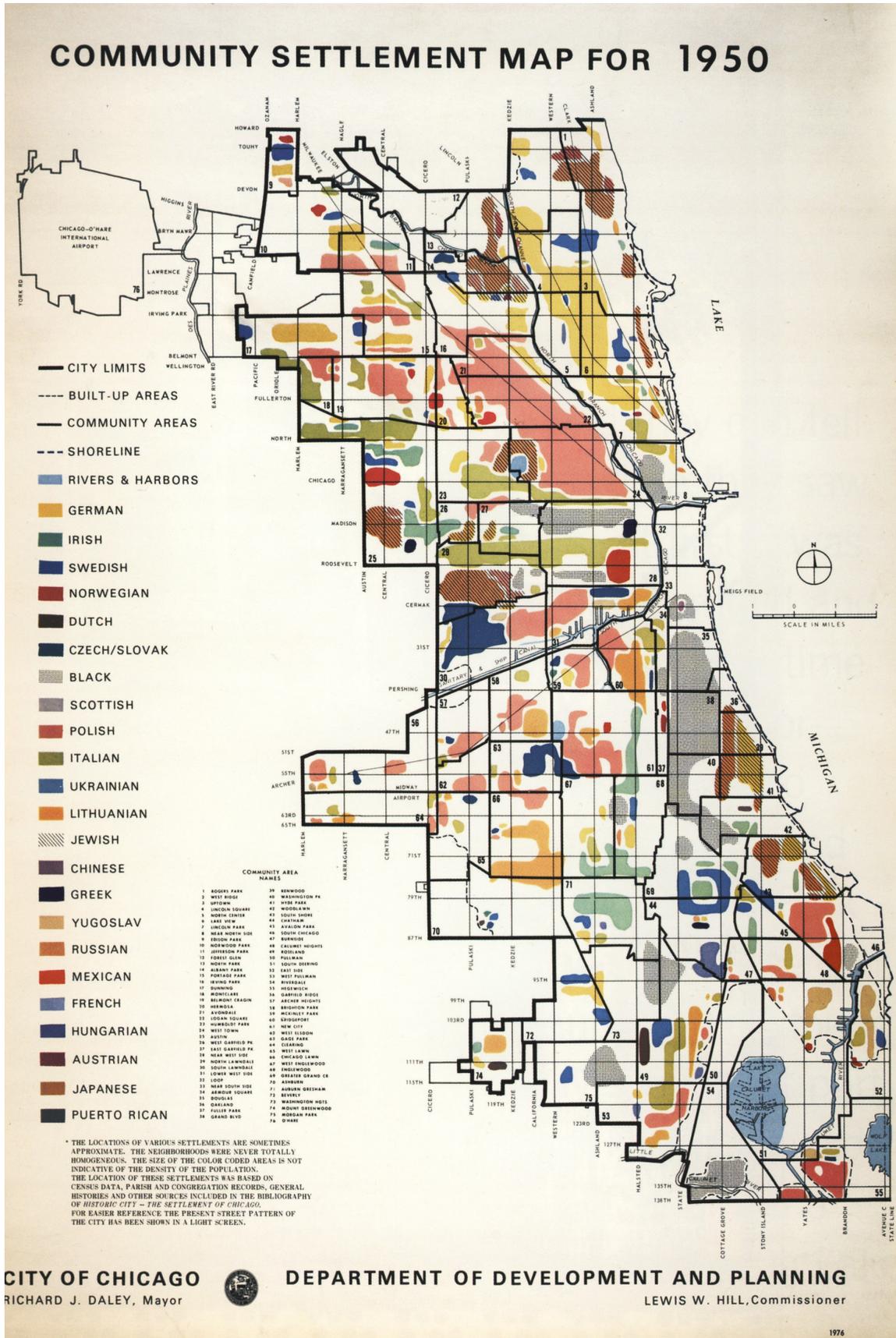LEWIS W. HILL, Commissioner

1976
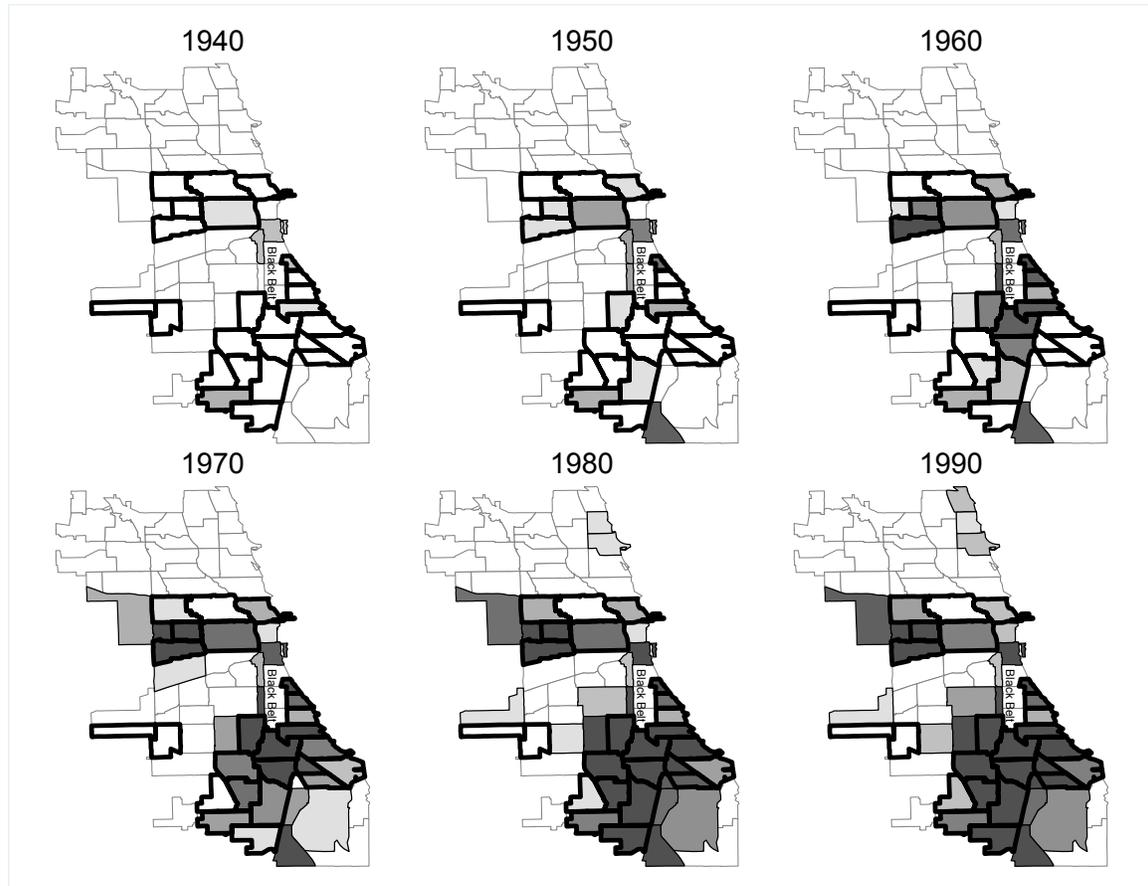
FIGURE 1. CAPTION FOR FIGURE BELOW.

FIGURE 2. CHANGE OVER TIME IN BLACK POPULATION (SHADED), COVENANTED AREAS (BOLDED OUTLINE).

TABLE 2—SPATIAL WEIGHTING ERROR CORRECTION MODELS FOR HOUSING VALUE

Dependent variable: ln(median housing value)				
	Spatial weighting method			
	inverse-distance		contiguity	
Independent variables[a]	Model 1	Model 2	Model 3	Model 4
λ	0.001***	0.0010***	0.09***	0.09***
	(0.0001)	(0.0001)	(0.01)	(0.01)
covenant x 1950	-0.04	-0.04	-0.03	-0.03
	(0.07)	(0.07)	(0.08)	(0.07)
covenant x 1960	-0.10	-0.06	-0.09	-0.06
	(0.07)	(0.07)	(0.08)	(0.08)
covenant x 1970	-0.07	-0.009	0.005	0.03
	(0.07)	(0.07)	(0.08)	(0.08)
covenant x 1980	-0.10	-0.04	-0.04	-0.03
	(0.07)	(0.07)	(0.08)	(0.08)
covenant x 1990	-0.23**	-0.18*	-0.20*	-0.19*
	(0.07)	(0.07)	(0.08)	(0.08)
owner-occupied		0.006*		0.007**
		(0.002)		(0.002)
percent black		-0.002***		-0.001*
		(0.0006)		(0.0006)

[a]Significance 0.05, 0.01, 0.001, and 0.0001 denoted by [†], *, ** and ***, respectively. Standard errors reported in parentheses.

TABLE 3—SPATIAL WEIGHTING ERROR CORRECTION MODELS FOR PERCENT BLACK

Dependent variable: percent black				
	Spatial weighting method			
	inverse-distance		contiguity	
Independent variables[a]	Model 1	Model 2	Model 3	Model 4
λ	0.001***	0.001***	0.12***	0.12***
	(0.0001)	(0.0001)	(0.008)	(0.008)
covenant x 1950	2.63	2.14	3.77	3.06
	(5.68)	(5.55)	(5.64)	(5.54)
covenant x 1960	22.42***	21.69***	24.40***	23.61***
	(5.68)	(5.55)	(5.64)	(5.54)
covenant x 1970	31.46***	30.49***	23.85***	23.31***
	(5.68)	(5.55)	(5.64)	(5.54)
covenant x 1980	34.88***	34.81***	25.51***	25.10***
	(5.68)	(5.55)	(5.64)	(5.54)
covenant x 1990	33.72***	34.50***	24.33***	24.87***
	(5.68)	(5.55)	(5.64)	(5.54)
owner-occupied		-0.71***		-0.57***
		(0.15)		(0.14)

[a]Significance 0.05, 0.01, 0.001, and 0.0001 denoted by [†], *, ** and ***, respectively. Standard errors reported in parentheses.

TABLE 4—SPATIAL LAG MODELS FOR HOUSING VALUE

Dependent variable: ln(median housing value)				
	Spatial weighting method			
	inverse-distance		contiguity	
Independent variables[a]	Model 1	Model 2	Model 3	Model 4
ρ	0.0009***	0.0009***	0.06***	0.06***
	(0.0001)	(0.0001)	(0.01)	(0.01)
covenant x 1950	-0.06	-0.06	-0.05	-0.04
	(0.07)	(0.07)	(0.07)	(0.07)
covenant x 1960	$-0.12^{\dagger}$	-0.07	-0.10	-0.05
	(0.07)	(0.07)	(0.07)	(0.07)
covenant x 1970	-0.10	-0.02	-0.07	0.006
	(0.07)	(0.07)	(0.07)	(0.07)
covenant x 1980	-0.15*	-0.06	$-0.12^{\dagger}$	-0.04
	(0.07)	(0.07)	(0.07)	(0.07)
covenant x 1990	-0.27***	-0.19**	-0.24***	-0.17*
	(0.07)	(0.07)	(0.07)	(0.07)
owner-occupied			0.007**	0.005*
		(0.002)		(0.002)
percent black		-0.002***		-0.002***
		(0.0005)		(0.0006)

[a]Significance 0.05, 0.01, 0.001, and 0.0001 denoted by [†], *, ** and ***, respectively. Standard errors reported in parentheses.

TABLE 5—SPATIAL LAG MODELS FOR PERCENT BLACK

Dependent variable: percent black				
	Spatial weighting method			
	inverse-distance		contiguity	
Independent variables[a]	Model 1	Model 2	Model 3	Model 4
ρ	0.001***	0.001***	0.11***	0.10***
	(0.0001)	(0.0001)	(0.008)	(0.009)
covenant x 1950	2.54	2.26	2.61	2.39
	(5.22)	(5.13)	(4.74)	(4.67)
covenant x 1960	21.40***	21.02***	19.25***	19.04***
	(5.23)	(5.13)	(4.78)	(4.71)
covenant x 1970	31.21***	30.95***	24.18***	24.24***
	(5.23)	(5.13)	(4.80)	(4.73)
covenant x 1980	35.38***	35.72***	26.99***	27.63***
	(5.23)	(5.13)	(4.82)	(4.75)
covenant x 1990	34.26***	35.25***	25.99***	27.17***
	(5.23)	5.14)	(4.81)	(4.75)
owner-occupied		-0.60***		-0.51***
		(0.14)		(0.13)

[a]Significance 0.05, 0.01, 0.001, and 0.0001 denoted by [†], *, ** and ***, respectively. Standard errors reported in parentheses.