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Racial Discrimination and Home Ownership

In Chapter 8, we consider whether racial discrimination in urban housing markets causes black households in St. Louis to pay more than white households for identical bundles of residential services. To anticipate these analyses, our findings suggest the magnitude of discrimination "markups" in the St. Louis housing market may be as high as 6 percent for a standardized bundle of housing services. When the different structure of prices inside and outside the ghetto is taken into account, blacks may have to pay as much as 12 percent more for their units inside the ghetto than they would have to pay if they were free to shop for housing outside of it. Several studies of the effects of housing-market discrimination have made estimates on these price markups, and all but one or two have found differences as large or larger than those which we have obtained for St. Louis.

Differentials of this magnitude are a significant loss in welfare for black households. Moreover, the analyses of home ownership, home purchase, and mobility presented in Chapter 5 raise the very real possibility that studies concerned solely with price discrimination may have overlooked still more serious consequences of racial discrimination in urban housing markets: its effect on the kinds of housing consumed by black households. In this chapter, we begin to consider this broader issue.

Though it is incomplete, an important part of the answer to the question of how racial discrimination distorts the housing consumption of black households is suggested by the analyses of home ownership and home purchase in Chapter 5. The generalized least-squares regression results, presented in Table 5-1, indicate that in the city and county of St. Louis, black households are 8.8 percentage points less likely to be owners than are white households, even after controlling for the influence of age, education, income, job stability, and life cycle. Thirty-two percent of the black households in the sample are homeowners; the race

coefficient indicates that 41 percent would be homeowners if they were white.

The analysis in Chapter 5 further indicates that the current probability of a household's owning its home cumulates over time as households move and make purchase decisions. Therefore, it could be argued that current ownership patterns primarily reflect the historical discrimination against blacks and provide a misleading view of current conditions. But, when the probability of home purchase by recent movers is analyzed, the coefficient of the race dummy variable is also negative and highly significant (Table 5-3). Only 8 percent of recent black movers purchased homes; the findings in Table 5-3 indicate that if they had been white, more than 20 percent would have purchased.

The second equation in Table 5-3 more adequately accounts for the effects of past discrimination against black households by including the dummy variables for prior tenure. Here again the coefficient of the race dummy, $-.091$, indicates that even when past tenure relations as well as socioeconomic and life-cycle influences are taken into account, the rate of home purchase by black households is only about half that for comparable white households.

These results are persuasive evidence that the probabilities of home ownership and home purchase are lower for black households than they are for white households of similar income, household size and composition, and labor-force attachments. But they do not prove that these differences are caused by racial discrimination. There are, in fact, several competing explanations for these results. The explanations may be grouped into three broad categories: (1) differences in the taste for home ownership between whites and blacks; (2) differences in the household asset and wealth positions of white and black families, and differences in permanent incomes; and (3) racial discrimination in the housing market as the result either of simple price discrimination in the owner and renter markets or of a more pervasive restriction on the supply of owner-occupied housing available to blacks. Supply restrictions could be supplemented or enforced by simple capital-market discrimination, or by an unwillingness on the part of banks and other mortgage lenders to finance home purchases by blacks outside the ghetto.

Though it is virtually impossible to "prove" that the much lower probability of home ownership of black households is not due to differences in the taste for home ownership, many of the more commonly accepted determinants of the tastes of housing consumers are included as independent variables in the ownership and purchase equations. Furthermore, stratification by race for all of the three equations dis-

closes no statistically significant differences. Household expectations about moving frequency may be the only important excluded taste variable (as will be discussed subsequently, mobility also affects the economics of home ownership).

However, the mobility analysis presented in Chapter 5 also indicates that, if anything, black households are less likely to move than are white households of identical socioeconomic characteristics. For black homeowners, in particular, the results indicate a propensity to move during a three-year period that is about 9 percentage points lower than that for comparable whites. The magnitude of this difference is better appreciated if one recalls that the mean moving rate of sample homeowners is only 12 percent over a three-year period. The lower mobility rates of black homeowners may arise because the possibility of trading up to a larger or better owner-occupied unit is less available to black households, due to limitations on their residential choices; or because blacks are less often able to move closer to their jobs.

Differences in the asset or wealth positions of black and white households may account for part of the differences in white and nonwhite ownership and purchase probabilities. Unfortunately, the sample used in this research shares the deficiency of most other surveys in not including information on household assets and wealth. Therefore, using these data, no direct test of the asset hypothesis is possible. However, for several reasons, we doubt that much of the white-black differences in ownership and purchase are the result of unmeasured differences in wealth. All three equations include income, years-on-current-job, and life-cycle variables, which may account for much of the white-black differences in assets. For most households, black and white, equity in owner-occupied housing is itself the largest component of net worth.[1] Therefore, in the probability-of-purchase model, prior tenure may account for much of the remaining difference in wealth. Down payment requirements are a major reason why assets might be expected to affect the decision to purchase a home. However, Federal Housing Authority (FHA) and Veterans Administration (VA) down-payment requirements, especially for small single-family homes purchased more than ten years ago, were small or nonexistent.

Pertinent to the question of assets and wealth, several studies of the demand for housing have concluded that housing expenditures are more

[1]For example, recent Survey of Economic Opportunity tabulations indicate that for lower-middle income families ($5,000–$7,000 per annum), housing equity alone represents 40 percent of the net worth of white households and an even larger proportion of the net worth of black households. See Appendix C for further details.

strongly related to permanent than to annual income.[2] By extension, it may be argued that the probabilities of home ownership and home purchase are more strongly related to permanent than to annual income. Thus, all or part of the difference in the probabilities of home ownership and home purchase attributed to race in Tables 5-1, 5-2, and 5-3 might be due to unmeasured black-white differences in permanent income.

The available data permit only a crude evaluation of this alternative hypothesis. Permanent-income variables were constructed separately for blacks and whites by using the average annual income of the head of the household, reported by education level. Presumably, this averaging process reduces the transitory component of income and provides an improved estimate of the permanent component.

With few exceptions, average incomes are larger for higher education levels and larger for whites than for blacks. Figure 7-5 (p. 180) depicts the average incomes by years of education separately for the samples of black and white households. Equations relating the probability of home ownership and the probability of purchase to these permanent-income estimates, as well as to the other socioeconomic characteristics of the sampled households, are summarized in Table 6-1. The generalized least-squares estimates of the home ownership model (comparable to Table 5-1) are presented in the first column; the second column presents generalized least-squares estimates of the home-purchase model, including the dummy variables representing prior tenure (comparable to column 2 of Table 5-3).

In the probability-of-ownership equation, the coefficient of permanent income is smaller than the comparable coefficient for annual income. The influence of the age variable is much stronger in this specification, and the years-on-current-job variable has a much larger t ratio, but the pattern of the life-cycle dummies is about the same. In the purchase model, the permanent-income variable is itself insignificant; and most of the explanatory power comes from the age, prior tenure, and life-cycle variables.

In both the home-ownership and home-purchase equations including permanent income, the coefficient of the race dummy is more negative than the alternative coefficients in Tables 5-1 or 5-3, and its t ratio more than doubles in the ownership equation.

An alternative and more dubious (both statistically and theoretically) test of the permanent-income specification uses an estimate of

[2]Richard F. Muth, *Cities and Housing* (Chicago: University of Chicago Press, 1969); Margaret Reid, *Housing and Income* (Chicago: University of Chicago Press, 1962).

TABLE 6-1
Generalized Least-Squares Estimates of the Probability of Home Ownership and Home Purchase Using a Measure of Permanent Income

Variables	Ownership	Purchase
Race	−.194[1]	−.103[1]
Permanent income	.014[2]	.003
Education	−.006[4]	.007
Years on current job	.004[1]	.004[3]
Retired	.216[1]	.058[4]
None employed	.053[4]	−.005
More than one employed	.230[1]	.028[4]
Families		
Age	.008[1]	.014[1]
Age-squared		−.017[1]
Number of persons	−.232[1]	−.172[1]
Number of children	.022[2]	.025[3]
Female head < 45 years	−.175[1]	−.233[1]
Female head > 45 years	−.438[1]	−.267[1]
Household types		
Single female < 45 years	−.212[1]	−.265[1]
Single female > 45 years	−.233[1]	−.243[2]
Single male < 45 years	−.188[3]	−.142[4]
Single male > 45 years	−.312[1]	−.237[2]
Couple, head < 45 years	−.340[1]	−.136[4]
Couple, head > 45 years	.060[4]	−.145[4]
Prior tenure		
Owner	–	.292[1]
Renter	–	.033
New household	–	−.168[1]
Constant	.421[1]	.167[4]
R^2	.332	.343

NOTE: Table notes indicate significance of t ratios for coefficients (two-tailed test).

[1] > .01.

[2] > .05.

[3] > .10.

[4] t ratio greater than 1.0.

housing expenditures as a surrogate for permanent income. The most obvious statistical problem arises as a result of the fact that the estimate of housing expenditures for homeowners must be imputed from market value, using a gross rent multiplier.[3] The use of different variables (monthly rent for renters and market value for owners) transformed by a constant divisor may produce a spurious correlation. In models like those in Table 6-1, employing "estimated housing expenditures" as an independent variable instead of "permanent income," coefficients of the housing-expenditure variable in the ownership and purchase equations range between twenty and forty-five times their standard errors, a result that makes us strongly suspect that the relation is to a significant extent spurious, arising by construction.

Moreover, on theoretical grounds there is reason to believe that even an adequate estimate of housing expenditures would not provide permanent-income measures which are neutral between blacks and whites or between homeowners and renters. If price discrimination exists in the housing market, only a demand elasticity of one for housing would prevent housing expenditures from being a biased estimate of the permanent incomes of black households. If housing demand is price elastic for blacks, price discrimination will bias this measure of permanent income downward for them and will reduce the race coefficient when the ownership and purchase equations are estimated.[4] This bias is accentuated if housing-market discrimination reduces black home ownership and if for any reason, homeowners spend more for housing than renters of the same income. The coefficients of the race dummy variable for these alternative specifications are summarized in Table 6-2. All 18 estimated coefficients for the race dummy are negative, and 17 are significant at the .05 level. Holding other factors constant, Table 6-2 indicates that black households are between 4 and 19 percentage points less likely to be homeowners than are white households. For households who have recently moved, the range of estimated coefficients implies that black households are between 3 and 22 percentage points less likely

[3]The housing-expenditure models use housing value divided by 100 as an estimate of homeowners' monthly expenditure. This gross rent multiplier is widely used in housing-market analysis (Muth) to make market value roughly commensurate with monthly rent. In addition to the results reported, we estimated equations using gross rent multipliers of $1/185$ and $1/164$. These ratios were derived by regressing monthly rent and value upon a detailed set of the individual characteristics of rental and owner-occupied units and thus deriving estimates of the equivalent value of the average rental unit ($165 \times$ rent) and the average rental fee for the characteristics of owner-occupied units (value/185). The race coefficients were indistinguishable from those presented.

[4]Muth, *Cities and Housing*.

TABLE 6-2
Coefficients and *t* Ratios of Race Variable in Equations Using Alternative Specifications of Income: Ordinary Least-Squares and Generalized Least-Squares

Specifications of Income	Probability of Ownership		Probability of Purchase			
			Without Prior Tenure		With Prior Tenure	
	OLS	GLS	OLS	GLS	OLS	GLS
Current annual income	−.150	−.088	−.154	−.124	−.114	−.091
	(5.06)	(2.64)	(3.94)	(4.55)	(2.96)	(3.72)
"Permanent" income	−.163	−.194	−.199	−.223	−.138	−.103
	(5.23)	(6.33)	(3.65)	(4.73)	(2.58)	(2.69)
"Housing expenditure"	−.048	−.035	−.077	−.048	−.069	−.029
	(1.99)	(2.33)	(2.68)	(2.76)	(2.35)	(1.63)

NOTE: Figures in parenthesis are *t* ratios.

to purchase their dwelling unit than otherwise comparable white households.

In addition to the equations reported in Table 6-2, estimates were obtained employing several alternative specifications of the life-cycle and age variables. Tests for nonlinearity in the education and income terms were negative. For all these specifications, the magnitude and significance of the race coefficients in the ownership and purchase equations were virtually unchanged. As a further test of the influence of housing-market discrimination, separate black and white equations of the same form as the probability-of-ownership equations were estimated; a covariance test indicated no statistically significant difference between them ($F = 1.32$). In addition, separate probability-of-ownership equations were estimated for subsamples of single persons, couples, female-headed families, and male-headed families. In all four equations, the coefficient of the race variable was highly significant, varying in magnitude between −.13 and −.16. When similar analyses were performed for the probability of home purchase, the sample sizes became uncomfortably small for some subgroups, but the results were generally the same.

It thus appears unlikely that tastes, differences in wealth and assets, or differences in the specification of income are responsible for the persistence of the negative and significant race coefficients in the home ownership and home purchase models.

Housing-market discrimination is the third, and to us, the most plausible hypothesis to explain the regression results shown in the tables in Chapter 5. The exact mechanism is naturally hard to specify. Differential price markups in the owner and rental submarkets do not explain these differences in black and white purchase and home ownership probabilities.[5] We are forced to conclude that supply restrictions on black choice of location and on the kinds of housing available to black households are largely responsible for the wide discrepancy between ownership rates for otherwise identical black and white households.

Further support for this position is provided by data on the average increase in the market value of black- and white-owned single-family units in St. Louis. For this sample, the units owned by white central-city residents have increased in value at a compound annual rate of 5.2 percent per year, as contrasted with 7.2 percent annual increase for the central-city properties owned by black households. If this is interpreted as a difference in the net appreciation of ghetto and nonghetto properties, the findings become quite difficult to explain. However, rather than indicating a difference in the *net* appreciation of black- and white-owned properties, these figures appear to be still another manifestation of limitations on black residential choice. White households wishing to improve their housing can buy new or larger houses in better neighborhoods. Black homeowners are much less able to improve their housing in this way: as a result, black homeowners spend more for renovation and repair than do white households of similar characteristics and gross capital appreciation rates are higher. An annual increase in suburban white-owned properties of 4.1 percent provides some support for these inferences.

DIFFERENCES AMONG METROPOLITAN AREAS

A complete test of the supply-restriction hypothesis cannot be accomplished by means of an analysis of the single metropolitan area. A more powerful test of the effect of supply restrictions can be obtained by analyzing differences in black home ownership among cities. Metropolitan areas and their ghettos differ in terms of the characteristics of their housing stocks, and, therefore, in the extent to which a limitation on the

[5]In Chapter 8, price markups are presented for owner- and renter-occupied properties, using the St. Louis sample for three alternative specifications. Of the three specifications, two indicate a smaller percentage markup in the owner market. Even if the markup were smaller for rental than for owner-occupied properties, it would require an extremely large price-elasticity-of-choice to reduce the probability of black ownership by 9 or 10 percentage points.

ability to reside outside the ghetto is an effective restriction on the supply of ownership-type housing available to blacks. For example, supply restrictions should be much less important in Los Angeles, where a large portion of the ghetto housing supply consists of single-family units, than in Chicago, where ghetto neighborhoods are predominantly multifamily. To meet this problem, we analyzed the difference between "expected" and actual black ownership rates in several metropolitan areas. "Expected" black ownership rates were computed by multiplying a matrix of ownership rates by income and family size for white households by the distribution of black households by income and family size. Table 6-3 presents 1960 values of this statistic in the eighteen metropolitan areas for which the necessary census data were published.[6] The

TABLE 6-3
Actual and "Expected" Ownership Rates of Black Households by Metropolitan Area

	Ownership Rates	
SMSA	Actual	"Expected"
Atlanta	.31	.52
Boston	.21	.43
Chicago	.18	.47
Cleveland	.30	.58
Dallas	.39	.54
Detroit	.41	.67
Los Angeles/Long Beach	.41	.51
Newark	.24	.50
Philadelphia	.45	.66
St. Louis	.34	.55
Baltimore	.36	.61
Birmingham	.44	.56
Houston	.46	.56
Indianapolis	.45	.58
Memphis	.37	.50
New Orleans	.28	.40
Pittsburgh	.35	.59
San Francisco/Oakland	.37	.51

[6]These eighteen SMSA's consisted of all those for which the data on black and white ownership rates by income and family-size classes were published. The "expected" black ownership rate was obtained by applying the ownership proportions for white households by income and family size for each SMSA to the income and family size distribution of black households. See U.S. Bureau of the Census, *Census of Housing: 1960,* Vol. II, *Metropolitan Housing* (GPO, 1963), Table B3 and summing up.

difference between the actual black ownership rate and the "expected" black ownership rate for each SMSA is identical in principle to the difference in the probability of ownership attributed to race in Table 5-1 for St. Louis in 1967. For St. Louis, this more primitive technique yielded −21.0 for 1960, as compared with the OLS estimate of −15.0 and the GLS estimate of −8.8 for 1967 shown in Table 5-1.

As a test of the supply-restriction hypothesis, we then regressed these estimated differences upon (1) the proportion of central-city dwelling units that are single family, a proxy for the proportion of the ghetto housing stock that is single family; (2) the proportion of the SMSA black population living in the central city, a measure of the extent of suburbanization of the black population; and (3) the actual rate of white ownership in the SMSA.[7] The first two variables measure the extent of the supply restrictions among the eighteen metropolitan areas, while the third measures any differences in the level of both white and black home ownership that might be attributable to such factors as intermetropolitan variation in the relative cost of owner-occupied and renter-occupied housing or differences in the timing of urban development. Equation 6-1 presents the regression in difference form ("expected" black-ownership rate minus actual black-ownership rate), while Equation 6-2 presents the same equation in ratio form ("expected" black-ownership rate divided by actual black-ownership rate). t ratios are in parentheses under the coefficients.

$$(6\text{-}1) \qquad (O_B^* - O_B) = \underset{}{-0.24} + \underset{(4.64)}{0.82\,O_w} - \underset{(6.49)}{0.36S_c} + \underset{(2.03)}{0.12B_c} \qquad R^2 = .76$$
$$\qquad\qquad\qquad\qquad\quad (2.36)$$

$$(6\text{-}2) \qquad (O_B^* / O_B) = \underset{}{0.89} + \underset{(1.47)}{1.52O_w} - \underset{(5.34)}{1.74S_c} + \underset{(2.52)}{0.90B_c} \qquad R^2 = .74$$
$$\qquad\qquad\qquad\qquad\quad (1.52)$$

where

$O^*_{B_i}$ = "expected" black-ownership rate in the ith SMSA;

$$\left[\sum_k \alpha_{wk_i} \cdot H_{bk_i}\right] \Big/ \sum_k H_{bk_i}$$

O_{B_i} = actual black-ownership rate in the ith SMSA;

$$\left[\sum_k \alpha_{bk_i} \cdot H_{bk_i}\right] \Big/ \sum_k H_{bk_i}$$

[7]The percent of single-family housing in the central city for SMSA's was obtained from U.S. Bureau of the Census, *Metropolitan Housing*, Table B7. The percent of SMSA blacks residing in the central city was obtained from U.S. Bureau of the Census, *Census of Population: 1960*, Vol. I, *Characteristics of the Population* (GPO, 1963), Table 13.

O_{w_i} = actual white-ownership rate in the ith SMSA;

$$\left[\sum_k \alpha_{wk_i} \cdot H_{wk_i}\right] \Big/ \sum_k H_{wk_i}$$

and

α_{wk_i} = proportion of whites in the kth income/family-size category who are homeowners in the ith SMSA;

H_{bk_i} = number of black households in the kth income/family-size category in the ith SMSA;

S_c = proportion of central-city housing that is single family (number of central-city dwelling units that are single family divided by total central-city dwelling units);

B_c = proportion of metropolitan black households residing in central city (number of black households in central city divided by the number of black households in SMSA).

The means and standard deviations of the variables used in Equations 6-1 and 6-2 are shown in Table 6-4. The average "expected" home-ownership rate for black households is .54, and the mean actual black-ownership rate is .35. The actual white rate for these eighteen metropolitan areas in 1960 averages .65. Of the .30 difference between actual white- and black-ownership rates in these eighteen metropolitan areas, black-white differences in family size and income account for .11; the residual difference, .19 must be attributed to other factors, including the differences in supply restrictions among the areas.

Both equations strongly support the hypothesis that the differences between observed and "expected" black-ownership rates are small: (1) when the ghetto housing supply includes a large proportion of single-family units; (2) when blacks have more access to the suburban housing market, with its preponderance of owner-occupied units. As the statistics in Table 6-3 show, the difference between the actual and "expected"

TABLE 6-4
Means and Standard Deviations of Variables Used in Intercity Regressions

Variables	Mean	Standard Deviation
$O_B^* - O_B$	.19	.06
O_B^* / O_B	1.61	.36
O_w	.65	.07
O_B	.35	.08
O_B^*	.54	.07
S_c	.55	.22
B_c	.78	.14

home ownership rate of black households is relatively small for cities like Houston and Los Angeles, where the central city and its black ghetto include more single-family housing, and it is relatively large for cities like Chicago, where the ghetto is predominantly multifamily, and where blacks are effectively excluded from the suburbs.

The extent of black suburbanization also appears to have a significant, though small, influence on the gap between actual and "expected" black home ownership. In all United States metropolitan areas, black households are heavily concentrated in the central cities. The mean proportion of blacks residing in the central city for the sample metropolitan areas is .78, and the standard deviation is only .14. Equation 6-1 indicates that a metropolitan area in which the proportion of blacks living in the central city is one standard deviation larger than the mean (92 percent of metropolitan-area blacks live in the central city) would have a gap .034 larger than one in which the proportion of blacks living in the central city is one standard deviation below the mean (64 percent of blacks live in the central city).

The findings presented in Equations 6-1 and 6-2 provide further support for the view that housing-market discrimination limits black home ownership.[8] Specifically, these results indicate that a limited supply of housing suitable for home ownership in the ghetto, and restrictions on black purchase outside the ghetto, strongly affect the tenure-type of the housing consumed by black households as well as its location.

HOME OWNERSHIP, HOUSING COSTS, AND CAPITAL ACCUMULATION

Limitations on home ownership have significant effects on black housing costs, income, and welfare. As Appendix C illustrates, an effective limitation on home ownership can increase black housing costs by over 30 percent, assuming no price appreciation.

Much of the saving from home ownership results from the favorable treatment accorded to homeowners under federal income-tax laws. Provisions favoring homeowners are widely recognized and well documented.[9] Our findings suggest that black households at all income levels are impeded by housing-market discrimination from purchasing single-family homes. As a consequence, black households cannot take full

[8]At the minimum, it would take a peculiar spatial distribution of "tastes for home ownership" or of asset differences to explain these findings.

[9]Henry Aaron, "Income Taxes and Housing," *American Economic Review* 60, no. 5 (Dec. 1970): 789–806; John P. Shelton, "The Costs of Renting Versus Owning a Home," *Land Economics* 44, no. 1 (Feb. 1968): 59–72.

advantage of these tax benefits. Since tax savings from home ownership increase with income, this aspect of discriminatory housing markets most sharply hits middle- and upper-income black households.

Limitations on home ownership also deprive black households of an important inflation hedge, available to other low- and middle-income households. Calculations presented in Appendix C show that under reasonable assumptions regarding the appreciation of single-family homes, a black household prevented from buying a home in 1950 and subsequently would have out-of-pocket housing costs in 1970 more than twice those which they would have incurred had they been able to purchase a home twenty years earlier.

Black households at every income level possess less wealth than white households. Current and historical limitations on home ownership may be an important reason. The significance of home ownership as a method of capital accumulation among low- and middle-income households emerges from the following typical example. The average house purchased with an FHA 203 mortgage in 1949 had a value of $8,286 and a mortgage of $7,101.[10] If such a house had been purchased with a twenty-year mortage by a thirty-year-old head of household, the purchaser would have saved more than $7,000 by his fiftieth birthday, owning his home free and clear. Thus, if his home neither appreciated nor depreciated, at age fifty he would own assets worth at least $8,000.[11] However, the postwar years have hardly been characterized by price stability. Although difficult to estimate, the average appreciation of single-family houses during the past twenty years has undoubtedly exceeded the 100 percent increase in the Boeckh composite cost index for small residential structures.[12] This conservative 100 percent increase in value would mean that the typical FHA-financed homeowner would have accumulated assets worth at least $16,000 by fifty, a considerable sum that could be used to reduce housing costs, to borrow against for the college education of his children, or simply held for retirement. Some perspective on this hypothetical example is obtained when one takes into

[10]U.S. Federal Housing Administration, *FHA Homes, 1967: Data for States and Selected Areas on Characteristics of FHA Operations Under Section 203* (Washington, D.C.: Federal Housing Administration, Division of Research and Statistics, Statistics Section, 1967).

[11]The mean net wealth of U.S. black families was estimated at $3,779 in 1966, as compared to a mean net wealth of U.S. white families of $20,153 in the same year. By income class, black wealth varied from a low of 16 percent of white income in the range of $2,500 to $4,999 to a high of 47 percent of white income in the range $15,000 to $19,999. Henry S. Terrell, "Wealth Accumulation of Black and White Families: The Empirical Evidence," *Journal of Finance* 26, no. 2 (May 1971): 364.

[12]Our sample suggests an annual rate of increase in value of white-owned properties of 4.7 percent during the five- to ten-year period prior to 1967.

account the fact that the mean wealth accumulation of white households in 1966 was only $20,000.[13] Of course, the situation would have been different if the postwar period had been one of a general decline in the price of urban real estate, but it was not.

Home ownership has clearly been the most important method of wealth accumulation for low- and middle-income families in the postwar period. Equities in single-family owner-occupied structures account for nearly one-half of all the wealth of the lowest income group. As family income increases, the relative importance of home equities decreases. Nonetheless, home equities accounted for more than one-third of the wealth of all United States households earning between $10,000 and $15,000 in 1962.[14]

Much of the savings embedded in home ownership, especially among low- and middle-income households, is more or less involuntary or at least unconscious. Discipline is maintained by linking investments (savings) to monthly payments for the provision of a necessity; with heavy penalties (foreclosure) imposed for failure to invest regularly.[15] Moreover, because of federal mortgage insurance and special advantages provided to thrift institutions, low- and middle-income home buyers are able to borrow 90 percent or more of the purchase price of a new home. This may amount to $15,000 or more of capital at moderate interest rates. By comparison, in the stock market he can borrow 30 percent, a ratio which he must maintain even with price declines.

If, as our findings suggest, discrimination in urban housing markets has reduced black opportunities for home ownership, this limitation is an important explanation of the smaller quantity of assets owned by black households at each income level.

[13]Terrell, "Wealth Accumulation."

[14]D. S. Projector et al., "Survey of Changes in Family Finances," Federal Reserve Technical Paper (Washington, D.C.: Board of Governors of the Federal Reserve System, 1968).

[15]As long ago as 1953, James Duesenberry argued persuasively that levels of savings and asset accumulation are heavily dependent upon the form in which savings is maintained. Citing specifically the high proportion of savings invested in assets associated with the *reason* for saving (e.g. housing equity, pension and insurance reserves, and investment in unincorporated businesses), he suggests a close connection between the motives for saving and the form which the saving takes. Thus, although we cannot *deduce* that because people invested in some particular asset, they would not have saved if that type of asset had not been available, there appears to be a strong association. If Duesenberry's insight is valid, then *even if* capital markets were perfect in every sense of the word, we would expect to find substantially fewer assets for households denied certain forms of saving (i.e., those forms associated with the reason for saving) such as home ownership, pension and insurance investment, and unincorporated business investment. James S. Duesenberry, "The Determinants of Savings Behavior: A Summary," in *Savings in the Modern Economy,* Walter W. Heller, Francis M. Boddy, and Carl L. Nelson, eds. (Minneapolis, Minn.: University of Minnesota Press, 1953).

OTHER EVIDENCE ON HOME OWNERSHIP AND WEALTH

In a recent paper, Howard Birnbaum and Rafael Weston attempt to assess the effect of differences in wealth on the probability of home ownership by black and white households.[16] Their analysis uses data from the 1969 Survey of Economic Opportunity (SEO), one of the few sample surveys to obtain information on assets and wealth. (The SEO sample, in common with the data used in this study, oversamples low-income neighborhoods.) Birnbaum and Weston first reestimate probability-of-ownership equations similar to the ones we present in Table 5-1, using a random sample of four-hundred black and five-hundred white households drawn from the national SEO sample of thirty-thousand households. Because some of the variables we used were unavailable from the SEO Survey, the equations were not precisely identical. Even so, they obtained quite similar results. Birnbaum and Weston then estimated a second equation, which included a household assets variable. Finally, they performed a similar analysis for the St. Louis households included in the SEO sample.

Using the national sample, Birnbaum and Weston obtain an estimate of -0.093 ($t=2.60$) for the race coefficient when no asset variable is included. When they add assets to the equation, the race coefficient declines in absolute value to -0.059 ($t = 1.78$). Their finding using the St. Louis sample was similar: when no asset variable is included, the coefficient of the race variable is -0.10 ($t = 1.22$); when the asset variable is included, it becomes -0.03 ($t = 1.22$). The St. Louis sample consisted of only 172 observations as compared to their national sample, which consisted of 900 observations.

Birnbaum and Weston also estimate separate equations for white and for black households. Our finding, following a similar procedure, was that the difference in white and black home ownership and purchase could be adequately represented by a race dummy. When Birnbaum and Weston performed comparable tests, they found that the two samples could not be pooled in this way.

At first glance, these findings by Birnbaum and Weston seem to undermine our analyses of the causes of housing-market discrimination. Further reflection, however, suggests that such a conclusion is unwarranted. First, the analyses by Birnbaum and Weston have no direct bearing on our intercity tests of racial differences in the probability of home ownership. Second, there are serious difficulties with the use of an asset variable in a single-equation model of home ownership.

[16]Howard Birnbaum and Rafael Weston, "Homeownership and the Wealth Position of Black and White Americans," *Review of Income and Wealth*, series 20, no. 1 (March 1974): 103–119.

As is apparent from our discussion of home ownership and savings, home ownership is the dominant method used by low- and middle-income households to accumulate wealth. Therefore, differences in wealth between white and black households at the same income level may be more a consequence of white-black differences in home ownership than the converse. This is particularly true when separate equations are estimated for black and white households. The evidence suggests that in Birnbaum and Weston's analysis of home ownership for black households, the variable measuring assets virtually acts as a dummy variable representing home ownership. For example, the coefficient of the wealth variable is four times as large in the equation estimated for blacks than in that for whites.

Birnbaum and Weston are aware of these difficulties and counteract them in part by estimating probability-of-ownership equations using different definitions of wealth. The Birnbaum-Weston national equation without an asset variable had a race coefficient of -0.093 ($t = 2.60$), while the equation including all forms of wealth had a coefficient of -0.059 ($t = 1.78$). When the authors excluded home equity from the definition of wealth, the coefficient became -0.061 ($t = 1.39$), and when they excluded home equity, farm equity, and business equity, it became -0.082 ($t = 2.64$).

Both our discussion of the relationship between savings and home-ownership and the analyses by Birnbaum and Weston illustrate that the processes determining household decisions to purchase or to own a home and the accumulation of wealth are closely intertwined. This suggests the desirability of some form of simultaneous-equation estimation in which households' savings-investment and renting-owning decisions are simultaneously determined. Existing data do not support so ambitious an approach. In the absence of such a formulation, our analyses, which exclude assets, can be regarded as a reduced-form equation derived from a system of structural equations in which wealth and home ownership are jointly determined.

SUMMARY

This chapter extends the analysis of home ownership and home purchase presented in Chapter 5 and considers the effect of race upon home ownership and, more broadly, upon household capital accumulation.

The analysis indicates that for households of similar income, composition, and labor-force characteristics, black households are substantially less likely to be homeowners or home purchasers than white households. This conclusion holds even when prior tenure status is considered.

Other than as a result of housing-market discrimination, this finding could arise if there were systematic differences in the expected long-run income between otherwise identical black and white households (households *identical* in terms of *annual* income, education, and labor-force attachment). Several crude tests using alternative definitions of long-run or "permanent" income indicate that differences in permanent income do not account for the lower probability of ownership and purchase by black households than comparable white households.

Conceivably, these results could be explained by systematic differences in "tastes" for home ownership between otherwise identical black and white households. Considering the fairly elaborate description of the households used in the analysis (including income, education, employment status and duration, family size, family composition, and life-cycle influences), we find the "tastes" explanation improbable. In addition, the analysis of household mobility in Chapter 5 indicates that, at comparable annual incomes, educations, labor-force attachments, and demographic compositions, black households have slightly lower mobility rates than white households. If it is assumed that more mobile households have weaker preference for home ownership, this difference in tastes would suggest higher rather than lower rates of home ownership among black households.

An intercity analysis of differences in the actual and "expected" probabilities of home ownership by black households in several large SMSA's provides further evidence that the lower levels of home ownership among black households in St. Louis are not due to differences in tastes. The "expected" levels of black ownership in each SMSA are based on analysis of white rates of ownership by income and family-size catagories and on the number of black households in each category.

On the basis of these several findings, we conclude that the much lower probabilities of home ownership and home purchase among black households are the result of systematic discrimination against black households in St. Louis' housing market.

The rest of this chapter, together with the analysis presented in Appendix C, indicates how an effective limitation on home purchase can affect the savings behavior and wealth accumulation of black households. These effects arise from the almost unique role that home ownership plays in the asset portfolios of lower- and middle-income Americans, due to its direct link between investment and consumption, its greater potential for leverage, and its availability to less sophisticated investors. In addition, the postwar history of capital appreciation in residential housing assets indicates that substantial differences in the current wealth positions of "otherwise comparable" white and black households may arise from denial of the opportunity for home purchase and home ownership.