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Housing Market Discrimination, Homeownership, and Savings Behavior

By John F. Kain and John M. Quigley*

The question of whether discrimination in the housing market forces Negro households to pay more than white households for identical bundles of residential services has been studied extensively. Still it remains a controversial subject. Those who claim that discrimination markups exist in urban housing markets rely principally on a series of empirical studies which conclude that blacks pay more than whites for comparable housing or that housing in the ghetto is more expensive than otherwise identical housing located outside the ghetto. (See B. Duncan and P. Hauser, R. Haugen and A. James Heins, Kain and Quigley (1970b), D. McEntire, Richard Muth, C. Rapkin, Rapkin and W. Grigsby, Ronald Ridker and John Henning, and M. Stengel.) Those who argue that price discrimination does not exist contend that studies which purport to find evidence of a discrimination markup fail to standardize completely for differences in the bundles of residential services consumed by black and white households (see Martin Bailey (1959, 1966), Richard Muth, and Anthony Pascal).¹ Evaluation of the diverse empirical studies leads us to conclude that blacks may pay between 5 and 10 percent more than whites in most urban areas for comparable housing. Our own analyses of a 1967 sample of nearly 1,200 dwelling units in St. Louis, Missouri suggests a discrimination markup in that city on the order of 7 percent.²

Differentials of this magnitude would represent a significant loss in Negro welfare. However, we contend that researchers, in their concern about estimating the magnitude of price discrimination, have overlooked a far more serious conse-

Bailey who concludes, “there is no indication that Negroes, as such, pay more for housing than do other people of similar density of occupation” (1966, p. 218.)
A detailed presentation of the argument against the existence of a ghetto markup (price discrimination) is contained in Muth. Muth’s own empirical research on the South Side of Chicago, indicates that “Negroes may pay housing prices that are from 2 to 5 percent greater” than whites pay, p. 239. However, he argues that these measured differences, and presumably those obtained in many other empirical studies, are due to cost differences (higher operating costs for housing in Negro neighborhoods) and do not represent a discriminatory markup.

² This study, based on a 1967 sample of 629 renter observations and 438 observations on single-family detached housing of the city of St. Louis, goes further than any previous study in attempting to “standardize” the bundles of residential services consumed by whites and blacks. Contract rent or market value (for owner-occupied, single-family homes) was regressed upon a detailed set of qualitative and quantitative attributes of the bundles of housing services. In addition to variables used in previous studies, such as the number of rooms and floor area, our regressions included as explanatory variables an elaborate set of quality evaluations for the dwelling unit, the structure, the adjacent structures, and the immediate neighborhood, as well as indexes of the quality of the neighborhood public school and of the level of criminal activity. Also included was a variable measuring the racial composition of the census tract in 1967. These models are discussed in some detail in Kain and Quigley (1970b).

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¹ The only empirical study known to us which fails to find evidence of higher prices in the ghetto is by
quence of housing market discrimination. In asking whether blacks pay more than whites for the same kind of housing, they have failed to consider adequately the way in which housing discrimination has affected the kinds of housing consumed by Negro households.

There is a great deal of qualitative evidence that nonwhites have difficulty in obtaining housing outside the ghetto (see James Hecht, Kain (1969), McEntire, and Karl and Alma Taeuber). Persistence, a thick skin, and a willingness to spend enormous amounts of time house-hunting are minimum requirements for nonwhites who wish to move into white neighborhoods. These psychic and transaction costs may be far more significant than out-of-pocket costs to Negroes considering a move out of the ghetto. Most blacks limit their search for housing to the ghetto; this limitation is more than geographic. There is less variety of housing services available inside the ghetto than outside; indeed, many bundles of housing services are unavailable in the ghetto at any price. This limited range of housing services within the ghetto almost certainly influences the pattern of Negro housing consumption. A full discussion and evaluation of the many ways in which discrimination may modify the housing-consumption behavior of Negro households is beyond the scope of this paper. However, the general principle can be illustrated by the differential propensities of Negro and white households to own and to purchase their homes.

Two statistical analyses of the probability of homeownership follow. The first is a detailed analysis of the probability of ownership and purchase for a sample of St. Louis households. It indicates there is a substantial difference in the probability of Negro and white homeownership and purchase even after accounting for most of the important differences in the socioeconomic characteristics of Negro and white households. We hypothesize that this difference results from restrictions on the location and types of housing available to Negro households. This “supply restriction” hypothesis cannot be adequately tested for a single metropolitan area. Therefore, we present a second statistical analysis of the differences in actual and expected rates of Negro homeownership among eighteen large metropolitan areas. Finally, the paper examines the implications of the apparent limitations on Negro homeownership on their housing costs and capital accumulation.

I. Homeownership and Purchase by St. Louis Households

To investigate Negro-white differences in homeownership, we developed models relating the probability of homeownership to the socioeconomic characteristics of a sample of 1,185 households in the St. Louis metropolitan area (401 black and 784 white households). Subsequently, we examined the decision to purchase or to rent for a subsample of 466 households which had changed residence in the preceding three years.

The analysis employs the regression of a binary dependent variable indicating tenure status (1 = own, 0 = rent) on several explanatory variables reflecting family size, family composition, employment status, household income, and race. Many previous studies have emphasized the importance of the family life cycle to household consumption patterns (see Martin David; John Lansing and L. Kish; Lansing, Kish, and James Morgan; Sherman Maisel; and Morgan). The life cycle hypothesis includes the combined influences of several household characteristics, which we represent by a series of family type/age interaction variables: 1) single persons (living alone or in groups) under forty-five years of age; 2) singles over forty-five years of age; 3) couples without children.
with heads under forty-five years of age; 4) couples without children with heads over forty-five years of age; and 5) typical families (individuals or married couples with children).

Typical families were further described in terms of age of head, family size, number of school-age children, and by dummy variables for: female head of less than forty-five years of age; and female head of more than forty-five years of age. Income, years of schooling (of head), and number of years at present job (for head), were included as explanatory variables for all households. Race was indicated by a dummy variable (1 = Negro, 0 = white).

The probability of ownership equation, obtained by the method of generalized least squares is summarized by equation (1) (Table 1). All the coefficients of equation (1) have the anticipated signs and are reasonable in magnitude, and twelve are highly significant statistically using conventional criteria. The results indicate that old couples are more likely to be homeowners than young couples, and old singles are more likely to be homeowners than their younger counterparts. None are as likely to be homeowners as male-headed families. Female-headed families are also less likely to be homeowners than male-headed families. Income and employment are positively related to homeownership. Family size is negatively related to homeownership, but only after adjusting for the different homeownership propensities of families with school-age children and with additional workers. The probability of ownership increases as the head of household gets older, and the introduction of a squared age term yields no evidence of any significant nonlinearity.

Of primary importance to this discussion is the coefficient of the race dummy variable. It indicates that, after accounting for differences in life cycle, income, education, and employment status, Negro households have a probability of ownership .09 less than that of whites. Thirty-two percent of Negro households in the sample owned their homes; if they were white, 41 percent would be homeowners.

There are some indications that the barriers to Negro occupancy in white neighborhoods are gradually declining. Thus, it could be argued that current ownership patterns primarily reflect historical discrimination and provide a misleading view of current conditions. To test this hypothesis, we estimated probability-of-purchase (1 = purchase, 0 = rent) equations for those sample households which changed their residence within the past three years. Equation (2) presents the results for the probability-of-purchase analysis (Table 1). The explanatory variables are identical to those included in equation (1). The coefficients of the dummy variables representing household type and age differ in magnitude for recent movers. Aside from these contrasts, the largest differences were obtained for the income and race variables. The coefficient of the race dummy indicates that a Negro mover has a probability of purchase .12 lower than an otherwise identical white. Only 8 percent of Negro movers purchased homes; had they been white 20 percent would have been home-buyers.

Previous levels of housing discrimination may affect Negro households in at least one important way that is not reflected in equation (2). Because of past discrimination, Negro movers are less likely

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3 The generalized least squares regression estimates are obtained by weighting each observation by \[1/P(1-P)]\, where \(P\) is the value of the probability predicted by ordinary least squares. It can be shown that this procedure provides more efficient estimates of a linear probability function.

4 As with the ownership models, separate Negro and white equations were estimated for the probability of purchase. Except for their intercepts they were identical, and a covariance test indicated no statistically different relationship.
than white movers to have been homeowners in the past. This is important because when homeowners change their residence they are more likely to buy than to rent and, conversely, when renters move they are more likely to move from one rental property to another.

In large part the association between past and present, or present and future tenure arises because renters and owners tend to differ in terms of income, family size and composition, age, and other measured characteristics. Still, prior tenure itself may have an independent influence on subsequent tenure decisions. Therefore, probability-of-purchase equations were estimated with the addition of dummy variables for prior owner, prior renter, and new households. A fourth category “prior tenure unreported,” is reflected in the intercept. Equation 3 in Table (1) illustrates these estimates.
Both the prior owner and new household variables have large and highly significant coefficients. Previous ownership raises the probability of purchase by .27. New households are .15 less likely to buy than are established households of the same age, income, and family characteristics.

Accounting for the effects of prior tenure reduces the coefficient of the race variables. Of course, the influence of housing market discrimination is reflected in prior tenure. In the sample of recent movers, only 2 percent of Negro households had previously been homeowners as compared to 17 percent of white households. Yet, even after controlling for the differences in prior tenure, Negro households are .09 less likely to become homeowners than white households in today's "open housing" market.\(^5\)

Several studies of the demand for housing services have concluded that housing expenditures are more strongly related to permanent than to annual income. By extension it might be anticipated that the probabilities of homeownership and purchase would depend more on permanent than annual income. If this were true, all or part of the measured difference in the probabilities of ownership and purchase of white and nonwhite households in equations (1)–(3) might be attributable to unmeasured white/nonwhite differences in permanent incomes.

As a test of the permanent income hypothesis, we followed the convention suggested by several authors and replaced the annual income term in equations (1)–(3) by the mean incomes of the sample households stratified by the race and by the years of education of the head of the household (see R. Ramanathan). Presumably, this averaging process reduces the transitory component of income and thereby provides an improved estimate of permanent income. The ordinary least squares estimates of the race coefficient for all three equations are consistently larger than those obtained for the current income models as are the GLS estimates for the purchase model. The GLS estimate of the race coefficient in the ownership equation using the estimated permanent income is more than twice as large as the race coefficient obtained using annual income, and the GLS coefficients in the purchase models using permanent income are also larger than those obtained from the equations including annual income (see equation (1), Table 2).

An alternative and more dubious (both statistically and theoretically) test of the permanent income hypothesis used an estimate of housing expenditures as a surrogate for permanent income.\(^6\) The most obvious statistical problem arises because the estimate of housing expenditures for homeowners must be imputed from housing value using a gross rent multiplier. The use of different variables (monthly rent for renters and market value for owners) transformed by a constant divisor in a regression on owner/renter may produce a spurious correlation. The coefficients of this housing expenditure variable in the ownership and purchase equations vary between 20 and 45 times their standard errors; this increases our suspicion that the relation is to a significant extent spurious and arises by construction.\(^7\)

\(^5\) A similar difference in Negro-white probabilities of home purchase was obtained by Daniel Fredland for Philadelphia. Fredland's model differed in a number of respects from equation (3) in Table 1. It included a somewhat different set of explanatory variables, was for married households only, and was estimated by ordinary least squares. Even so, he obtained a coefficient of -.16 for a minority dummy (nonwhite or Puerto Rican) and a coefficient of .27 for the prior-owner dummy.

\(^6\) This technique was suggested by the anonymous referee. We report it, in spite of strong statistical and theoretical reservations.

\(^7\) The housing expenditure models reported in Table 2 use housing value + 100 as an estimate of homeowners'
On theoretical grounds, moreover, there is reason to suspect that even an adequate estimate of housing expenditures would not provide permanent income measures which are neutral between Negroes 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 (see Muth), price discrimination would bias this measure of permanent income downward for blacks and would reduce the race coefficient when the ownership and purchase equations are estimated. This bias is accentuated if housing market discrimination reduces Negro homeownership and if homeowners spend more for housing than renters of the same incomes for any reasons. Nevertheless, the race coefficients obtained from models using this estimate of housing expenditure as an explanatory variable are summarized in Table 2, which presents the race coefficients for all three alternative specifications. Also included in Table 2 are the coefficients of the racial dummy obtained by ordinary least squares.

In addition to the equations reported in Table 2, estimates were obtained employing several alternative specifications of the life cycle and age variables; tests for non-linearity in the education and income terms were also performed with negative results. For all these specifications, the magnitude and significance of the race coefficients for equations (1), (2), and (3) were virtually unchanged.8

8 As a further test of the influence of housing market discrimination, separate Negro and white equations of the same form as equation (1) were estimated; a covariance test indicated no statistically significant difference between them (F = 1.32). In addition separate models for equation (1) were estimated for each of four household types described above: single persons; couples; female-headed families; and male-headed families. In each case, the coefficient of the race variable was highly significant and varied in magnitude between $-.13$ and

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### Table 2—Coefficients and t-ratios of Race Variable for Alternative Specifications of Income: OLS and GLS

<table>
<thead>
<tr>
<th></th>
<th>Probability of Purchase without Prior Tenure Equation (2)</th>
<th>Probability of Purchase with Prior Tenure Equation (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Probability of Ownership Equation (1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OLS</td>
<td>GLS</td>
</tr>
<tr>
<td>Current Annual Income</td>
<td>$-.150$</td>
<td>$-.088$</td>
</tr>
<tr>
<td></td>
<td>(5.06)</td>
<td>(2.64)</td>
</tr>
<tr>
<td>Permanent Income</td>
<td>$-.163$</td>
<td>$-.194$</td>
</tr>
<tr>
<td></td>
<td>(5.23)</td>
<td>(6.33)</td>
</tr>
<tr>
<td>Housing Expenditure</td>
<td>$-.048$</td>
<td>$-.035$</td>
</tr>
<tr>
<td></td>
<td>(1.99)</td>
<td>(2.33)</td>
</tr>
</tbody>
</table>

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monthly expenditure (see Muth). This gross rent multiplier, as well as the 1-to-120 rule (see John Shelton), is widely used in housing market analysis 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 (164 x rent) and the average rental fee for the characteristics of owner-occupied units (value/185). The race coefficients were indistinguishable from those presented. Details of the specification and implications of these relationships may be found in Kain and Quigley (1970a and 1970b).
Taken together the estimates summarized in Table 2 and the alternatives mentioned strongly indicate that Negro households are substantially less likely to be homeowners or buyers than white households of similar characteristics. It does not "prove" that this is the result of discriminatory practices in urban housing markets; and there remain several competing explanations for these results. These alternative hypotheses may be grouped into three broad categories: 1) Differences in the "taste" for homeownership between whites and blacks; 2) Differences in the household asset and wealth positions of white and black families; 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.

While it is most difficult to prove that the much lower probability of homeownership of black households is not due to differences in the taste for homeownership, many of the more commonly believed determinants of the tastes of housing consumers are included as independent variables. Furthermore, stratification by race for all of the three equations discloses no statistically significant differences. We thus conclude that the "differences in tastes" hypothesis is not an important explanation for the observed differences in market behavior between races.  

Differences in the asset or wealth positions of Negro 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, no direct test of the asset hypothesis is possible using these data. However, for several reasons, we doubt that much of the white-Negro differences in ownership and purchase are the result of an unmeasured difference in wealth. All three equations include income, years-on-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. Therefore, in the probability of purchase model (equation (3)) prior tenure may account for much of the remaining differences in wealth. Down payment requirements are a major reason why assets might be expected to affect the decision to purchase a home. However, FHA and VA down payment requirements, especially for small single family homes purchased more than ten years ago, were small or nonexistent.

Housing market discrimination is the third, and to us, the most plausible hypothesis explaining the regression results in Table 1. The exact mechanism is hard to specify. Differential price "markups" in the owner and rental submarkets do not

---

9. Household expectations about moving frequency may be the only important excluded taste variable. (As will be discussed subsequently, mobility also affects the economics of homeownership.) However, a fairly

10. For example, recent Survey of Economic Opportunity tabulation indicates that for lower-middle income ($5,000-$7,000 per annum) families, 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 the Appendix for further details.
explain these differences in Negro and white purchase and homeownership probabilities. We are forced to conclude that "supply restrictions" on Negro residential choice and on the kinds of housing available to black households may be 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 Negro- 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 to a 7.2 percent annual increase for the central city properties owned by Negro households. If this is interpreted as a difference in the net appreciation of ghetto and nonghetto properties, the findings of equations (1)–(3) become even more difficult to explain. Rather than a difference in the net appreciation of black and white owned properties, however, this finding appears to be still another manifestation of limitations on Negro residential choice. White households wishing to improve their housing can buy newer or larger houses in better neighborhoods. Negro homeowners are much less able to improve their housing in this way; as a result we hypothesize that black homeowners spend more for renovation and repair than white households of similar characteristics. An annual increase in suburban white-owned properties of 4.1 percent provides some evidence for these inferences.

II. Differences Among Metropolitan Areas

A complete test of the supply restriction hypothesis cannot be accomplished from an analysis of a single metropolitan area. A more powerful test of the effect of supply restrictions can be obtained by analyzing differences in black homeownership 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 being able 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 multi-family. 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 white ownership rates (stratified into income and family size groups) by the income and family size distribution of black households. Table 3 presents this measure in 1960 for all eighteen metropolitan areas for which the necessary census data are published. The 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 equation (1) for St. Louis in 1967. (For St. Louis this more primitive technique yields –21.0 in 1960 as compared to an OLS estimate of –15.0

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11 Price markups were estimated for owner and renter occupied structures using the St. Louis sample for three alternative specifications (see Kain and Quigley (1970b)). Of the three specifications, two indicate a smaller price 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 10 percentage points.

12 These 18 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 (1960a, Table B3)) and summing.
and a GLS estimate from equation (1) of –8.8 in 1967.)

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 occupied housing or differences in the timing of urban development. Equation (4) presents the regression in difference form (expected black ownership rate minus actual black ownership rate), while equation (5) presents the same equation in ratio form (expected black ownership rate—actual black ownership rate). The t-ratios are in parentheses under the coefficients.

\[
(4) \quad (O_B^* - O_B) = -0.24 + 0.820_w \left( \frac{S_c}{(4.64)} \right) \nspace{2.5cm} - 0.36S_c + 0.12B_c \left( \frac{6.49}{(2.03)} \right)
\]

\[R^2 = .76\]

\[
(5) \quad (O_B^*/O_B) = 0.89 + 1.520_w \left( \frac{1.52}{(1.47)} \right) \nspace{2.5cm} - 1.74S_c + 0.90B_c \left( \frac{5.34}{(2.52)} \right)
\]

\[R^2 = .74\]

where,

\[O_B^* = \text{Expected black ownership rate in the } i\text{th SMSA}\]
\[O_B = \text{Actual black ownership rate in the } i\text{th SMSA}\]
\[O_w = \text{Actual white ownership rate in the } i\text{th SMSA}\]

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

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

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

and

\[\alpha_{wk_i} = \text{Proportion of whites in the } k\text{th income/family size category who are homeowners in the } i\text{th SMSA}\]
\[H_{bk_i} = \text{Number of black households in}\]

<table>
<thead>
<tr>
<th>City</th>
<th>Actual</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlanta</td>
<td>.31</td>
<td>.52</td>
</tr>
<tr>
<td>Boston</td>
<td>.21</td>
<td>.43</td>
</tr>
<tr>
<td>Chicago</td>
<td>.18</td>
<td>.47</td>
</tr>
<tr>
<td>Cleveland</td>
<td>.30</td>
<td>.58</td>
</tr>
<tr>
<td>Dallas</td>
<td>.39</td>
<td>.54</td>
</tr>
<tr>
<td>Detroit</td>
<td>.41</td>
<td>.67</td>
</tr>
<tr>
<td>Los Angeles/Long Beach</td>
<td>.41</td>
<td>.51</td>
</tr>
<tr>
<td>Newark</td>
<td>.24</td>
<td>.50</td>
</tr>
<tr>
<td>Philadelphia</td>
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<td>.66</td>
</tr>
<tr>
<td>St. Louis</td>
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<td>.55</td>
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<tr>
<td>Baltimore</td>
<td>.36</td>
<td>.61</td>
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<tr>
<td>Birmingham</td>
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<td>Indianapolis</td>
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<td>.58</td>
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<tr>
<td>Memphis</td>
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<td>.50</td>
</tr>
<tr>
<td>New Orleans</td>
<td>.28</td>
<td>.40</td>
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<tr>
<td>Pittsburgh</td>
<td>.35</td>
<td>.59</td>
</tr>
<tr>
<td>San Francisco/Oakland</td>
<td>.37</td>
<td>.51</td>
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</tbody>
</table>
the \( k \)th income/family size category in the \( i \)th SMSA
\[ S_c = \text{Proportion of central city housing that is single family (Number of central city dwelling units that are single family \div \text{total central city dwelling units})} \]
\[ B_c = \text{Proportion of metropolitan Negro households residing in central city (Number of Negro households in central city \div \text{number of Negro households in SMSA})}. \]

The means and standard deviations of the variables used in equations (4) and (5) are shown in Table 4. The average expected homeownership 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 Negro-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 larger 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 3 show, the difference between the actual and expected homeownership 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 is relatively large for cities like Chicago, where the ghetto is predominantly multi-family 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 homeownership. In all U.S. 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 (4) indicates that a city which is one standard deviation above the mean in terms of this characteristic (92 percent of metropolitan area blacks live in the central city) would have a gap .034 larger than one which is one standard deviation below the mean (64 percent of blacks live in the central city).

The findings presented in equations (4) and (5) provide further support for the view that housing market discrimination limits Negro homeownership. Specifically, these results indicate that a limited supply of housing suitable for homeownership in the ghetto and restrictions on Negro purchase outside the ghetto strongly affect the tenure-type of the housing consumed by Negro households as well as its location.

### III. Homeownership, Housing Costs, and Capital Accumulation

Limitations on homeownership have significant effects on Negro housing costs,
income, and welfare. As is illustrated in the Appendix, an effective limitation on homeownership can increase Negro housing costs by over 30 percent, assuming no price appreciation.

Much of the savings from homeownership results from favorable treatment accorded homeowners under the federal income tax. These tax provisions favoring homeowners are widely recognized and well documented (see Henry Aaron and Shelton). Our findings suggest that Negro households at all income levels are impeded by housing market discrimination from purchasing and owning single family homes. As a consequence, Negro households are prevented from taking full advantage of these tax benefits. Since tax savings from homeownership increase with income, this aspect of discriminatory housing markets cuts most sharply against middle and upper income black households.

Limitations on homeownership also rob Negro households of an important inflation hedge available to other low and middle income households. Calculations presented in the Appendix show that under reasonable assumptions about the appreciation of single family homes, a Negro household prevented from buying a home since 1950 would have out-of-pocket housing costs in 1970 more than twice as high as the costs which would have been incurred if the family could have purchased a home twenty years earlier.

Negro households at every income level have less wealth than white households. Current and historical limitations on homeownership may be an important reason. The importance of this method of capital accumulation among low and middle income households is apparent from a 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 (see U.S. Federal Housing Administration). Assuming that this house was purchased with a twenty-year mortgage by a thirty-year old household head, the owner of this unit would have saved more than $7,000 and would own his home free and clear by his fiftieth birthday. Thus, if his home neither appreciated or depreciated, at age fifty he would own assets worth at least $8,000. However, the postwar years have hardly been characterized by price neutrality. Although difficult to estimate, the average appreciation of single-family houses during the past twenty years most certainly exceeded the 100 percent increase in the Boeck composite cost index for small residential structures (see U.S. Federal Housing Administration).\footnote{Our sample suggests an annual rate of increase in value of white-owned properties of 4.7 percent during the 5–10 year period prior to 1966.} This conservative 100 percent increase in value would mean that the typical FHA-financed homeowner by age fifty would have accumulated assets worth at least $16,000, a considerable sum that he could use to reduce his housing costs, to borrow against for the college education of his children, or simply to hold for his retirement. Perspective on this hypothetical example is obtained when it is recognized that the mean wealth accumulation of white households in 1966 was only $20,000 (see Henry Terrell). 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.

Homeownership is clearly the most important method of wealth accumulation used by 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. Still, home equities accounted for more than one-third of the wealth of all U.S. households earning be-
between $10–15,000 in 1962 (see D. S. Proctor et al.).

The dominant position of home equities in the asset portfolios of low and middle income households is not difficult to understand. Other forms of investment, such as the stock market, require far more knowledge, sophistication and discipline. In addition, low- and middle-income households have more leverage available in the real estate than in other investment markets.

Much of the savings imbedded in homeownership, especially among low- and middle-income households, is more or less involuntary or at least unconscious. Discipline is maintained by linking the investment (saving) decision to monthly payments for the provision of a necessity, with heavy penalties (foreclosure) imposed for failure to invest regularly. Moreover, because of federal mortgage insurance and special advantages provided to thrift institutions, the low- and middle-income home buyer is 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, discrimina-

tion in urban housing markets has reduced Negro opportunities for homeownership, this limitation is an important explanation of the smaller quantity of assets owned by Negro households at each income level.

APPENDIX

Owning and Saving vs. Renting and Consuming

In an analysis of the relative costs of owning and renting a home, Shelton concludes that owning is usually cheaper than renting, as long as the household expects to live at the same location for more than three and one half years. The three and one-half year cut-off is obtained by dividing a 2 percent per year annual savings into a nonrecurring transfer cost for owner-occupied units of about 7 percent of their value.

The nonrecurring transfer cost consists of realtor commissions plus an allowance for certain fixed costs. The annual savings from homeownership include tax differences, management costs, vacancy allowances, and savings in annual maintenance expenditures for homeowners (who are able to maintain the same level of quality for about one-half percent of market value less per year). For homeowners, the total annual housing costs include: maintenance, obsolescence, property taxes, interest on mortgage, opportunity cost of money plus (discounted) transfer cost. For renters, annual rent equals landlord costs plus return on investment: maintenance, obsolescence, property taxes, vacancy allowance, management, interest on mortgage, plus return on investment.

Much of the savings from homeownership results from favorable tax provisions, i.e., from the ability to deduct interest payments and property taxes and especially from the absence of any tax on imputed rent. Therefore, the magnitude of the savings in monthly housing costs varies somewhat according to family circumstances, the size of the mortgage and the amount amortized, and the assumed opportunity costs of the family’s equity.

Shelton develops an example which suggests the magnitude of the yearly savings in

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16 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.
housing costs obtained through ownership. This example assumes that a family may choose to buy its dwelling for $20,000 or to rent it for $167 per month. (This represents a gross rent of $2,000 per year, based on a widely used gross rent/value ratio). To purchase the unit, the prospective homeowner invests $4,000 as a down payment on the house and assumes a 6 percent mortgage. As compared to the $2,000 yearly rental costs, Shelton estimates that purchase would mean yearly expenses before taxes of $1,590. Property tax and interest payments create tax shields that reduce the true costs of these two items by an amount which depends on the homeowner's tax bracket. He concludes that a conservative estimate of the tax savings created by homeownership would be $200, yielding yearly after tax costs of ownership of $1,390. This represents a saving of $610 or a 15.2 percent return (after taxes) on the $4,000 invested in homeownership, as compared to an assumed stock market return of 9 percent before taxes. Since stock market earnings are taxable, the comparable before tax return on homeownership is 18 percent. The relative return on a homeownership investment declines as the mortgage is amortized. The investment return is larger, however, if down payments are smaller or if the opportunity cost of equity capital is lower. Thus, 18 percent is likely to be a low estimate. The savings from homeownership can also be expressed as a percentage of the costs of renting. From this viewpoint a limitation on homeownership would increase housing costs beyond three and a half years by 30 percent, assuming no price appreciation ($610 savings ÷ $2,000 annual rent). As with the rate of return analysis, the savings are larger if a smaller down payment or a lower opportunity cost of capital is assumed.

Aaron obtains even larger estimates of the tax subsidy to homeowners. He presents an example, similar to the one just discussed but with a more valuable house ($25,000) and a larger equity ($10,000), which yields a $342 tax saving (as contrasted to the $200 saving computed by Shelton) and an after tax return on a $10,000 equity of 7.4 percent (as contrasted with a before tax return of 4 percent on other assets). However, Aaron implicitly assumes that the real price of owner- and renter-occupied housing is the same. Shelton, in contrast, contends that there is an equilibrium price difference, excluding tax differences, favoring owner-occupied housing by 1.4 percent of value. If Shelton's analysis of the comparative costs of homeownership and renting is correct in this respect, the savings to homeownership based on Aaron's example would amount to 28 percent of monthly rent computed as \[
\frac{\$342 \times 0.014 (\$25,000 \text{ in housing value}) \times 12}{\$2,500 \text{ annual rent}}
\]

The substantial divergence in housing costs noted above is in addition to any discriminatory pricing which may exist. Moreover, it must still be regarded as a lower bound estimate of the economic cost of an effective limitation on homeownership during the postwar period, since it fails to incorporate the effects of inflation on housing costs and does not admit to the special position of homeownership in the savings behavior and capital accumulation of low- and middle-income households.

A spending unit's equity in its home can be divided into three components: the initial equity or down payment, the amortization of the mortgage (savings), and any appreciation or depreciation of the property as a result of general or particular price changes (capital gains or losses). The last two items form the important link between homeownership and capital accumulation.

Although it is technically correct to view an increase in the value of an owned home as an increase in the household's wealth and to consider the opportunity cost of the equity capital as part of the spending unit's monthly housing costs, there are indications that many households do not view the matter in precisely this way. Out-of-pocket costs appear to be more important considerations for many low- and middle-income families, and it seems many view the savings in the home as a bonus to homeownership. Thus, it is of more than passing interest to compare the current out-of-pocket costs of a St. Louis family who purchased an $8,000 FHA or VA
home on a twenty-year mortgage in 1949 with an otherwise identical family who rented throughout the entire period.

Assuming a conservative capital appreciation of 100 percent over the twenty-year period, the value of this house in 1969 would be $16,000. Since the mortgage has been paid off, the homeowner has only insurance, real estate taxes, heating and utilities, and maintenance and repairs as out-of-pocket costs. These would total roughly $64 per month for a St. Louis home of this value in 1969. By comparison, a renter would have to pay somewhat more than twice this amount ($133–160 per month) to rent a dwelling unit of this value.18

The preceding comparisons may help to explain the recent findings of the Survey of Economic Opportunity which indicate that at every level of current income, black families have fewer assets than whites, but that housing equity represents a larger proportion of the net worth of black households than of white households.19 In fact, limitations on homeownership over several generations may be an important part of the explanation of the smaller quantity of assets owned by Negro households at each income level.

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D. Fredland, "Residential Mobility and are less likely to be homeowners, housing equity represents 67 percent of this smaller Negro net worth as compared to 40 percent of that of white families.

Although the mean housing equity of Negro homeowners is smaller than that of white homeowners, $7,344 vs. $11,753, the difference in Negro net worth is not to any significant degree attributable to this difference. Rather, it results from the fact that at each income level a smaller proportion of Negroes than whites are homeowners and even more importantly from the fact that the discrepancy in Negro and white ownership of other assets is even larger than the discrepancy in homeownership. Thus, if the Survey of Economic Opportunity data on assets are to be believed, Negroes in the income class $5,000–$7,499 have net worth in nonhousing assets equal to only 16 percent of that of white households in the same income level, and all Negroes have net worth in nonhousing assets equal to only 9 percent of that of all whites. Of course, these results can be considered as suggestive only. The weaknesses of savings and wealth data are notorious, and the interpretation of these differences, if real, would require a complete theory of Negro and white savings behavior, which encompasses the manner in which discrimination or lack of opportunity in the various markets affects the savings behavior of Negro households. The authors wish to thank Andrew Brimmer and Henry S. Terrell for making these unpublished tabulations available to them.


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