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THE ROLE OF SAMPLE COMPOSITION**

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1. Introduction

More than 35 years ago, the Moynihan Report (or “The Negro Family: The Case for National Action”) ignited a firestorm of controversy regarding allegedly detrimental changes in the structure of American families, and in particular, over the social implications of the rise in female-headed households among African Americans (U.S. Department of Labor 1965). Since then, the rate of female headship and the proportion of children raised in female-headed households, has risen for both whites and blacks. In previous work, we have undertaken a series of investigations of the historical evolution of racial gaps in home ownership rates and in the value of owner-occupied housing based on samples of male household heads (Collins and Margo 2001a, 2001b). Concerned that the exclusion of female-headed households might have affected our interpretation of long-run racial change in housing outcomes, we have extended our analysis to consider the impact of changing household composition on housing market outcomes, for household heads and also, importantly, for young children.

Although labor economists and economic historians have devoted substantial effort to measuring and understanding the evolution of racial differences in income (Smith and Welch 1989; Donohue and Heckman 1991), the historical development of racial gaps in other economic outcomes has been studied far less intensively. This relative neglect is unfortunate because income is only one of several ways to gauge economic well-being. The underlying premise of this paper is that “wealth matters” in that differences in wealth across households have a substantial effect on economic well-being (Wolff 1998). Owner-occupied housing is a major component of private sector wealth, and the ownership of one’s home has long been viewed as a central component of the “American Dream.” Racial differences in home ownership and housing values are important proximate causes of racial differences in wealth which, historically and at present, are far larger than racial differences in income (Higgs 1982; Margo 1984; Long and Caudill 1992; Oliver and Shapiro 1995; Wolff 1998).

Racial gaps in home ownership and in the value of owner-occupied housing reflect gaps in well-being directly because such gaps are causally related to the flow of consumption services – shelter,

comfort, public school quality, proximity to work and recreation, and so on – which are embedded in housing units and in “neighborhood quality”.¹ In addition to private economic benefits, there is recent evidence that home ownership may have a positive “treatment” effect on the owner’s behavior and on the children of home owners (Green and White 1997; DiPasquale and Glaeser 1999). Because neighborhood quality, including schools, may have disproportionate effects on children, racial gaps in home ownership and home values may tend to perpetuate themselves and to reinforce gaps in other social outcomes such as income, employment, and criminal behavior.

In our previous work we used the various twentieth century Integrated Public Use Microdata Series (IPUMS) samples of federal population censuses (1900-20, 1940, 1960-90) to study the long-run evolution of racial differences in home ownership and housing values among adult *male* household heads (Ruggles and Sobek 1997). However, as noted above, the proportion of black households headed by females has increased relative to the proportion among whites. Consequently, to the extent that gender is a numerically significant correlate of home ownership and house value, focusing solely on male household heads may give a misleading portrait of racial change over time. Here, we extend our previous work by expanding the samples to include female household heads, to assess the exposure of children to home ownership, and to observe how the rise of female headship may relate to children’s exposure to ownership.

We begin by comparing levels and trends in ownership rates and housing values across samples consisting of all household heads, and then separately by gender. In fact, since the all-household sample is simply a weighted average of the male and female samples, we can mechanically understand the all-household trends by observing the male and female trends and changes in the implicit weight given to female heads in forming the all-household average. We find that in levels and in trends of ownership and

¹By “neighborhood quality” we are referring to attributes/behavior of one’s neighbors and the characteristics of their housing; local public goods; access to transportation and retail services; and so on. The IPUMS data set that we analyze in this paper includes information on the characteristics of households, and their housing (for some years) but does not include direct information on neighborhood quality.

value, the male and female samples are similar (within race categories) up to around 1940: that is, white (or black) female-headed households were about as likely to own homes as white (or black) male-headed households, and their homes were about 90 percent as valuable as male-owned homes. Sometime after 1940, however, the two types of samples began to diverge, and at the same time, female-heads were becoming a larger proportion of all household heads. By 1980, male-headed households had ownership rates about 20 points higher than female-headed households, and among owners, the property of female household heads had fallen to about 75 percent of the value of male-headed households. As the female samples diverged from the male samples, and as the number of female heads grew faster than the number of male heads, the influence of females on the movement of the overall racial gap in housing outcomes became stronger. For example, we find that racial convergence of ownership rates among male heads between 1960 and 1990 was not complemented by convergence among female heads (nor by convergence of females on males), plus the weight given to female heads among blacks increased by more than it did among whites, and through both channels, overall racial convergence in ownership was dampened.

Female headship's influence on our view of racial convergence in ownership and home values is small compared to its influence on our view of children's exposure to ownership. We find that over the 1960-1990 period, the racial gap in the probability that young (age 10 and under) children resided in owner-occupied housing (henceforth the "exposure index") narrowed for children living in father-headed households, but did *not* narrow for all children. This lack of convergence is partly due to especially adverse trends in the 1980s, but even so, the steady redistribution of children out of father-headed households has been a considerable drag on convergence in children's likelihood of living in owner-occupied housing. Though clearly not identifying a true causal link, we undertake some simple counterfactual calculations to size up the importance of rising female headship to housing market outcomes for the heads themselves and for young children.

We then extend the analysis to a series of regressions of housing outcomes on household

characteristics, including race, from 1940 to 1990. The multivariate analyses reveal how much of the gaps in housing market outcomes can (and cannot) be accounted for by observable differences in heads' characteristics. Adding women to the sample tends to widen the "adjusted" racial gaps (relative to the results obtained for men-only samples) and to dampen the degree of convergence after 1960.

Overall, our results clearly suggest that including female household heads in the samples influences the measurement of trends in racial gaps in housing outcomes. However, the importance of sample composition should not be overstated because certain other "stylized facts" remain unchanged from our earlier studies. For example, regardless of whether female heads are included, substantial increases in the black/white ratio of housing values and of home ownership rates occurred between 1940 and 1970, a period in which blacks were moving to central cities while whites were moving to suburbs and in which racial discrimination was pervasive in housing markets (Massey and Denton 1993; Collins and Margo 2001). Moreover, adding women to the sample does not alter a central finding of our previous work: between 1970 and 1980, the value of black-owned housing, conditional on the characteristics of the household head or the housing unit itself, declined sharply relative to white-owned housing.

Section 2 of this paper presents and explores the IPUMS data in detail, starting with ownership rates, then moving to children's "exposure" to ownership, and finally measuring the gap in the value of owner-occupied housing. Drawing on our previous work, section 3 of this paper presents a brief historical narrative that attempts to situate the empirical findings in their economic and institutional contexts, though many loose ends remain for future research.

2. Race, Home Ownership, and Housing Values: Long-Run Evidence from the IPUMS Data

In our previous work we used the IPUMS to study long-run trends in racial differences in home ownership and, among owners, in housing values. Because of the nature of the census questions on home

ownership, and because we wished to examine individual-level correlates of housing outcomes, the natural unit of observation was the household head. We further limited our analysis to male household heads, on the grounds that the vast majority of studies of long-run trends in racial differences in earnings have focused on adult males, studies that form a natural comparison to ours (see, for example, Smith and Welch 1989; Donohue and Heckman 1991).

However, there are several reasons why limiting the sample to male household heads may give a misleading portrait of racial change. First, as noted in the Introduction, the share of female-headed households has increased over time, especially among black households. Second, on average, female household heads have lower incomes than male household heads and, on those grounds alone, are less likely to be home owners; if they do become owners, they are likely to reside in homes of lower value than those of male household heads (Danziger and Weinberg 1994). Third, female-headed households were and are more likely to receive some type of public assistance (for example, welfare). At least prior to recent welfare reforms, it is widely believed that such programs discouraged work effort and accumulation of financial assets, both of which would reduce the likelihood of home ownership (Moffitt 1992).

With the exception of 1950, each IPUMS sample since 1900 contains information on home ownership.² Dwellings were classified as owner-occupied if the owner happened to live there, though the census did not explicitly identify whom within the household actually owned the home. Following census convention, we assume that only household heads could be home owners and that if the home was owner-occupied, it was owned by the household head. The samples in each year consist of all black and white household heads who are over the age of 19 and who are not in school. We make an effort to identify Hispanic household heads (generally counted as white) as a separate category in the 1980 and 1990 censuses. We do not attempt to explore the Hispanic experience in housing markets, though that is certainly a topic worthy of attention in future work; rather, we simply want to ensure that combining

²Information on home ownership was not retained in the 1950 sample. A 1930 IPUMS sample is not currently available.

Hispanics with other whites does not alter our findings.

Home Ownership

For whites and blacks, Table 1 reports home ownership rates for all household heads, male household heads, and female household heads, along with the proportion of all heads who are female for 1900, 1920, 1940, and 1960 through 1990, the last year for which IPUMS data are currently available (but see below). Also shown are the racial gaps, expressed as ratios (black/white) and in levels (white - black). From 1940 to 1970, the census did not permit married women to be classified as household heads. Therefore, the only female heads were single women (with or without children), widows, divorced women, or women whose husbands were “absent” at the time the census was taken. Since 1980, some married women have been identified as household heads (even if their husbands were present) and therefore, according to our algorithm, can (in principle) be home owners. Table 1 reports two columns (a and b) for both 1980 and 1990. Columns 1980a and 1990a simply take the census data as given. For the sake of comparability with earlier samples, columns 1980b and 1990b count households headed by married women as if they were headed by men. The adjustments generally have a small impact on the trends at the center of this paper’s investigation.³

At the turn of the twentieth century, only about half of all white household heads were home owners and, among blacks, less than a quarter were. The black rate of home ownership increased between 1900 and 1920, while the white rate remained essentially constant. Rates of home ownership for both races fell back between 1920 and 1940. Although at present there are no IPUMS data for 1930, there is little doubt that the fall in home ownership between 1920 and 1940 was a consequence of the Great Depression (Jackson 1985; Collins and Margo 2001a).

In the subsequent two decades, home ownership rates for both races increased sharply, in part because of important institutional innovations in mortgage finance (discussed at length in Section 3).

³ Similar adjustments for 1900 and 1920, which are not reported in Table 1, are very small.

While the increase among blacks was sufficient to produce a rise in the black/white ratio of home ownership rates, the racial gap in levels actually widened, from 22.6 percentage points in 1940, to 26.7 points in 1960. Elsewhere (Collins and Margo 2001a) we have shown that, among male household heads, the rise in the level gap can be explained to a considerable extent by the geographic re-distribution of the black population after World War Two. In particular, movement out of the rural South to into central cities, where ownership rates were relatively low, dampened the rise in the black home ownership rate.

In the 1960s, the racial gap in home ownership narrowed somewhat, as the black home ownership rate increased by about 3.7 percentage points and the white rate increased by only 1.6 points. From 1970 to 1990, however, the gap barely narrowed at all, whether measured as a ratio or as a difference in rates. In terms of the difference (white - black) in ownership levels, the gap was narrowest *before* World War Two. In terms of the black/white ratio, the bulk of racial convergence occurred between 1940 and 1970, as the black home ownership rate rose by about 83 percent (from 23.1 to 42.1 percent), approximately two times the percentage increase in the white rate of home ownership over the same period (from 45.7 to 66.8 percent).

Because the 2000 IPUMS sample is not yet available, we are unable to present fully consistent race-specific rates spanning the entire twentieth century. However, data from the Current Population Survey based on a definition of home ownership equivalent to the post-1980 census definition suggests a modest upward trend in the black/white ratio of home ownership rates in the 1990s along with slight decline in the racial gap in percentage point terms.⁴ Even so, it is clear that, at the start of the new millennium, a large and persistent racial gap in home ownership exists in the United States, and has for a very long time.

⁴The CPS definition of home ownership is based on the concept of a “householder” – one (and only one) person in a sample household is designated the householder, who is considered the home owner if the housing unit is owner occupied. According to the CPS data the black/white ratio of home ownership rates among all householders rose from 0.62 (in 1994) to 0.66 (in 2000), and the racial gap in percentage point terms fell from 25.4 points (in 1994) to 23.9 points (in 2000). See www.census.gov.

The rate of home ownership among all household heads is a weighted average of the gender-specific rates, with the weights equal to the male and female proportions among household heads. Disaggregating by the gender of the household head produces several important findings. First, in the pre-1960 IPUMS samples, there is little evidence that female heads of households were less likely to be homeowners than male household heads within each race category. Therefore, in terms of measuring racial differences, a sample of all household heads and a sample of male household heads essentially track each other. However, by 1960, home ownership rates among female household heads, within each racial category, were much lower than among male household heads; and historically, the proportion of female households has always been greater among African Americans. As a consequence, from 1960 forward, the racial gap in home ownership rates among all household heads exceeded the size of the gap among male heads only.

Between 1960 and 1980, ownership rates among female heads increased slightly for both races, but remained well below rates for adult males. Over the same period, the proportion of black households headed by women rose by 16 percentage points (according to column 1980a), to 44 percent of all black households. In comparison, the proportion of female heads among white households rose by 9 percentage points, to 25 percent of all households. Overall, black ownership rates increased substantially between 1960 and 1980, but this increase was driven primarily by the rising ownership rate among male household heads.

In the 1980s ownership rates fell very slightly among male heads of both races but rose slightly among female heads. However, because the share of female headed households rose as well, and because female ownership rates remained well below those of men, the overall ownership rates declined. In the case of whites, the decline in levels was essentially the same in the overall and male samples while, in the case of blacks, the overall decline was larger than among males.

The upshot of these findings is that sample composition does influence patterns of racial change in home ownership over time, at least beginning at some point in time between 1940 and 1960. We can

illustrate the magnitude of the effects, by computing what the overall home ownership rates would be under different assumptions about the gender-specific ownership rates and the proportion of female headed households. For example, if the gender-specific home ownership rates are held fixed at their 1990 level (using column 1990b), but the 1960 proportions of female headed households are substituted in computing the overall rate, the overall black home ownership rate in 1990 would have been 48.9 percent instead of 44.8, a non-trivial difference. Making the same calculation for whites suggests that the ownership rate would have been 70.9 percent instead of 69.0. Together, these calculations imply that the ownership gap would have been 22.0 points rather than 24.1.

Given the nature of the census data and our analysis of them, we cannot claim that simulations such as these (and those reported below) reflect truly causal relationships. Nonetheless, the results are consistent with the hypothesis that in the absence of the differential increase in female headship among black households, the racial gap in home ownership would have narrowed by more after 1960 than it actually did. At the same time, however, the calculations demonstrate that the relative increase in female headship among blacks did *not* have a very large effect on the size of the racial gap in ownership rates. In fact, the ownership gap would remain quite large even in the absence of differential changes in the proportion of female heads.

As noted in the Introduction, recent work by urban economists suggests that home ownership may have positive “treatment” effects on the social behavior of home owners . For example, home owners are more likely to participate in the local political process and in community organizations (Rossi and Weber 1996; DiPasquale and Glaeser 1999). More tantalizing are the findings reported by Green and White (1997), who claim that children of home owners also exhibit more socially responsible behavior. For example, they are less likely to be dropouts, or to be in trouble with the police. Here, we do not wish to join the debate (see Rossi and Weber 1996) whether these purported relationships between behavior and home ownership are true “treatment effects”; or, if they are, whether their intensity has shifted over time. Rather, we simply take the (contemporary) findings at face value and ask whether

racial differences in “exposure” to owner-occupied housing among young children have changed over the twentieth century.

We measure exposure by computing the proportion of children under age 10 who were reported as living in owner-occupied housing at the time of the census. The age-cutoff is arbitrary, but a (fairly) low age is useful to avoid sensitivity to long-term changes in the age at leaving home. The unit of observation is the child, and we sort the children into three household types: those headed by the child’s father (or stepfather), those headed by the child’s mother (or stepmother), and those headed by neither the father (stepfather) nor mother (stepmother).⁵ The results are shown in Table 2.

Over the course of the twentieth century, the proportion of young children living in owner-occupied housing increased for both blacks and whites, as one would expect given the large increases in home ownership among household heads. Among whites, the long-term increase in exposure (about 18 percentage points from 1900 to 1990) was approximately the same as the long-term increase in the home ownership rate. However, among blacks, the exposure index increased by only about 10 percentage points, a much smaller increase than in the overall home ownership rate. After a drop during the 1980s, the level of the exposure index for each race was approximately the same in 1990 as in 1960. Ultimately, despite blacks’ rising average income and wealth relative to whites over the century, the racial gap in exposure in 1990 was an astonishing 30 percentage points, 8 points larger than in 1900, and the black/white ratio of exposure in 1990 stood at 0.53, identical to the level in 1900. If, as Green and White’s (1997) work suggests, exposure to home ownership at an early age confers some kind of social capital, the figures in Table 2 indicate that enormous room for racial convergence still exists.

The samples that are conditional on parental headship shed light on why such a large racial gap in exposure has persisted throughout the twentieth century. Among children in households headed by

⁵ The majority of children who live in households in which neither parent is identified as the household head are living with grandparents. Currently, we do not adjust the 1980 and 1990 data for the counting of married women as household heads. Since married women make up only 2 percent of white household heads and 3 percent of black household heads in 1980, such an adjustment is unlikely to have a large impact on the trends identified in Table 2, though it might dampen the rise of mother-headed households.

their father (or stepfather), the racial gap in exposure declined in relative (black/white) and absolute (white - black) terms between 1960 and 1980. By 1980, the majority of young black children living in father-headed households resided in owner-occupied housing. However, the proportion of such children has declined remarkably over time, particularly among African Americans after 1960. By 1990, only about a third of all black children under age 10 lived in households headed by their father (or stepfather), less than half the corresponding figure among whites.

The opposite side of the coin has been a long-term rise in the proportion of children of both races living in households headed by their mother (or stepmother), or by neither parent (usually a grandparent). With respect to the latter category (neither parent), the long term trend actually increased the exposure index, particularly for black children, because the odds of living in owner-occupied housing were higher than average in this household type. But for children in mother-headed households, the odds of living in owner-occupied housing have always been low for both races, and thus the increase in children residing in mother-headed households has served to dampen increases in the exposure index. Because the increase in the proportion of children in mother-headed households has been greater for blacks than whites, and because among blacks the exposure gap between father and mother-headed households has widened, there has been a disproportionately large impact on black children's likelihood of living in owner occupied housing relative to white children's likelihood.

As above, we can compute what the 1990 exposure indices would have been using the 1960 distribution of children across household types. For blacks, the implied 1990 exposure index is 43.4, almost ten percentage points higher than the actual figure for 1990. Thus, changes in the distribution of children across household types can, in a proximate sense, explain why the exposure index for blacks remained unchanged between 1960 and 1990. Clearly, the most important such change was the rise in the proportion of young black children living in mother-headed households. The analogous calculation for whites raises the 1990 exposure index to 68.4 percent, just four percentage points higher than the actual figure. Together, these calculations suggest that the exposure gap might have narrowed

considerably were it not for the redistribution of children across household types after 1960.

As with Table 1, we stress that the correlations in Table 2 and the simulations based on them are entirely descriptive. We are not claiming to have identified a “treatment effect” of household type. Nonetheless, the findings are highly suggestive and, as with Table 1, illustrate quite clearly the importance of sample composition in influencing the perception of long-run racial trends in housing outcomes. An important difference between Table 1 and Table 2's results is that although the relative rise of female-headship among blacks did not have a large impact on the overall racial gap in ownership rates, the relative rise in the proportion of black children in mother-headed households did have a sizable impact on the ownership exposure gap for children.

Housing Values

Beginning in 1940 information is available in the IPUMS (except 1950) on house and property values for owner-occupied homes and, beginning in 1960, various housing characteristics (for example, the number of rooms) are also reported. Care must be taken in interpreting these data because the universe of coverage and method of value estimation changed somewhat over time. As above, we presume that if the home was owner-occupied, the household head was the owner. Some additional restrictions are placed on the sample in order to improve comparability over time (see Collins and Margo 2001b and the notes to Table 3). Table 3 reports the black/white ratio of average house values for all household heads, and separately, for male and female household heads. In addition, we report male/female value ratios and the proportion of owners who were female within race categories.

In 1940, the average value of black-owned housing was slightly more than a third of the value of white-owned housing, reflecting to a large extent blacks’ geographic concentration in the South where property values (for whites and blacks) were low relative to the rest of the country and where blacks’ property values were low relative to whites. However, over the next thirty years, as home ownership

rates were rising for both races, the black/white ratio of housing values rose by nearly 24 percentage points. Within each race category, the ratio of female/male values declined over this period, but the overall trend in racial convergence was very similar to the trend observed for male-only samples. Remarkably, racial convergence essentially halted after 1970: the value ratio increased slightly for men, declined slightly for women, and was flat for the full sample.

This suspension of convergence is surprising in that it comes after the passage of local, state, and federal fair housing initiatives intended to curb racial discrimination in housing markets. In the next section of the paper, we discuss hypotheses related to this phenomenon in some detail, including the suggestion that the anti-discrimination measures themselves (given the pre-existing effects of discrimination) might have had a perverse impact on black property values. At this point, it is worth noting that our previous work (Collins and Margo 2001b) indicates that the relative stagnation of the overall ratio actually hides a substantial decline in the relative value of black-owned property in central cities after 1970.

Thus, as with ownership, failure to include women in the sample leads to a slightly misleading portrait of racial change in the black/white value ratio over time. The male-only sample has at least a little convergence in housing values after 1970, whereas the sample including female owners does not. Nonetheless, the magnitude of the impact is quite small relative to the size of the racial gaps that we are studying.

Regression Analysis

The racial gaps in home ownership and housing values in Tables 1 and 3 are “unconditional” – that is, they are sample means. Both levels and changes over time in home ownership, housing values, and exposure are correlated with factors other than race. It is useful to control for these factors, within

the limits of the data at hand, in order to ferret out the “pure” effects of race.⁶

Toward this end, we estimated several regressions of the form

$$h = X\beta + \delta*(Black = 1) + \epsilon$$

where h is a housing outcome (either ownership or the log of house and property value), the X 's are characteristics of the household head and the household (other than race), and ϵ is a random error term. We call δ the “adjusted” racial gap. The full set of regression coefficients is too large to report here. Rather, in Table 4, we report estimates of δ for samples of all household heads, and separately for samples of male and female heads. The list of X variables is the same for all census dates and includes a quartic in age (plus a dummy for over 64 years of age), a quadratic in years of education, several dummies for family size and for marital status/gender categories (e.g., single male, single female, divorced/separated male, divorced/separated female, and so on), a dummy for multifamily households, and dummies for region of residence, central city residence, suburban residence, and the household head's migrant status (dummies for the foreign born and for the native born who reside in a region that differs from that of birth).

We estimated linear probability regressions of ownership and OLS regressions of the log of housing value. Although we do not report the full set of regression coefficients, a number of findings revealed therein are worthy of comment. First, at all points in time, economic variables are strongly and positively correlated with housing outcomes; that is, higher levels of education and income raise the probability of ownership and housing values. Second, the correlation between marital status and home ownership became strongly positive by 1960, and the correlation between age and ownership, though

⁶ By “pure effect” we do not mean “true effect.” Race and racial discrimination (both current and past) may affect several of the regression's independent variables (e.g., income), and therefore controlling for those observable differences may result in an understatement of the “true” effect of race. Rather, the estimate is “pure” in the sense that it pertains narrowly to housing market outcomes, after controlling for other observable characteristics.

always positive in the twentieth century, became increasingly steep. Third, throughout the century, central city residents, and residents of the Northeast (relative to other regions) have been less likely to own homes. Not surprisingly, given the direction of these effects and the correlations of the variables with race, the adjusted racial gaps are smaller at all points in time than the racial gaps based on the sample means.

With respect to ownership, in fact, the 1940 gaps are almost entirely accounted for by differences in the observable characteristics (other than race) of household heads. The adjusted gaps increase substantially by 1960, and in fact, the magnitude of the increase in the gap is larger than in the unadjusted gap reported in Table 1. Thereafter, the gaps declined slowly over time, at least to 1980.⁷ In the ownership regressions, the adjusted gap among women is generally similar in magnitude to the gap among men, though from 1960 to 1990 it is slightly larger among women and declines more slowly over the period. As with the unadjusted sample means, including women in the sample tends to dampen the degree of convergence compared to the men-only sample.

With respect house and property values, the δ coefficient is larger and more variable over time than in the ownership regressions. Between 1940 and 1970, the adjusted racial gap in housing values declined considerably in all three samples. During the 1970s, however, the adjusted gap widened dramatically in all three samples.⁸ Some of the decline in the value gap in the 1970s may have been reversed in the 1980s, but only partially.⁹ In this case, bringing women into the analysis of racial gaps in housing outcomes tends to widen the observed gaps at any point in time (compared to the men-only sample) without significantly altering the path of convergence and divergence observed over time.

⁷Because these are linear probability regressions, δ is analogous to the level gaps reported in Table 1. In ratio form, the adjusted racial gaps (that is, black-to-white) narrowed between 1940 and 1960.

⁸ The same conclusions hold if the independent variables in the value regression pertain to housing (rather than household) characteristics, or if housing and household characteristics are included; see Collins and Margo (20001b).

⁹ Some of the observed decline in the adjusted gap during the 1980s appears to be due to a change in the geographic coverage of the metropolitan status variable in the IPUMS. See the notes to Table 4 for more detail.

3. Discussion

We have shown that sample composition matters to the measurement of racial gaps in housing market outcomes, at least after 1960. However, in certain key respects, the “stylized facts” of the evolution of these racial gaps are not dependent on sample composition. In particular, the 1940-1970 period stands out as one of relative gains in black home ownership and average housing values (compared to whites), whereas the 1920-1940 and 1970-1990 periods witnessed few, if any, gains. In fact, controlling for household and household head characteristics, there appears to have been a sharp decline in the relative value of black-owned homes in the 1970s, again regardless of how the sample is comprised. In what follows we draw on our previous papers (Collins and Margo 2000, 2001a, 2001b) to sketch out an historical narrative to make sense of these stylized facts.

At the turn of the twentieth century most blacks lived and worked in the rural South, engaged primarily in agricultural production. By the standards of the late twentieth century, mortgage finance in the early twentieth century was limited and under-developed. Relatively few blacks could afford the substantial down payments required by institutional lenders, even if they could find one willing to lend to them. Although blacks did succeed in accumulating real estate wealth prior to World War One, levels of black wealth were very low, absolutely and relative to whites, a manifestation of which can be seen in the low rates of home ownership and values of the exposure index in the early twentieth century.

Over the next seven decades, millions of blacks left the rural South for metropolitan areas, many of which were outside the region. New migrants settled in predominantly black neighborhoods located primarily in central cities, and as the populations of those neighborhoods grew, black ghettos emerged and grew in density and size. Middle-class black residents of these neighborhoods sought to leave when poor migrants moved in, but they were largely thwarted by whites bent on containing the geographic spread of the urban black population. A variety of tactics were used, including racial “restrictive covenants” and, in some cases, intimidation, fraud, and outright violence. As a result, blacks were less

able to acquire owner-occupied housing, even if, in terms of their incomes or other personal characteristics, they were as “qualified” as potential white home owners.

The process of black migration from the rural South began early in the twentieth century, punctuated by increases associated with World War One and World War Two. In the 1930s, a series of institutional innovations dramatically altered the nature of housing finance, setting a process in motion that eventually increased home ownership rates for both races. A more complete treatment may be found in Collins and Margo (2001; see also Jackson 1985); here we sketch the relevant details. Economic decline during the early years of the Great Depression produced unprecedented rates of home foreclosures. In response, the federal government created a series of agencies that fundamentally transformed the nature of home mortgage finance. The Home Owner’s Loan Corporation (HOLC), the Federal Housing Administration, and later the Veteran’s Administration, Fannie Mae, and Freddie Mac, promoted the self-amortizing fixed-interest 30-year (or longer) mortgage, with much lower down payments. Loans could be insured, and (later) bought and sold in secondary markets, thereby lowering credit risk and interest rates.

However, the implementation of these innovations was far from race-neutral. For example, when it developed new underwriting standards for mortgage loans, the HOLC systematically divided metropolitan areas into neighborhoods in terms of desirability and stability. The lowest quality neighborhoods were shaded “red” (hence the term, “redlining”). Race, among other factors, was explicitly used as a criterion in redlining. The HOLC standards were adopted by the FHA, which in turn generally declined to offer mortgage insurance to such neighborhoods, making it more difficult for residents, disproportionately blacks, to obtain mortgage finance from conventional lenders.

At the same time, however, the agencies adopted other policies that tended to subsidize new construction in suburban areas. Although some portion of white suburbanization after World War Two would have occurred anyway (see Margo 1992), such policies, at the margin, tended to encourage white “flight”, particularly at a time when the pressure to expand at the edges of black ghettos was intensifying.

Yet, despite a high and growing level of racial segregation, a level that peaked in 1970 (see Cutler, Glaeser, and Vigdor 1999), black home ownership and housing values increased relative to whites in the 1960s. A plausible, if ironic explanation, is that the very mirror of image “white flight” was “filtering.” Housing in central cities, formerly occupied by whites fleeing to the suburbs, could now be occupied and owned by blacks.

With the advent of the Civil Rights Movement, public awareness of the federal government’s culpability in fostering racial segregation in housing was heightened. One outcome was the passage of fair housing legislation at the federal level in 1968, and several subsequent acts, whose purpose was to outlaw racial discrimination in the purchase or rental of housing. Despite these legislative efforts, well into the 1980s and 1990s a variety of studies reported evidence that minority applicants faced continuing discrimination from real estate agents and in applying for mortgage finance. With the evidence at our disposal, we are hardly in a position to estimate a “treatment effect” of fair housing policy.¹⁰ However, if such policy has been effective, we might expect it to leave an imprint in the form of a decline in the relative importance of race as a correlate of ownership after 1970. We do find such a decline, although it is a very small one in the sample of all heads, somewhat larger if the sample is restricted to male heads.

Policy aside, both the high level of racial segregation in metropolitan areas and the associated concentration of black home ownership in central cities by 1970 left black home values extraordinarily vulnerable to adverse economic shocks that disproportionately affected urban areas in general or blacks in particular. Recent research by Massey and Denton (1993) and Cutler and Glaeser (1997) has demonstrated how such shocks might be “magnified” in the context of racially segregated housing. In Massey and Denton’s work, the key idea is that an adverse shock that disproportionately affects blacks will necessarily be concentrated geographically. As long as there are “neighborhood effects” – that is, if negative outcomes spill over across households – the shock will have a multiplicative impact, enhancing in Massey and Denton’s words “the social problems associated with income deprivation” (Massey and

¹⁰ In future work, we do intend to investigate those effects using sub-federal variation in fair housing laws.

Denton 1993, p. 122).

In the economics literature, Cutler and Glaeser (1997; see also Becker and Murphy 2000) are the best known exponents of this line of argument. Using census data for 1990, Cutler and Glaeser show that the likelihood of a variety of adverse social and economic problems among African-Americans – in particular, single parenthood – was strongly and positively related to the level of segregation. However, Cutler and Glaeser did not investigate, in their language, whether ghettos were always “bad”. We have shown, in fact, that the negative effects of segregation documented by Cutler and Glaeser were not similarly present in 1970; they emerged, as it happens, in the 1970s, and intensified in the 1980s (Collins and Margo 2000).

In Collins and Margo (2001b) we explore the impact of residential segregation on the relative value of black-owned housing. To measure segregation, we used Cutler, Glaeser, and Vigdor’s (1999) indices, which pertain to metropolitan areas only. Specifically, we hypothesized that, if ghettos went “bad” in the 1970s, we should have observed a strong negative correlation between the degree of segregation and the relative value of black owned housing after 1970, but not before. In fact, this is what we observe: other factors held constant, the level of segregation had little relationship with the relative value of black owned housing in 1970, but the correlation turned strongly negative by 1980. Most importantly, controlling for the level of segregation reverses the direction of change in the racial value gap in the 1970s; that is, increasingly negative effects of segregation coefficient can fully explain why the adjusted racial value gap rose in the 1970s. However, we found no evidence that segregation had a similar effect on the relative odds of black home ownership; if anything, the racial ownership gap was narrower in highly segregated cities, at least prior to 1990, when the coefficient was essentially zero.

The regressions also reveal that the negative impact of segregation on relative black home values in central cities intensified between 1980 and 1990. However, with the continued movement of middle class blacks out of central cities, the impact of “bad ghettos” on the overall racial value gap diminished, perhaps contributing to the “mean reversion” evident in Table 4.

Our narrative of the effects of segregation on home values and ownership derive from our previous analyses of samples of male heads of households. However, in light of Cutler and Glaeser's (1997) and our (Collins and Margo 2000) findings on the negative impact of segregation on single parenthood among African-Americans, it is clear that the relationships between segregation and the various housing outcomes, particularly housing values, are simply reinforced with a sample of all household heads, including females.

Although the "bad ghettos" hypothesis can explain why the value of black owned housing, relative to white owned housing, conditional on housing characteristics, declined in the 1970s, why ghettos went bad in the first place is an open issue. One possibility, argued by Wilson (1987), is that fair housing legislation, along with the War on Poverty, made it possible for the first time for middle class blacks to escape central city neighborhoods for the suburbs. Although the suburban neighborhoods such blacks moved to were not necessarily integrated, the overall level of segregation has fallen since 1970. However, the exodus of middle-class blacks, according to Wilson, created a cultural and socioeconomic vacuum in the ghetto, turning it from "good" to "bad".

The Wilson hypothesis is highly controversial, and the evidence from the census is not sufficient to evaluate it fully. In Collins and Margo (2001b) we do show, however, that the relationship between suburban residence and income among male black household heads does begin to turn positive between 1970 and 1980, which is consistent with the Wilson hypothesis. However, we also find that there was a pre-1970 trend in this direction – the post-1970 change does not appear to be a structural break.

A second possibility involves the 1960s riots. To be sure, the riots were by no means the sole cause of "urban decline" or even the primary cause. However, the riots may have been far more than just coincidental. Along with the immediate and direct destruction of property in black neighborhoods, business establishments that were looted or damaged might (and did, in many cities) close their doors permanently, causing job loss; and new investment curtailed or shifted to suburban locations. The riots, in other words, may have had a "treatment" effect that tipped the balance in black neighborhoods, setting

forth a reinforcing cycle of decline.

To assess this possibility, we collected data on the incidence of riots from various published and archival sources, and examined whether the emergence of a negative correlation between the black/white housing value ratio and segregation was concentrated in cities that experienced riots (see Collins and Margo 2001b). We found that, in such cities, a negative correlation already existed in 1970, and that the correlation became more strongly negative in the 1970s. In cities without riots, there was a (slight) positive relationship between segregation and the black/white value ratio in 1970, but this correlation, too, turned negative in the 1970s. However, the magnitude of the change in sign was smaller in the non-riot than in the riot cities. While this does not pin down a causal effect of the riots, it is suggestive evidence in that direction. Much work remains to be done, however, to measure the relative importance of the different shocks behind the emergence of “bad” ghettos and their consequences.

4. Concluding Remarks

This paper has examined long run trends in racial differences in the ownership and in the value of owner-occupied housing. In contrast to our previous work, we include female-headed households in the analysis. This extension is important, because female-headed households are less likely to own homes and conditional on owning, tend to own less valuable properties. The incidence of female headship is considerably greater among blacks than among whites, and so there are certainly implications for our measurement of racial gaps over time.

We found that, in terms of the measurement of racial gaps in housing outcomes, this extension of the sample – or as the title puts it, the role of sample composition – has non-negligible effects. Both in levels and in terms of the direction of change, samples of all household heads (which include women) diverge somewhat from a sample composed solely of male household heads. Where the inclusion of women really matters, however, is not in the racial gaps in ownership and property values among heads,

but in the racial gap in children's likelihood of living in owner-occupied housing. We find that over the course of the twentieth century there has been essentially no racial convergence in the relative odds (black/white) that young black children would live in owner-occupied housing and a widening in the gap when measured as a difference in likelihoods (white - black). This lack of convergence is clearly correlated with the redistribution of children across household types, in particular, with the enormous decline in the proportion of black children living in father-headed households after 1960.

This work can be extended in several directions. First, we have focused on adult household heads in this paper (and our earlier ones). However, not every adult is a household head (or married to one). It is a straightforward, if somewhat problematic exercise, to extend the analysis to cover all adults, regardless of headship status. Second, as noted in section 3, our historical narrative is based on analyses of samples of male household heads and, while we argued that the substantive conclusions would only be strengthened, it would nevertheless be useful to re-estimate the multivariate analyses reported in Collins and Margo (2001b) on samples of all heads. Third, and perhaps most importantly, this study follows a time-honored tradition in labor (and urban) economics in its use of decompositions. These decompositions are suggestive of causal estimates, but not a substitute for them. Thus, an important task for future research is to attempt to specify and, hopefully, estimate structural models of racial gaps in housing outcomes that take account of the inherent endogeneity and "treatment effects" of different household types – that is, the factors that cause the formation of different types of households, and the identification of the incentives and constraints shaping their housing choices.

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Table 1: Home Ownership, by Race

	1900	1920	1940	1960	1970	1980a	1980b	1990a	1990b
All Household Heads									
White	49.30	49.81	45.70	65.13	66.77	69.38	69.38	68.98	68.98
Black	22.34	26.14	23.06	38.44	42.09	46.22	46.22	44.84	44.84
Black/White Ratio	0.45	0.52	0.50	0.59	0.63	0.67	0.67	0.65	0.65
White - Black Difference	26.96	23.67	22.64	26.69	24.68	23.16	23.16	24.14	24.14
Male Household Heads									
White	48.75	49.59	45.18	67.58	70.47	74.50 (75.76)	74.57 (75.85)	74.04 (75.82)	74.03 (75.85)
Black	22.51	25.94	22.50	41.22	48.76	55.47 (55.71)	55.35 (55.60)	54.84 (55.31)	54.77 (55.26)
Black/White Ratio	0.46	0.52	0.50	0.61	0.69	0.74	0.74	0.74	0.74
White - Black Difference	26.24	23.65	22.68	26.36	21.71	19.03	19.22	19.20	19.26
Female Household Heads									
White	53.45	51.58	48.89	52.56	52.00	54.27 (55.61)	52.29 (53.55)	57.02 (58.78)	54.57 (56.23)
Black	21.61	27.07	25.02	31.26	31.17	34.29 (34.44)	33.01 (33.16)	35.23 (35.58)	33.55 (33.89)
Black/White Ratio	0.40	0.52	0.51	0.59	0.60	0.63	0.63	0.62	0.61
White - Black Difference	31.84	24.51	23.87	21.30	20.83	19.98	19.28	21.79	21.02
Female Proportion of Household Heads									
White	11.72	11.15	13.98	16.33	20.04	25.34	23.31	29.71	25.94
Black	18.64	17.72	22.27	27.89	34.17	43.66	40.88	51.00	46.79
Black/White Ratio	1.59	1.59	1.59	1.71	1.71	1.72	1.75	1.72	1.80
White - Black Difference	-6.92	-6.57	-8.29	-11.56	-14.13	-18.32	-17.57	-21.29	-20.85

Notes: Samples include household heads, over 19 years old, who are not in school. Figures in parentheses are from samples that exclude self-reported Hispanics. From 1940 to 1970, married women were never reported as household heads, but in 1980 and 1990 married women are sometimes reported as household heads. Columns 1980a and 1990a take the census data as given and do not adjust for changes in the reporting of headship. Columns 1980b and 1990b treat household headed by married women as if they were headed by men for the sake of consistency with earlier samples. In 1980, only 2 percent of white household heads were married women, and only 3 percent of black household heads were married women; consequently, the reclassification does not make a large impact on the results. In 1900 and 1920, married women are sometimes, but very rarely, reported as household heads; their reclassification (not shown in table) has a very small impact.

Source: IPUMS (Ruggles and Sobek 1997).

Table 2: Children Living in Owner-Occupied Housing, by Race and Household Head

	1900	1920	1940	1960	1970	1980	1990
Panel A: Proportion of Children Living in Owner-Occupied Housing							
All Children							
White	46.21	44.23	36.26	63.91	66.15	69.06 (72.25)	64.12 (68.75)
Black	24.26	24.22	18.55	32.53	36.62	40.77 (41.00)	33.81 (34.16)
Children in Father-Headed Households							
White	45.66	43.43	34.59	64.73	68.28	73.38 (75.99)	69.75 (73.55)
Black	24.33	23.56	16.35	33.02	42.17	54.57 (54.86)	47.69 (48.23)
Children in Mother-Headed Households							
White	37.22	40.83	26.74	36.03	34.19	36.55 (41.37)	36.58 (42.04)
Black	17.34	19.15	12.68	12.72	15.37	16.60 (16.69)	13.78 (13.95)
Children in Non-Parent-Headed Households							
White	62.23	57.92	58.75	71.26	70.77	68.75 (72.34)	65.36 (71.51)
Black	27.96	31.44	28.80	46.40	49.83	54.00 (54.29)	51.56 (51.92)
Panel B: Distribution of Children across Household Headship							
White, Father-Headed	92.31	91.17	89.40	92.02	89.27	83.60 (84.79)	76.70 (78.90)
White, Mother-Headed	2.90	2.48	2.79	3.79	6.56	11.07 (10.26)	16.01 (14.83)
White, Non-Parent-Headed	4.79	6.35	7.81	4.20	4.18	5.32 (4.94)	7.29 (6.27)
Black, Father-Headed	78.30	79.14	72.40	66.04	58.52	44.73 (44.71)	33.42 (33.32)
Black, Mother-Headed	8.03	7.88	7.69	14.96	25.32	36.04 (36.02)	43.56 (43.54)
Black, Non-Parent-Headed	13.67	12.98	19.91	19.00	16.16	19.23 (19.27)	23.01 (23.14)

Notes: The samples include children under 10 years of age. “Father” and “Mother” here include stepfathers and stepmothers. The 1990 sample is the IPUMS unweighted 1 % sample. No adjustments are made for the change in 1980 that allows married women to report as household heads. The figures in parentheses for 1980 and 1990 are for samples that exclude self-reported Hispanics.

Source: IPUMS (Ruggles and Sobek 1997).

Table 3: Relative Values of Owner Occupied Housing

	1940	1960	1970	1980a	1980b	1990a	1990b
All Household Heads: B/W	35.81	52.90	59.50	58.50	58.50	59.23	59.23
Male Household Heads: B/W	36.40	53.91	60.89	61.09	60.73	63.04	62.26
Female Household Heads: B/W	35.26	54.52	61.84	57.70	59.48	57.04	59.98
Black Female/Male Household Heads	88.92	80.43	76.19	74.84	72.97	75.14	72.54
White Female/Male Household Heads	91.79	79.53	75.02	79.23	74.51	83.06	75.31
Female Proportion of Black Household Heads in Sample	26.91	22.71	24.88	31.84	28.75	39.34	34.29
Female Proportion of White Household Heads in Sample	16.73	12.78	14.89	18.99	16.69	23.41	19.31

Notes: Samples include household heads residing in owner occupied housing, over 19 years of age, who are not in school. For comparability over time, farms, condos, properties on more than 10 acres, properties used commercially, trailers, boats, and multifamily dwellings are generally excluded from the samples. In 1940 only farms can be excluded. Columns 1980a and 1990a take the census data as given; columns 1980b and 1990b count married female household heads as if they were men for the sake of comparability with previous years. Results from samples which exclude Hispanics in 1980 and 1990 are very similar to those reported above. Since 1960, house and property values have been top-coded. Approximately, the top three percent of households in 1960 (above \$35,000), 1970 (above \$50,000), and 1990 (above \$400,000) are top-coded. The top one percent in 1980 (above \$200,000) are top-coded. In 1940, however, values are not top-coded. The average value of the top-coded category in 1960 is estimated by multiplying the top-code by the ratio of the average value of homes in the top three percent in 1940 to the value of homes at the 97th percentile (a factor of approximately 1.44). Similar multiples are formed for 1970, 1980, and 1990 on the basis of 1940's data.

Source: IPUMS (Ruggles and Sobek 1997).

Table 4: Adjusted Racial Gaps in Ownership and Housing Values

	1940	1960	1970	1980	1990
Panel A: Home Ownership					
All household heads	-0.0450	-0.1120	-0.1021	-0.0812	-0.0877
				(-0.0895)	(-0.0991)
Male household heads	-0.0520	-0.1081	-0.0964	-0.0682	-0.0753
				(-0.0765)	(-0.0868)
Female household heads	-0.0309	-0.1207	-0.1076	-0.0965	-0.0996
				(-0.1056)	(-0.1105)
Panel B: Housing Values					
All household heads	-0.3489	-0.2370	-0.1693	-0.2746	-0.2284
				(-0.2851)	(-0.2408)
Male household heads	-0.3415	-0.2147	-0.1370	-0.2258	-0.1759
				(-0.2358)	(-0.1876)
Female household heads	-0.4256	-0.3182	-0.2692	-0.3888	-0.3179
				(-0.4006)	(-0.3323)

Notes: Figures are regression coefficients, from separate regressions, on an indicator variable equal to one for African Americans. Regressions also include controls for age (quartic and a dummy for over 64), education (quadratic), log income of head, family size (a series of dummies), a series of dummies for marital status/gender categories, dummies for central city residence and suburban residence (in metro area, not central city), region of residence, and dummies for migrant status (foreign-born and native-born, inter-regional migrants). Income is top-coded from 1940 to 1980; top-coded values are multiplied by 1.4 (before logs are taken). In 1940 only wage and salary income is reported in the census, and so in that year regressions are restricted to wage and salary workers. Treatment of top-coded housing values and composition of housing value samples are discussed in notes to Table 3. Samples in Table 4 are not identical to those in Tables 1 and 3 because missing values for any of the independent variables (e.g., income and metropolitan residence) require omission from the regressions. Change in the geographic coverage of the metro variable after 1980 (and therefore the sample composition) may tend to artificially narrow the racial gap in housing values reported above. Though still not perfectly comparable, the change in coverage seems to narrow the gap by 3 to 4 percentage points. There is little impact on the racial gap in ownership. In 1980 and 1990 the figures in parentheses are from regressions that exclude self-reported Hispanics.

Source: IPUMS (Ruggles and Sobek).