U.S. Black-White Wealth Inequality: A Survey[*]

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The distribution of wealth in the United States is highly skewed. In 1998, the top 1 percent of families held 34 percent of the wealth and the top 10 percent of families held 68.7 percent of the wealth (Kennickell, 2000).[1] Wealth is distributed far more unevenly than income. The Census Bureau estimates that in 1998, households in the top 5 percent of the income distribution received 21.4 percent of annual income. Households in the top 20 percent of the income distribution received 49.2 percent of annual income.[2]

Wealth can affect economic well-being in a number of ways. It can be used for immediate consumption. It may allow families to better educate their children, live in safe neighborhoods, maintain living standards during hard times, and ensure adequate consumption levels during retirement. High levels of wealth can facilitate access to the political process and other civic institutions. Extreme wealth disparities may result in differences across families in each of these aspects of economic well-being or opportunity.

Wealth inequality among households with young children may lead to unequal opportunities for those children. Educational attainment, labor force participation, welfare receipt, and early or out-of-wedlock childbearing have been linked to childhood factors such as neighborhood quality (Haveman and Wolfe, 1994; McLanahan and Sandefur, 1994). Wealth enables parents to provide better environments for their children, so wealth disparities may contribute to differences in children's economic success.

Differences in wealth holdings for households nearing retirement may also affect economic well-being. Without adequate savings, households may face large drops in consumption upon retirement or find their choices regarding living arrangements or medical care restricted.[3] Furthermore, wealth inequality at older ages implies that estate sizes may be unequal, perhaps contributing to wealth inequality in the next generation.

Determining how aggregate U.S. wealth inequality has evolved over time is not a simple task, due largely to data limitations. Because wealth is so highly concentrated in the United States, surveys that do

not have a significant oversampling of very high-income (or high-wealth) households will not provide

accurate information on the distribution of wealth. This concern effectively rules out commonly-used

datasets such as the Panel Study of Income Dynamics (PSID) and the National Longitudinal Surveys

(NLS).[4] Probate data have been used in several innovative studies of bequests (see, for example,

Menchik and David, 1983; and Wilhelm, 1996), but since only very high wealth families are subject to

estate taxes, strong assumptions need to be made when using estate tax data to make inferences about the

evolution of wealth inequality.

One U.S. data set is designed expressly to collect extensive, accurate information on wealth and its

distribution. The Board of Governors of the Federal Reserve System (and other collaborators) has

conducted Surveys of Consumer Finances (SCFs) every three years since 1983. The SCFs include a

significant oversample of high-income taxpayers and hence have a more complete representation of the

portfolios of very affluent people in the United States than do other data sources. Due to differences in

the SCFs prior to 1989, we will focus on developments between 1989 and 1998.[5]

Kennickell (2000) finds no statistically significant changes between 1989 and 1998 in the Gini

coefficient, an index of inequality, for net worth across years.[6] As shown in Table X.1 (from Kennickell,

2000, Table 5), the share of wealth held by households in the top 10 percent of the wealth distribution

also remained very stable at around 68 percent. Changes across years within the top 10 percent are also

not statistically significant.

Table X.1 here

These results differ from those presented by Wolff (2000), who argues that wealth disparities

continued to widen from 1989 to 1998. We have somewhat more confidence in Kennickell's conclusions

than Wolff's conclusions for the following reasons. Discrepancies in aggregate asset and liability totals

in the Surveys of Consumer Finances and the Flow of Funds Accounts (FoFs) motivate Wolff to

proportionally adjust SCF items to match Flow of Funds totals.[7] In some cases, the adjustments are

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significant.[8] Antoniewicz (1996) provides reasons why Wolff's adjustments may not be appropriate, and suggests that the SCFs and FoFs, once adjusted to account for differences in definitions and coverage, are strikingly close.[9] Wolff's calculations also do not account fully for imputation and sampling variation.[10] As the standard errors in Table X.1 show it is difficult to make strong statements about the evolution of wealth inequality over time. More work on the evolution of wealth in the 1980s and 1990s would clearly be worthwhile.

Several papers piece together wealth information covering longer time periods. Scholz and Joulfaian (2003) report that between 1962 and 2001, the ratio of net worth between the 95th and 50th percentiles of the net worth distribution increased to 15.3 from 9.8. The ratio of net worth between the 99th and 50th percentiles of the net worth distribution increased to 68.8 from 35.8. Wolff (1998) reports that in the 1970s, wealth inequality in the United States was comparable to other developed countries, but by the 1980s the United States had become one of the most unequal economies in this group. Smith (1999b) shows wealth became significantly more unequal between 1984 and 1994 in the PSID.

Although there are many possible explanations for long-run trends in wealth inequality, there is no single dominant cause. Most of the academic literature on wealth inequality focuses on the large gaps between wealth levels held by black and white families. There are at least two reasons for this emphasis. To the extent that we care about racial aspects of economic inequality, wealth differences between blacks and whites are intrinsically interesting. More broadly, developing a better understanding of factors leading to the black-white wealth gap should enhance understanding of the factors driving wealth inequality more generally.

The facts about black-white wealth inequality that papers seek to explain are striking. Figure X.1 shows mean and median net worth for different age groups for white households and for black and Hispanic households.[11] Wide net worth disparities are apparent at every age. At ages 51 to 55, for

example, mean (median) net worth of white households is $467,747 ($156,550), while for black and Hispanic households it is $105,675 ($33,170).

Figure X.1 here

A natural explanation for the wealth disparities shown in Figure X.1 is that white families have higher incomes than black and Hispanic families, which leads to greater accumulations of net worth. However, even after splitting the sample by educational attainment, which is a common proxy for permanent income, Figure X.2 (for means) and Figure X.3 (for medians) show that large wealth disparities remain when groups are defined by race or ethnicity. The net worth of black and Hispanic *college* graduates is similar to the net worth of white *high school* graduates, and the net worth of black and Hispanic high school graduates is similar to the net worth of white high school dropouts. The observed wealth differences are large and persistent across age groups and cannot be accounted for solely by differences in educational attainment across the groups.

Figure X.2 here

Figure X.3 here

Many papers examine factors contributing to these wealth disparities. Our objective in this survey is to provide a critical review of this literature, sorting out what we know and what we still need to know about black-white wealth inequality. We use a simple life-cycle model to organize our review and to highlight a variety of factors that may influence wealth.

The basic premise of the life-cycle model is that over the course of its life, a household chooses either to spend or to save its available resources.[12] A household's wealth at any point in time depends on the amount of resources that it has accumulated until then. Therefore, we can loosely divide the factors that affect wealth into two groups: those that determine available resources and those that affect the consumption choices (and hence the saving decisions) made by households.

Clearly the amount of labor income earned over the course of one's life will affect the amount of household resources, as will other sources of income, such as financial transfers from family members or capital income. Rates of return on assets may also vary across households and hence contribute to household wealth differentials.

The consumption and saving choices will be influenced by additional factors. For example, household "preferences" such as time preference (or "patience"), risk aversion, the length of financial planning horizons, or the desire to leave an inheritance to one's children will influence the household saving rate. Preferences may also affect the asset portfolio composition chosen by household, which may in turn affect the household rate of return on assets mentioned above. Other factors may affect desired consumption directly, such as the number of people in the household or the need to pay for medical expenses. Finally, there may be external factors that affect household savings: the presence of a government safety-net that relies on income and asset tests to determine eligibility may actually deter some households from saving.

This paper examines the extent to which these various factors contribute to racial disparities in wealth accumulation and to observed wealth inequality. Section I of the paper provides a brief overview of the main methodological approaches taken by previous authors. The remaining sections examine the evidence of the importance of the factors discussed above in explaining wealth inequality. In section II, we consider labor income and demographic characteristics, which clearly affect income and may affect preferences or desired consumption choices. Sections III and IV focus on the effect that intergenerational transfers and family background have on patterns of black-white wealth inequality. These factors may influence wealth through several channels highlighted by the life-cycle model: initial assets, income, and preferences. It is also possible that there may be a family-specific component to financial literacy or that families may engage in risk-sharing, both of which could affect portfolio choices or the financial returns to various components of wealth.

Section V focuses on the more abstract concepts of preferences, such as rates of time preference and risk aversion. Section VI briefly examines the not-well-understood relationship between health and its effect on wealth, which can be thought of as affecting income, planning horizons, or consumption levels. Section VII examines the effects of differences in rates of return across households. Rate of return variation across groups may be due to differences in household preferences that lead to different portfolio choices, or they may be due to external factors, such as discrimination in housing markets or differential access to credit markets. Section VIII considers another factor external to the household: namely, safety-net programs. These frequently have means and asset tests and consequently may discourage asset accumulation among potential recipients, even if households never receive program benefits.

In Section IX, we summarize and conclude, raising (but not answering) two additional issues: first, how effective is public policy in altering patterns of wealth? And second, how can empirical work convincingly examine the societal or individual consequences of striking wealth inequality?

I. Methodological Questions

Researchers attempting to explain the black-white wealth gap have availed themselves of a variety of approaches. But different specifications have yielded different answers, and there is no consensus on the preferred empirical strategy. This section discusses the empirical approaches taken in the literature as well as the methodological questions raised by the analysis of the black-white wealth gap.

Table X.2 summarizes the set of studies that are the primary focus of this research synthesis.[13] For each study we highlight the data that were used, the age group the study focuses on, the empirical approach adopted, the dependent and independent variables used in the empirical models, and whether the study provides separate estimates for married couples and for singles.

Table X.2 here

The first four studies listed in Table X.2 (Smith, 1995; Oliver and Shapiro, 1995; Hurst, Luoh and Stafford, 1998; and Conley, 1999) estimate regression models of household wealth, including among the

independent variables an indicator variable for race and/or ethnicity. Conditioning on other covariates, the coefficient on the indicator variable should reflect wealth differences across racial and ethnic groups that are unexplained by other factors. An insignificant indicator variable suggests wealth differentials can be completely explained by factors such as income, education, and household composition rather than by race or ethnicity.[14]

The indicator variable approach is restrictive. A linear regression with an indicator implies that the slope of the wealth function with respect to all other covariates is the same for both races, and only the intercept of the function is shifted up or down. This restriction does not appear to hold based on evidence from other studies.[15]

Other researchers follow a regression decomposition approach, also known as the Blinder-Oaxaca method or means-coefficient analysis.[16] The underlying idea is that observed differences in wealth can be broken down into two parts: the portion that can be explained using differences in household characteristics and the portion that is unexplained. Using the observed relationship between wealth and individual characteristics for white households, researchers can simulate the expected wealth holdings for black households using their characteristics and the white regression coefficients. The deviation between simulated and observed wealth provides a measure of the unexplained black-white wealth gap. A similar analysis can be performed by using the regression coefficients estimated on black households to simulate the wealth of white households based on their characteristics.

A near universal finding of the regression decomposition approach is that considerably more of the black-white wealth gap can be "explained" if the regression coefficients estimated on a sample of white households are used to predict wealth for black households than if the regression coefficients estimated on a sample of black households are used to predict wealth for white households. This discrepancy is unsatisfying, since there is no *a priori* reason to prefer one approach to the other.

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Three recent studies of black-white wealth inequality using data from the PSID significantly advance the literature. Altonji and Doraszelski (2001) provide an extremely thorough analysis using the regression decomposition framework. They perform separate analyses for married couples, single men, and single women; they use both mean and median regressions; their dependent variables include the level of wealth, the log of wealth, components of wealth, and the wealth-to-permanent-income ratio, the last of which allows for interaction between demographic variables and permanent income. They also estimate wealth accumulation models, using as dependent variables both changes in wealth and changes in the wealth-to-permanent-income ratio over five-year periods. They incorporate many robustness checks, such as including third order polynomials in income and using alternative measures of permanent income.

Altonji and Doraszelski (2001) are also among the first researchers to address a critical concern that arises when applying the regression decomposition framework. Because white and black households have different income distributions, using black wealth models to predict white wealth involves extrapolating out of sample, which may lead to unreliable results.

Altonji and Doraszelski (2001) address this issue in two ways. First, they perform decompositions on subsets of the white and black populations that resemble each other. To choose these subsets, they use the wealth model from one group and use it to predict wealth for the other group; the 50 percent in each group with the lowest prediction errors are selected into these subsets. The underlying assumption is that those with low prediction errors must have characteristics similar to those in the other group. Second, they restrict the subsets by permanent income, eliminating households with income close to or below zero, and white households with permanent income above the maximum observed in the black sample. The results from these tests are broadly consistent with their initial analyses, which lead them to conclude that extrapolation out of sample is not the cause of the difference between white and black wealth models.

Barsky, Bound, Charles, and Lupton (2001) argue that the Blinder-Oaxaca decomposition is not an appropriate tool for studying the racial wealth gap given the nonlinear relationship between wealth and income and given that the income distribution of white households is shifted to the right relative to the income distribution of black households. Assuming a parametric form under these conditions can lead to misspecification errors that are unlikely to average to zero, which may therefore bias results. They show that the typical regression decomposition approach will overestimate the contribution of earnings to the wealth gap when using white coefficients; they also argue that using black coefficients to estimate white wealth involves extrapolation out of sample and will overestimate the wealth gap at higher incomes, thereby underestimating the contribution of earnings to the wealth gap.

Barsky *et al.* address these issues by performing a nonparametric analysis of the black-white wealth gap. Their approach is to reweight white households to make the earnings distribution of the white population resemble the earnings distribution of the black population. They then calculate the wealth distribution counterfactual, rather than simply the counterfactual mean of wealth as is done in regression decomposition studies. This counterfactual distribution can be used to calculate the contribution of earnings to the wealth gap at all points along the earnings distribution.[17]

Gittleman and Wolff (2000) look at wealth *accumulation* over a 10-year period.[18] Their strategy is to calculate, for a variety of factors, what average black wealth would have been if the characteristics or behavior of black households had been identical to that of white households over the previous 10-year period. They use this counterfactual estimate of wealth held by blacks to calculate by how much the wealth gap would have closed had their experiences been the same as white households. The specific factors they examine are earned income, saving rates, saving functions (where the saving rate increases with income), rates of return, portfolio composition, inheritance amounts, and changes in household composition.

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The methods discussed in this section have been used to examine the extent to which several potential factors explain wealth inequality. The following sections examine these factors and assess the evidence on their importance.

II. Labor Income and Demographic Characteristics

Existing estimates of the effects of income, age, education, region of residence, and number of children on the black-white wealth gap vary greatly and, in the regression decomposition analyses, tend to depend on whether black wealth is predicted using coefficients estimated from a sample of white households or whether white wealth is predicted using coefficients estimated from a sample of black households. For example, point estimates in the studies we consider suggest that income and demographic factors can explain anywhere from 5 to 120 percent of the black-white wealth gap when white coefficients are used to predict black wealth. Most estimates, however, fall between 60 and 90 percent. When coefficients estimated from a sample of blacks are used to predict white wealth, estimates range between 12 and 84 percent, with most falling between 20 and 35 percent.[19]

Altonji and Doraszkelski (2001) find that using coefficients estimated on a sample of black households to estimate *log* wealth for a sample of white households accounts for about the same fraction of the wealth gap as when the opposite is done (using white coefficients to calculate black log wealth). In both cases, estimates of the effects of income and demographic factors range from 65 to 85 percent. As mentioned above, other studies present results outside this range. Thus, there is clearly considerable uncertainty regarding the magnitude of the overall effects of income and demographic characteristics on the racial wealth gap.

Barsky, Bound, Charles, and Lupton (2001) focus solely on the contribution of earnings to black-white wealth inequality. They note that the regression decomposition approach will tend to overstate the importance of earnings in explaining the wealth gap when white coefficients are used to predict black wealth. This is due in part to the fact that the true wealth-income relationship is not linear, as assumed by

the typical regression decomposition.[20] Rather than assume a particular relationship between wealth and

income, Barsky *et al.* adopt a new nonparametric approach; they conclude that earnings differences

account for 64 percent of the mean wealth gap between whites and blacks.

For comparison, they also apply the regression decomposition technique to their data, first using

only income to estimate wealth, then adding an income-squared term to better capture the nonlinear

relationship between wealth. When income is the only explanatory variable, they find that it accounts for

97.5 percent of the black-white wealth gap; adding a quadratic income term yields an estimate of 72.1

percent. These results are consistent with the authors' discussion: if we take their estimate of 64 percent

to be correct, both regression decomposition estimates overstate this amount, but the quadratic estimate is

closer to the "true" value. Note that these latter two estimates are also consistent with the range of

regression decomposition estimates found in the literature.

Barsky *et al.* also find that the role of earnings is largest at the low end of the wealth distribution and

decreases at higher wealth levels. According to their analysis, earnings explain 100 percent of the wealth

gap at the 10th percentile of the wealth distribution, but only 55 percent of the wealth gap at the 90th

percentile. Estimating white and black wealth distributions using the black earnings distribution shows

similarities in wealth at the lower end of the distribution but not the upper end: while the 25th percentile of

the estimated white wealth distribution is equivalent to the 23.4 percentile of the black wealth

distribution, almost the entire population of black households (99.6 percent) has less wealth than the

amount held by the household at the 60th percentile of the estimated white wealth distribution.

The Barsky *et al.* (2001) analysis raises at least two important points. First, regression

decomposition estimates may overstate (understate) the importance of earnings and perhaps demographics

when white (black) coefficients are used to predict black (white) wealth. Second, the contribution of

earnings apparently varies significantly across the income distribution. This highlights a possible

limitation in studying only the mean wealth gap.

Assessment

Differences in labor income have a major effect on black-white wealth differentials. But additional work seeking to narrow the range of uncertainty about the magnitude of the effect could usefully be undertaken.

Income appears to have a larger effect on wealth differentials than demographic characteristics. Although most studies only report the combined effect of income and demographic factors, several provide separate estimates.[21] They report that income differences account for 12 to 72 percent of the wealth gap, and demographic characteristics account for -7 to 17 percent.[22]

A troubling aspect of the older papers is that estimates of black wealth using coefficients estimated from a sample of white households resulted in the unexplained portion of the black-white wealth gap being much smaller than estimates of white wealth using the coefficients estimated from a sample of black households. This might indicate that behavior governing wealth accumulation in black households might be fundamentally different than in white households. Alternatively, statistical or methodological issues may explain the discordant results.

Recent papers provide some clues. Evidence from Altonji and Doraszelski (2001) suggests that these discrepancies are not as acute when log wealth is the focus of the analysis. Both Altonji and Doraszelski (2001) and Barsky, Bound, Charles, and Lupton (2001) emphasize that relative to white families, black families have lower income. If wealth is a convex function of income (if wealth increases with income at an increasing rate), the predicted wealth function using only the low end of the income distribution will be flatter – there will appear to be a weaker relationship between income and wealth – than we would observe when using households throughout the income distribution. Altonji and Doraszelski (2001) conclude that extrapolation out of sample is not the primary cause of the difference between white and black wealth models. Barsky *et al.* (2001) seem to suggest otherwise.

It would be worthwhile to further explore the implications of the regression decompositions, focusing on wealth in levels and logs, and on restricting the sample to black and white families with similar wealth, income, and demographic characteristics. Research along these lines would help resolve the question of whether black households have fundamentally different wealth accumulation patterns than white households, or whether observed racial differences in wealth can be explained largely (or fully) by differences in observed characteristics.

Examining systematically how covariates, particularly demographic factors, influence regression results could also advance the literature. Empirical specifications vary significantly across studies, which makes it difficult to understand how demographic variables influence wealth accumulation. Interpretation of coefficients is also complicated. For example, there are several potential, competing influences that children may have on wealth accumulation. Consumption may increase (and saving decrease) with the number of children in the family. But saving may increase with the number of children if families are concerned about college costs. If the likelihood that parents will be taken care of in old age increases with the number of children in the family, there might be a negative correlation between wealth and the number of children, as long as people generally accumulate wealth for retirement or late-in-life medical expenses. Given these considerations, it is perhaps not surprising that estimates in the literature find conflicting results for the relationship between children and wealth.[23]

There are also intriguing differences where income and demographic characteristics tend to account for a larger fraction of the wealth gap for singles than for married couples. Learning the reason for the different wealth accumulation patterns of married and single households could be useful for understanding and modeling wealth inequality more generally.

III. Intergenerational Transfers

Inheritances and Gifts

Early studies of the black-white wealth gap that controlled for income and demographic characteristics left a large portion of the wealth gap unexplained, leading authors of earlier papers to speculate that family transfers are likely to play an important role (Blau and Graham, 1990; Oliver and Shapiro, 1995). Several researchers have since examined the importance of inheritances and gifts, including Smith (1995), Avery and Rendall (1997), Menchik and Jianakoplos (1997), Gittleman and Wolff (2000), and Altonji and Doraszelski (2001). Estimates of their importance range from less than 1 percent to 24 percent of the black-white mean wealth gap.[24] The evidence about the effect of inheritances on the median wealth gap is scant, although we suspect that inheritances have little or no effect on the wealth of the median household, instead playing a larger role at the upper end of the wealth distribution.[25]

The results from Smith (1995), for example, suggest that inheritances contribute to wealth inequality at both the mean and median, although his estimates are not broken down by race. An increase in the present discounted value of an additional dollar of inheritances increases mean (median) net worth by $0.36 ($0.43). To the extent that inheritances are unevenly distributed across racial and ethnic groups, Smith's estimates suggest they will contribute to the wealth gap.[26]

Charles and Hurst (2000) show that 42 percent of white households in the PSID get help from their family in coming up with a down payment for a home. Fewer than 10 percent of black families get this help. This specific example suggests that there may be racial differences in the likelihood (or ability) of parents helping children make high-return investments.[27]

Menchik and Jianakoplos (1997) and Avery and Rendall (1997) perform regression decompositions with specific attention to the role of inheritances and gifts. Menchik and Jianakoplos use data from the 1989 SCF and find that inheritances account for 19.3 percent of the wealth gap for married households and 11.6 percent of the wealth gap for single households. These estimates average the results from the two approaches in regression decomposition: estimating black wealth using white coefficients and *vice versa*.[28] Avery and Rendall (1997) find similar results.[29]

Gittleman and Wolff (2000) examine wealth accumulation over a ten-year period rather than wealth in levels. Using the PSID wealth supplements in 1984, 1989, and 1994, they find that inheritances played almost no role in the wealth gains of blacks over the period, but they constituted as much as 10 percent of the increase in wealth for whites. Had black households inherited amounts similar to white households, the black-white mean wealth ratio in 1994 would have increased by 5 to 8 percentage points, from 0.28 to between 0.33 and 0.36. This implies that between 7 and 11 percent of the approximately $120,000 mean wealth gap would have been closed. Because these simulations are based on wealth changes over a ten year period, they ignore any differences in wealth due to inheritances made prior to the start of the period, and as a result may be somewhat lower than estimates based on lifetime inheritances and gifts received.

Assessment

Financial transfers appear to contribute to the wealth gap, although they seem to matter much more at the mean than at the median. Estimates from regression decompositions and counterfactual simulations suggest that between 7 and 24 percent of the mean wealth gap can be explained by racial differences in received inheritances.[30] Intergenerational transfers are unlikely to be important for the median household given the infrequency of transfer receipt.

We raise two considerations for future work. First, the existing studies are somewhat dated and the effect of inheritances on wealth inequality may differ over time. For example, as the fraction of the population likely to receive inheritances increases, the impact of inheritances on the distribution of wealth may increase as a result. This may happen as the parents of the baby boom generation die in increasing numbers and potentially leave inheritances.

Second, while the range of estimates in the literature appears to provide an answer to the question of how much inheritances and gifts contribute to the black-white mean wealth gap, it is not obvious that this is the best question to answer. Exploring the process of how inheritances get translated into wealth and whether or not this mechanism differs by race might better illuminate the relationship between family

transfers and wealth. As noted above, for example, Smith (1995) finds that an additional dollar of inheritance increases mean net worth by $0.36. Although we would not expect a dollar-for-dollar increase in wealth if inheritances were anticipated, it is not clear that we would expect $0.36 either. Both anticipation and timing of bequests should determine how gifts affect wealth accumulation, and these might depend in turn on life expectancy or the intensity with which households desire to leave bequests. A related question is whether or not prospective inheritances offset wealth accumulation, in which case one might find that inheritances actually mitigate the measured wealth gap.

Bequest Motives

Differences across groups in the desire to leave an inheritance to one's children may contribute to black-white wealth inequality. Leaving race aside for the moment, bequests might affect wealth accumulation in at least two ways. First, bequests increase the wealth of recipients. The desire to leave bequests may also be learned behavior, which would result in greater intergenerational persistence in wealth than in a world with no bequests. Second, the desire to leave a bequest may increase saving rates. Of course, bequests may be small or have no causal relationship with wealth.

There is considerable debate over the presence, frequency, strength, and nature of bequest motives. Davies (1981) shows that a substantial amount of bequests will occur in a standard life-cycle model even absent purposeful bequest motives, simply due to uncertainty regarding the date of death. Hurd (1987, 1989) compares the rates at which the elderly with children decumulate assets with the rates at which the elderly without children decumulate assets and finds essentially no difference. He concludes that households do not have purposeful bequest motives.

The behavior documented by Hurd is inconsistent with attitudinal measures elicited from surveys. In wave 1 of the Health and Retirement Study (HRS), for example, respondents were asked how important (very, somewhat, or not) it was to them to leave an inheritance to their heirs: 22.8 percent said "very important," 42.9 percent said "somewhat important," and 29.4 said "not important at all."[31]

Menchik and Jianakoplos (1997) use similar attitudinal questions from the SCF to determine whether or not a family has a "bequest intent." They include this indicator variable in linear wealth regressions and, as one would expect if Hurd's results are correct, find the coefficient on this attitudinal response to be generally insignificant. Not surprisingly, when they include "bequest intent" in their regression decompositions, they find essentially no contribution of this factor to the wealth gap.

In contrast, Smith (1995) uses the HRS to estimate mean and median wealth regressions, including indicator variables for those who feel leaving an estate to heirs is "very important" and "somewhat important," omitting the response "not at all important." He finds that respondents who believe that leaving a bequest is "very important" accumulate $86,000 more in assets than those who place no importance on leaving a bequest.[32] Smith also estimates wealth regressions separately by race, finding a large difference in the coefficient on the "very important" indicator variable: $123,575 for whites and $17,469 for blacks.

Smith calculates that racial differences in the coefficients on the bequest preference questions result in $53,000 lower net worth for blacks. This difference is apparently not due to a weaker desire to leave inheritances among black families, but may occur because blacks are less able to "afford" bequests. Interestingly, the desire to leave bequests appears to be stronger among blacks than it is among whites in the HRS. Of the black respondents, 35.0 percent think leaving an estate is very important, compared with 20.3 percent of whites; 39.3 percent of blacks think it is somewhat important, while 43.7 percent of whites give this response; lastly, 21.6 percent of blacks think leaving an estate is not at all important, compared with 31.0 percent of whites. Although these responses do not control for other factors, they suggest that, if anything, bequest preferences are somewhat stronger among blacks.

Given that Smith (1995) reports mean white wealth as $264,000 and mean black wealth as $72,000, one could interpret his results to mean that bequests and the desire or ability to leave them could account for as much as 28 percent of the wealth gap ($53,000 lower wealth divided by $192,000, the raw wealth

differential between mean black wealth and mean white wealth). However, this contribution to the wealth gap occurs not because whites are more likely to want to make bequests, but because they are better able to "afford" bequests and may save at a higher rate to accumulate an estate. The nonlinear relationship between income and saving exacerbates differences in bequest intent, widening the wealth gap.

Assessment

We are left with a somewhat unsatisfying conclusion about the importance of bequests in understanding wealth inequality. First, there is not strong empirical evidence that households have purposeful bequest motives – by this we mean that there is not strong evidence that households either consume less or work harder in order to bequeath wealth. Second, it is clear that a large amount of money is frequently transferred to children and others upon the death of a wealthy household. Given existing racial disparities of wealth, these transfers disproportionately benefit white households relative to black households. Third, attitudinal questions suggest that bequests seem at least as important to blacks as whites, if not more so. Although many people report that they wish to leave bequests, it is still not clear how much they actually affect savings behavior, and to what extent preferences toward bequests vary over the income distribution. We think additional work on bequest motives, actual bequests, and wealth inequality could be valuable.

IV. Family Background

The studies mentioned above examine the importance of monetary inheritances and gifts actually received in explaining the racial wealth gap. These transfers are presumably received from family members, most likely from parents. Three additional studies test the importance of family background more generally. Conley (1999) estimates a mean regression of log 1994 wealth using a young cohort from the PSID (respondents aged 18 to 30 in 1992 to 1994). He finds that blacks have significantly less wealth than their white counterparts, even controlling for income and demographics. However, an additional control for parental wealth eliminates this significance of race in determining wealth. Conley

contends that parental wealth is the most important predictor of wealth, with own income second. These, along with other demographic characteristics, fully account for the black-white mean wealth gap.

Altonji and Doraszelski (2001) also use the PSID to look at the role of family background in understanding black-white wealth differences. They seek to determine if the effects of family background can explain the finding that wealth holdings of black households appear to be more weakly related to income and demographics than the wealth holdings of white households, as is shown by the fact that the unexplained portion of the wealth gap is consistently larger when using the black wealth function than when using the white wealth function. They hypothesize that blacks may receive fewer intergenerational transfers than whites if the ability to accumulate and bequeath wealth differed for their parents and other antecedents, which is likely given historical factors such as slavery and subsequent racial discrimination. If inheritances and gifts differ by race and are correlated with income and demographics, this could explain the differences between the black and white wealth functions.

The authors' clever empirical strategy is to compare the degree to which the black-white wealth gap can be explained by standard models incorporating a rich set of demographic characteristics and income with the degree to which the black-white wealth gap can be explained by the same model with family-specific fixed effects. The key idea behind using this type of model is that the effect of family background on wealth should not differ for siblings; i.e., it will be "fixed" within a given family. Using a fixed effects model essentially nets out the common effect for siblings. Therefore, if family background (through transfers, adverse family history, etc.) has a significant impact on wealth accumulation, one should be able to account for this with the family fixed effect. As a result, the fixed effects models estimated for whites and for blacks should not produce disparate estimates of the portion of the racial wealth gap explained by income and demographics if time-invariant family characteristics are responsible for the differences.

They find the fixed effects models yield estimates similar to those without fixed effects and so they do not increase the portion of the wealth gap explained when using the coefficients of the black wealth function to estimate wealth held by white households. This leads Altonji and Doraszelski (2001) to conclude that family background and intergenerational transfers are not central to explaining differences in how black and white households accumulate wealth. They note, however, that family background appears to have an effect on the likelihood of self-employment, which is positively correlated with wealth. Furthermore, the authors do not rule out the possibility that family background may affect the intercept of the wealth function. They suggest that future research should focus on differences in rates of return and consumption (saving) behavior for explaining differences in the black and white wealth functions.[33]

Charles and Hurst (2001) report evidence consistent with the possibility that family background affects wealth through its influence on saving preferences. First they document the wealth correlation across generations using parents and children in the PSID, finding an age-adjusted wealth correlation between 0.25 and 0.52. Second, they decompose the wealth correlation into two major components: the correlation between parent and child incomes and the residual (after controlling for measures of family risk-sharing, received gifts and bequests, and expected gifts and bequests). The residual can be interpreted as the correlation in saving preferences, which they find to be sizable: around 40 percent of the raw wealth correlation.[34]

Assessment

There is a sharp contrast between the conclusions reached by Conley (1999) and Charles and Hurst (2001) and those reached by Altonji and Doraszelski (2001). Conley's results – that parental wealth is the most important predictor of wealth – imply that differences in parental wealth, which are correlated with race, may explain much of the measured black-white wealth gap. Evidence from Charles and Hurst (2001) is consistent with this; they argue specifically that correlated saving preferences explain much of

the positive correlation of intergenerational wealth.[35] Therefore, to the extent that saving preferences are "inherited," family background will have an impact on wealth beyond the wealth effects of direct financial transfers. In contrast, evidence presented by Altonji and Doraszelski (2001) reduces the role that family background plays in explaining the wealth gap relative to other studies. These conflicting results are puzzling; future research reconciling this issue would be valuable.

There are several ways one might extend these results. An underlying assumption of the Altonji and Doraszelski (2001) fixed effect strategy is that parents give equal financial amounts to their children. A number of studies document the fact that inheritances are evenly divided in most cases, and are only weakly related to income when the division is uneven, at least in the United Status in the twentieth century (Menchik, 1980; Wilhelm, 1996). Studies also show that while *inter vivos* transfers among siblings may be negatively related to income, discrepancies in gifts across siblings are still fairly small in magnitude (McGarry and Schoeni, 1995; Altonji, Hayashi, and Kotlikoff, 1996). But studies of the distribution of *inter vivos* transfers between children in the same family suffer from data limitations. They rarely consider the educational investments parents make in children, which presumably influence the trajectories of future earnings. They have a difficult time accounting for the fact that transfers likely disproportionately occur at specific times, such as when people go to college, get married, buy a house, or have children, so if recipients of transfers are at different stages of the life-cycle, it is hard to establish the equality of transfers. Hence, it is not clear that family background can definitively be accounted for by a fixed effect among siblings.

But Conley's work also has limitations. He examines only one regression with a dummy variable reflecting racial differences. As noted earlier, this approach assumes that wealth functions for blacks and whites have the same slope, but differ in levels. Other analyses using regression decompositions suggest that in fact, the black and white wealth functions differ substantially (Altonji and Doraszelski, 2001).[36]

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We conclude that additional work on the role of parental background on black-white wealth inequality would be valuable.

Family Support Networks

Family support networks may also affect wealth accumulation. We offer two opposing possibilities: first, strong family support networks may reduce precautionary saving for some individuals, and therefore result in lower accumulated wealth (though higher consumption and well-being) than those with weaker support networks, all else being equal. A second possibility is that if family support involves provision of household services like child care, transportation, and home maintenance, it might increase the wealth of those with support networks.[37]

Little is known about the effects of family relationships on saving behavior. There is suggestive evidence that households can rely on family members for assistance in times of need (McGarry and Schoeni, 1995; Cox, 1990). Altonji, Hayashi, and Kotlikoff (1997) examine the consequences of reallocating a dollar from parental income to child income. They find that this would only reduce transfers from parents to children by 13 cents, rather than the full dollar predicted by models with complete intergenerational altruism. The literature suggests, therefore, that some families help out financially when households face low income. However, it does not address the more relevant question for our purposes of whether or not strong support networks affect wealth.

Because family members may be able to provide household services at below market cost, well-developed family networks may allow households to *increase* rather than decrease saving. For example, a retired grandparent may offer free child care services; this might simply allow money that would otherwise have been spent on child care to be saved, or more substantially, it might sufficiently increase the marginal benefit to working for parents so that the household will have two earners rather than one. As another example, if family members offer rides to work or assist with home maintenance projects, this allows the beneficiaries of this help to save rather than spend money on transportation or home repairs.

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We are not aware of any evidence regarding the effects of family support, either financial or in-kind, on saving behavior, nor are we aware of evidence regarding the differences between black and white families in the relative strength of family support networks, again either in terms of financial transfers or services. For these channels to have important effects on the racial wealth gap, three things need to be true. First, family support would need to influence saving behavior. Second, there would need to be racial differences in the strength of family support networks. And third, the effects would need to work in specific directions – for example, if networks reduce saving (through a decreased need for precautionary saving), blacks would need to have stronger networks than whites. Exploring these relationships might be an interesting area for additional research.

V. Consumption

Given the portion of the black-white wealth gap that remains unexplained by observable factors, there has been considerable speculation that racial differences in saving rates must be a contributing factor. Blacks do appear to save at lower rates than whites. But empirical evidence suggests that saving rates increase with income and because blacks tend to have lower incomes than whites, it is not clear that apparent racial differences in saving rates are due to fundamental differences in saving behavior. Only one study attempts to account for the way differences in saving rates might contribute to racial wealth inequality. Gittleman and Wolff (2000) suggest that if black households had the same saving rate as whites over the previous 10-year period, the wealth gap would have been smaller by about 11 percent. However, the wealth gap would have narrowed by only 1 percent if saving was made a function of income and the wealth of black households was predicted by substituting the saving *function* estimated on a sample of white households. Their results suggest that there is little difference by race in saving behavior that is independent of income.

It is not surprising that racial differences in saving rates largely disappear once saving rates are allowed to vary with income: the relationship between permanent income and saving rates appears to be quite dramatic. Dynan, Skinner, and Zeldes (2000) estimate saving rates across income levels for 45 to 49 year olds in the U.S. using 3 different data sets: the Consumer Expenditure Survey (CEX), the PSID, and the SCF. They find that estimated savings rates increase from less than 5 percent for the bottom quintile of earnings to more than 40 percent of income for the top 5 percent.[38]

This pattern contradicts the predictions from simple versions of the life cycle model, which imply that consumption (and therefore saving) is proportional to lifetime income. Under some common specifications of preferences, all households will have the same saving rate, regardless of income. However, if time preference rates differ across households, if the rates of interest for households differ, or if preferences are not homothetic (if they change disproportionately as income increases), then models predict that the saving rate likely will differ with income.

Consider the assumption that time preference rates vary by income group or by education. Suppose also that high-income households are more patient (or equivalently, they have a lower time preference rate) so they value consumption tomorrow almost as much as consumption today. As a consequence, these households will save more than otherwise equivalent, less patient households in order to ensure adequate consumption levels in the future. These more patient households will therefore accumulate wealth faster. Similarly, if those with greater educational attainment are more patient, as suggested by their investment in human capital, they will save at a higher rate.

Lawrance (1991) examines the relationship between time preference and income by looking at food consumption expenditures for families between 1974 and 1982. She finds that high-income, highly-educated households have faster growth rates of consumption than do low-income, less educated households. This empirical pattern is consistent with a negative correlation between income and time preference, implying that higher-income households are more patient.[39] Although there are other possible

interpretations, Lawrance argues that differences in time preference are the most reasonable explanation of her results. This result is controversial.[40]

While it is hardly definitive evidence, responses to a qualitative question in the SCFs suggest that household planning horizons, which may be correlated with patience, vary systematically across racial and ethnic groups. The question asks respondents to report how far in advance they (and their partner) tend to plan.[41] An ordered probit regression of the responses to this question suggests that respondents in black and Hispanic households have significantly shorter planning horizons than do other racial and ethnic groups, even after conditioning on education, age, and income.[42]

Families may also differ by levels of risk aversion. Households with a greater degree of risk aversion will save more to prevent low consumption in case of low earnings or a bad medical state than less risk-averse households (all else being equal). Risk aversion could also affect portfolio choices and household rates of return. However, to our knowledge, no empirical evidence exists regarding the relationship between measures of risk aversion and income or wealth.

Those who are more likely to experience low consumption may not want to hold wealth in riskier or less liquid forms. Blau and Graham (1990) argue that blacks' higher unemployment rates (and transitory income) result in their holding assets in a more liquid form, particularly at lower levels of income and wealth. There is also suggestive (but hardly definitive) evidence from the SCF that households may have systematically different preferences for risk, even after conditioning on observable characteristics, and that these preferences may be related to wealth. Respondents are asked to choose between four categories summarizing how much financial risk they are willing to take.[43] Like the planning horizon questions, an ordered probit regression of the responses to this question suggests that respondents in black and Hispanic households have significantly less willingness to take risk than do other racial and ethnic groups, even after conditioning on education, age, and income.[44]

Additional analyses suggest that both "planning horizon" and "willingness to take risk" indicator variables are positively and significantly correlated with net worth in regressions of net worth in both levels and logs.[45] These descriptive results raise a question about why planning horizons, impatience, and willingness to take risk might differ systematically across groups. As previously noted, Charles and Hurst (2001) suggest that saving preferences are in fact correlated across generations, and Lawrance (1991) cites evidence suggesting that "patience" is learned and fixed by adolescence. However, it may also be true that institutional or economic factors explain these differences in preference. One area for future research might be to determine whether these apparent preference differences can be explained by other factors, such as health status, life expectancy, or the presence of a public safety-net, or whether they seem to be genetically inherited or culturally determined.

Assessment

The evidence is clear that high-income households save a greater fraction of their resources than low-income households. This contributes significantly to racial wealth inequality because blacks tend to have lower household incomes than whites. The nonlinear relationship between income and savings suggests that linear regression decompositions may not be the best tool for explaining the wealth gap. As discussed in previous sections, Altonji and Doraszelski (2001) and Barsky, Bound, Charles, and Lupton (2001) have begun to explore less restrictive empirical approaches, but more research is needed in this direction.

A first step for clarifying the degree to which differences in saving patterns can explain black-white wealth differences would be to simulate wealth accumulation of households accounting for differences in savings rates by income level. If it appears that differential saving rates by race, independent of income, are capable of matching patterns in the data, then work would naturally turn toward the more difficult task of determining the underlying explanation for saving rate differences. We think new work examining factors associated with differences in rates of time preference, risk aversion, and perhaps other factors

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related to preferences (such as time inconsistency) might help us better understand black-white differences in wealth, as well as contribute to a more fundamental understanding of economic behavior.

VI. Health

There is a well-documented positive correlation between good health and wealth (Smith, 1999a). Evidence also suggests that blacks and Hispanics tend to have poorer health than whites (Smith, 1995). While we would like to know to what extent poor health contributes to racial wealth inequality, no estimates quantify the contribution of differences in health status to the racial wealth gap. Consequently, in this section we simply discuss the potential relationships between health, wealth, and race.

It is possible that health does not affect wealth at all. The documented correlation may reflect the fact that good health follows from high income and wealth. The wealthy presumably have more resources, enabling them to lead a healthy lifestyle, engage in preventive care, and to treat medical conditions. However, there are several possible ways in which the causation between health and wealth could work in the opposite direction. For example, a shorter expected life span associated with poor health would reduce the need for savings in retirement, which would imply lower lifetime wealth accumulation.[46] Poor health might negatively affect income, either through lower wages or because unhealthy individuals may be unemployed more frequently. A third potential mechanism is that those in poor health may change their saving behavior. They may have a stronger precautionary motive for saving to pay for anticipated medical treatment or to maintain consumption in case of unemployment, among other things. Alternatively, if poor health involves a high cost of care and treatment, it may instead reduce saving.

Smith (1999a) provides evidence on some of these relationships. He finds that negative health shocks lead to a sizable reduction in saving. This is partly due to out-of-pocket medical expenses; lowered life expectancy and reduced earnings also contribute. This evidence suggests that good health is

not simply a by-product of wealth. Furthermore, any precautionary saving motive, if it exists, appears to be offset by higher out-of-pocket medical expenses for those in poor health.

These results do not offer any explanation for why whites tend to be in better health than blacks or Hispanics. New theories focus on the impact on health of early childhood factors, long-term stress, or income inequality. Differences in these factors by race and ethnicity could contribute to differences in health status, which could in turn affect wealth, but additional research is needed.[47]

Assessment

The strong correlations between health and wealth and between race and health suggest that differences in health status may have an important influence on wealth inequality. These relationships clearly need to be better understood, but the task will be difficult. A central impediment to making further progress is identifying plausible exogenous variation in health that can inform evidence on the direction of causality in the relationship between health and wealth.

VII. Rates of Return

Differences in rates of return on saving or on existing assets can contribute to wealth inequality. Families make different portfolio choices for a variety of reasons related to risk aversion, information, and the need for liquid assets, among other factors. With different investment choices, the overall rate of return for some households will be lower than for others. Existing evidence indicates that portfolio choices are probably more significant than asset-specific rates of return in understanding black-white wealth gaps. Although we will deal with portfolio choices and asset-specific rates of return separately below, together they determine the household's overall return on investments.[48]

Rates of Return: Housing and Credit Markets

Available evidence suggests that differences in asset-specific rates of return are not responsible for the observed racial wealth gap. Put differently, black households appear to receive the same rates of

return on their equity, housing, and other investments as do white households. Gittleman and Wolff

(2000) calculate what black wealth would have been in 1994 had black households earned the rates of

return on assets that whites did during the previous ten-year period, using household data from the PSID.

They find that the black-white wealth ratio would in fact have been 2 to 3 percentage points *lower*, or the

wealth gap would have been wider by 3 to 4 percent. According to their analysis, blacks actually earned a

higher rate of return on capital than did whites from 1984 to 1994: 41 percent compared with 32 percent.

Home prices increased faster for blacks than for whites, as did business equity, stocks, and real estate.

There remain striking black-white differences in housing. While housing is the largest component of

wealth for most families, blacks are less likely to be homeowners, and homes of black families tend to be

less valuable than homes of whites, even after conditioning on housing unit characteristics (Long and

Caudill, 1992). Long and Caudill (1992) conclude that housing market discrimination is not important

for homeownership, but there may be subtle forms of discrimination that restrict the sizes, locations, and

types of houses available to blacks, leading to lower-valued homes. Charles and Hurst (2000) show that

blacks are less likely to apply for mortgages, perhaps because they expect to be rejected for a loan. They,

in fact, find that blacks are almost twice as likely as whites to be rejected for a mortgage. However,

conditional on a loan being granted, the terms of the mortgage appear to be the same.

There may also be racial differences in access to credit markets. According to data from the SCF,

blacks and Hispanics are more likely to be turned down for credit: 31 percent of Hispanics and 36 percent

of black families have been turned down for credit or discouraged from borrowing in the last five years

(from the time of the surveys), while only 14 percent of whites have been turned down for credit or

discouraged from borrowing.[49]

If credit is less available to blacks, this might affect the likelihood of becoming self-employed.

Again, there are large black-white differences in self-employment (see Fairlie and Meyer, 2000), and self-

employment is positively correlated with wealth. Menchik and Jianakoplos (1997) suggest that

differences in self-employment can account for 7 and 12 percent of the wealth gap of married and single households in the NLS, respectively. In the 1989 SCF, differences in self-employment account for 24 and 8 percent of the wealth gap of married and single households, respectively.

Rates of Return: Portfolio Choices

Households hold many types of assets, including stocks, bonds, mutual funds, housing equity, other real estate, annuities, saving and checking accounts, money market funds, certificates of deposit, and business equity. Because these may produce different rates of return, systematic differences in household portfolio choices by race could lead to different overall rates of return and therefore different rates of wealth accumulation.

Three striking differences in portfolio choices have been documented in the literature. First, although whites are more likely to be homeowners, housing equity makes up a much greater share of wealth for blacks. According to Gittleman and Wolff (2000), between 63 and 66 percent of whites own a home in the three years of the PSID wealth supplement, compared with 37 to 38 percent of blacks. Housing equity accounts for 31 to 35 percent of white wealth, compared with 53 to 64 percent of black wealth.[50] Second, whites are much more likely than blacks to own stock. According to Hurst, Luoh, and Stafford (1998), 8.3 percent of black "stable households" owned stock in 1989; this increased to 14.3 percent in 1994.[51] In comparison, 36.0 percent of stable white households owned stock in 1989; this increased to 44.8 percent in 1994. Third, blacks are much less likely than whites to own simple bank accounts. Again from Hurst, Luoh, and Stafford, in 1989 52.4 percent of black families held a bank account, compared with 88.5 percent of white families; these numbers fell in 1994 to 45.4 percent and 85.3 percent, respectively.

As with asset-specific rates of return, only Gittleman and Wolff (2000) estimate the contribution of portfolio choices to the wealth gap. Their simulations suggest that substituting average white portfolio choices would have reduced the racial wealth gap in 1994 by between 7 and 11 percent. This is mostly

due to differences in stock ownership: white households own stock at a much higher rate.   Of course, the estimated effect would likely be larger if the data reflected the extremely strong stock market performance in the second half of the 1990s.

Hurst, Luoh, and Stafford (1998) find that stock ownership is a strong predictor of wealth and differs greatly by race. Although they do not present their results in terms of the wealth gap, rough calculations using their results suggest that differences in the likelihood of stock ownership may account for 11 to 14 percent of the wealth gap.

Assessment

Evidence from these studies suggests that differences in portfolio composition are an important determinant of the racial wealth gap, with estimates ranging between 7 and 14 percent. These results leave an important question unanswered: what explains differences in portfolio choices? Perhaps they can be fully explained by black-white differences in income. Perhaps family support networks allow risk-sharing or encourage riskier behavior. Perhaps greater uncertainty about household stability, future employment, or future earnings causes some households to keep a higher percentage of their wealth in liquid assets. Perhaps lack of experience or knowledge about financial institutions limits portfolio choices. Or perhaps there are cultural differences in risk aversion. Further research is needed to uncover the forces behind racial differences in portfolio composition. Conditional on holding specific assets, there is little evidence that there are systematic differences in rates of return across racial and ethnic groups.

VIII. Government Programs

Means-tested government assistance programs typically have asset limits as part of eligibility requirements. These asset limits provide a direct incentive against asset accumulation. Since these types of programs are targeted toward the poor and income is correlated with race, these programs may have a differential effect by race on wealth accumulation.

If households are forward-looking, asset tests may be salient for any household expecting to draw benefits from the program in the future. Put differently, the existence of means-tested transfers with asset tests may inhibit precautionary saving among all families who think there is a positive probability of receiving program benefits in the future. In this sense, government programs may result in different saving rates between rich and poor families.

Hubbard, Skinner, and Zeldes (1995) construct a sophisticated life-cycle simulation model that predicts, in the absence of asset testing, that low-income families would save considerably more than they actually do. They are able to closely match wealth-income ratios observed in the PSID by including stylized means-tested transfer programs in their model. Their results suggest that the presence of these government programs may indeed contribute to differences in saving behavior between high- and low-income families.

Gruber and Yelowitz (1999) find that among the eligible population, Medicaid lowered wealth holdings by between $1,293 and $1,645 in 1993, and the expansions in Medicaid from 1984 to 1993 lowered wealth holdings by about 7.2 percent. Neumark and Powers (2000) find mixed evidence that SSI affects wealth and saving, but conclude that SSI reduces the saving of men nearing retirement. Powers (1998) finds modest, negative effects on wealth accumulation of AFDC asset tests.

Ziliak (2001) suggests that government transfers have small but discernible negative effects on liquid asset accumulation. Hurst and Ziliak (2001) find consistent results, and show that a policy that increased program asset limits would have, at best, a modest positive effect on savings, since it appears that most families eligible for welfare are not facing binding asset constraints. These results suggest that in the aggregate, wealth accumulation is not substantially affected by the asset limits and that asset-tested programs are unlikely to have a large impact on the racial wealth gap.

Assessment

The existing evidence, though somewhat sparse, suggests that the effects of antipoverty program asset tests are not large and only a small percentage of the population is affected. In the absence of more evidence, we conclude that public assistance programs do not contribute significantly to racial wealth inequality.

IX. Conclusions

Figures X.4 and X.5 summarize existing empirical work examining black-white wealth inequality. Figure X.4 presents those studies that have, through a number of different methods, estimated the extent to which racial differences in income and demographic variables contribute to the measured gap in average wealth between black and white households. Figure X.5 presents results from studies that measure how other factors affect the racial wealth gap. These fall in one of three areas: family background or transfers, consumption and savings behavior, and household rates of return.

Figure X.4 here

Figure X.5 here

Figures X.4 and X.5 suggest that differences in income and demographic characteristics are the most important factors explaining black-white wealth differentials. Transfers and family background also appear important. Portfolio choices may play a modest role, particularly due to differences in stock ownership. Finally, the evidence thus far, though scant, suggests that savings behavior, while related to income, is not otherwise strongly related to race and therefore does not contribute significantly to the black-white wealth gap.

The majority of these results are based on regression decompositions that estimate the contribution of various factors. There is clearly no consensus in the literature, except perhaps that differences in income and demographic characteristics explain much of the wealth gap. We believe that there are several methodological considerations that could help resolve some of the wide variation in estimates. Six are discussed below.

First, it would be useful to further investigate the implications of the fact that whites and blacks do not share similar income distributions and that they may differ by other characteristics that are associated with wealth accumulation. As noted by Altonji and Doraszelski (2001) and Barsky, Bound, Charles, and Lupton (2001), this may bias regression decomposition estimates of the importance of certain factors in explaining the wealth gap. In particular, this may explain the common finding that more of the wealth gap can be accounted for when using white coefficients to predict black wealth than when using black coefficients to predict white wealth. The two papers mentioned above come to different conclusions about the relevance of this problem, however.

Altonji and Doraszelski (2001) address this problem by comparing their full sample results to those obtained by performing regression decompositions on subsamples of whites and blacks that have similar income and demographic characteristics; the results do not change, implying that the lack of overlapping characteristics does not explain the difference in black and white wealth functions. Barsky *et al*. (2001) conclude the opposite, showing that regression decomposition estimates using white coefficients to predict black wealth overestimates the contribution of earnings to the wealth gap, and using black coefficients to predict white wealth should underestimate the contribution of earnings. A limitation of the Barsky *et al.* analysis is that it only considers earnings, while Altonji and Doraszelski's analysis conditions on many demographic control variables.

Second, studies might benefit from a more systematic examination of demographic variables. The specifications summarized in Figures 4 and 5 are inconsistent in their inclusion or exclusion of various factors, which likely contributes to the variation in estimates. Figures 4 and 5, for example, show that the regression decompositions consistently do a better job of explaining the wealth gap for singles than for married couples. This suggests that understanding how marital status interrelates with wealth accumulation might be useful for better understanding wealth inequality.

Third, while regression decomposition of the *mean* wealth gap (the most common approach) is informative, other approaches illuminating factors influencing wealth accumulation at the tails of the wealth distribution would also be valuable. For example, although regression decomposition suggests that intergenerational transfers contribute to the mean wealth gap, much of the effect presumably takes place at the upper end of the wealth distribution, and these transfers do not affect the wealth of typical black and white households.

Fourth, a major issue in this literature is to determine to what extent family background and intergenerational transfers contribute to black-white wealth inequality. There is evidence that transfers matter, but there are several other ways that families can affect wealth. Families may teach or pass on saving preferences and behavior; family support networks may either decrease or increase saving depending on the nature of the support; families may affect the rate of return of households by influencing portfolio choices, perhaps because of risk-sharing or by creating exposure to certain types of assets. Altonji and Doraszelski (2001), Conley (1999), and Charles and Hurst (2002) have somewhat different views on the importance of these factors.

Fifth, another unanswered question is whether or not saving rates differ by race after controlling for income. Gittleman and Wolff (2000) suggest that most, if not all, of the observed difference in saving rates can be accounted for by differences in income. Their results suggest that after controlling for income, the saving rate for blacks may be slightly lower than for whites; according to their simulations, this difference over a ten-year period accounted for only about 1 percent of the racial wealth gap. There is little other empirical evidence comparing saving rates by race, yet many factors, some of which are known to differ by race, may influence saving behavior. These include government transfer programs, family support networks, health, risk aversion, bequest motives, and time preferences. We think a fruitful area for future research would be to examine whether or not saving behavior varies by race after controlling for income. If no evidence of differences in saving behavior by race is found, then

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mechanisms affecting saving behavior can be ruled out as a possible suspect for contributing to the racial wealth gap. If, however, a relationship between saving behavior and race is found, then these individual elements could be explored further.

Sixth, the underlying reasons for apparent differences in portfolio choices by race are not well understood. Differences in stock ownership and self-employment in particular, both of which are less likely to occur among blacks, appear to have a moderate impact on wealth inequality. Determining whether these differences are institutional or cultural would be worth investigating, particularly because this distinction may be relevant for policy making.

To address the six points above, it will continue to be important to have data sets with sample sizes or sampling frames that include a large number of very high-wealth households. The SCFs are essential for this reason.

Further research progress on the six issues discussed above will provide a better understanding of racial wealth inequality, which is an important starting point for understanding the evolution of wealth inequality more generally. The persistence of the black-white wealth gap, and the fact that a significant portion may be unexplained, is a puzzle that, once solved, should give us a clearer picture of the mechanisms determining wealth accumulation patterns of all households.

The literature surveyed in this paper points to the importance of particular factors in predicting wealth and wealth inequality more generally. There is a consensus that labor income accounts for the majority of the racial wealth gap, which suggests that wealth inequality in the population is likely to be strongly related to inequality in labor income. In fact, it appears that over the long run, trends in wealth inequality have mirrored changes in income inequality, with both increasing fairly steadily over the last 40 years (Scholz and Joulfaian, 2003). We can also expect similar though perhaps weaker effects from other factors; for example, if the size and frequency of inheritances and gifts become more (less) similar across the population, we would expect measured wealth inequality to diminish (increase).

As this survey has suggested, more could usefully be learned to better understand the evolution of wealth inequality in the United States, and how it affects households across different demographic groups. We close by briefly raising two additional, important issues that will be the subject of additional future work. First, how can empirical work convincingly examine the societal or individual consequences of striking wealth inequality? There are many potential channels. It may lead to differential access to the political process and other civic institutions. It may lead to unequal opportunities for young children. It may affect the elderly's living standards. And it may contribute to wealth inequality in the next generation. Second, how effective is public policy in altering patterns of wealth? Many policies attempt to increase wealth, ranging from individual development accounts (IDAs) targeted on low-income families to tax incentives for saving and pensions.[52] Yet there is considerable controversy over the efficacy of these policies. Resolving these debates will have important implications for the future direction of policy as it relates to wealth.

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[1] See http://www.federalreserve.gov/pubs/oss/oss2/papers/wdist98.pdf.

[2] See http://www.census.gov/hhes/income/histinc/h02.html.

[3] See, for example, Banks, Blundell and Tanner (1998) and Bernheim, Skinner and Weinberg (2001). For a different view, see Engen, Gale and Uccello (1999).

[4] There are several data sets that have supported and will continue to support useful analyses related to wealth that do not depend on accurate representations of wealth holdings at the top of the wealth distribution. These include the Panel Study of Income Dynamics (PSID), which has special wealth supplements in 1984, 1989, 1994 and 1999; the Survey of Income and Program Participation, which includes periodic wealth "topical modules"; the Consumer Expenditure Survey, which contains a small set of wealth questions; and the National Longitudinal Surveys, which also contain a small set of wealth questions. Juster, Smith, and Stafford (1999) report that the wealth data in the PSID are quite comparable to those in the Surveys of Consumer Finances, except in the top 5 percent of the wealth distribution.

[5] The developers of the data warn that the 1983 SCF is different from the surveys beginning in 1989, and these differences might make it inappropriate to use for cross-year comparisons. The 1986 SCF was a telephone followup to the 1983 survey and is generally thought to be less accurate than the 1983 and 1989 and subsequent surveys.

[6] The Gini coefficients range from 0.781 to 0.794. Perfect equality would result in a Gini of 0, perfect inequality would result in a Gini of 1.

[7] The Flow of Funds is published by the Federal Reserve Board and offers national balance sheet totals; it may therefore be used as a benchmark.

[8] For example, stocks and bonds are scaled by a factor of 1.23 in the 1995 SCF.

[9] Antoniewicz (1996) provides three reasons why it is difficult to accept Wolff's adjustments. First, the household sector in the FoF is computed as a residual, so it does not provide an unassailable benchmark. Second, it is difficult to match asset and liability categories in the SCFs and FoFs. Third, the household sector in the FoFs includes nonprofit institutions, so the FoF benchmark needs to be adjusted to account for this discrepancy. Given this reading of Antoniewicz's work, Wolff's adjustments do not seem compelling. Even if some change is needed, proportional adjustments implicitly assume there is uniform underreporting (in percentages) of the adjusted items. There is clearly no reason to believe misreporting takes this particular pattern. Also see Kennickell (1998) for a additional discussion.

[10] In 1989, the creators of the SCFs began providing five separate imputed values for each missing variable. They also selected 999 sample replicates from the final data in a way that allows users to capture important dimensions of sample variation. Accounting fully for imputation and sampling variation generally increases standard errors when working with wealth data. (This observation arises from Scholz's experience with these issues drawn from his work on Bernheim, Lemke and Scholz, 2001.) This is likely to be a particularly important concern at the extremes of the wealth distribution and for subpopulations, such as disaggregated statistics by race or ethnicity.

[11] The data are a pooled sample of the Surveys of Consumer Finances from 1989, 1992, 1995 and 1998. Dollar amounts are in constant 1998 dollars and the observations are weighted. Net worth is a comprehensive measure that includes housing assets less liabilities, business assets less liabilities, checking and saving accounts, stocks, bonds, mutual funds, retirement accounts, certificates of deposits, whole life insurance and other assets less credit card debt, and other liabilities. It excludes defined benefit pension wealth, defined contribution pension wealth held outside 401(k)s, social security, consumer durables and future earnings. This concept of wealth is similar to those used by other studies discussed in this survey, although definitions of wealth sometimes vary slightly.

[12] Economists typically think of households maximizing utility over time, where lifetime utility equals the discounted, additively separable stream of within-period utility (discounted by the factor δ), which in turn depends on consumption (i.e., $V(C) = \sum_{t=0}^{T} \delta^{\,t} u(C_t)$). Consumers are constrained by lifetime resources.

A simple representation of the household's budget constraint is $A_{t+1} = (1+r_t)(A_t + Y_t - C_t)$, where A_0 is initial assets, Y_t is income, C_t is consumption and r_t is the rate of return on assets.

The solution to this intertemporal consumption problem, which maximizes well-being subject to lifetime resource constraints, is to equate the discounted value of the marginal utility of consumption across time. Saving in each period is the difference between income (defined to include revaluations of existing assets) and consumption. The discounted value of past and current saving across families is equal to the stock of wealth at any given time. The simple model provides an abstract representation of a wide range of economic and sociological phenomena influencing wealth and its evolution.

[13] Oliver and Shapiro (1995) and Conley (1999) develop far-reaching sociological analyses of racial wealth inequality, but we focus on their empirical analyses of black-white wealth differentials.

[14] The skewed wealth distribution has led some researchers to examine the log rather than the level of wealth; some also estimate median or quantile regressions in addition to mean regressions.

[15] See, for example, Altonji and Doraszelski (2001), who find across several specifications that wealth is more weakly related to income and demographics among blacks than among whites.

[16] Studies in this group include Blau and Graham (1990); Menchik and Jianakoplos (1997); Avery and Rendall (1997); Gittleman and Wolff (2000); and Altonji and Doraszelski (2001).

[17] Barsky *et al.* (2001) focus only on income, so their study differs from the more comprehensive attempts to examine black-white wealth inequality. Their approach can be extended to multivariate analysis, which would be a worthwhile undertaking.

[18] Gittleman and Wolff (2000) report results from a standard regression decomposition as well.

[19] Regression decomposition estimates using white coefficients include Altonji and Doraszelski (2001), 5 to 120 percent; Gittleman and Wolff (2000), 77 to 81 percent; Blau and Graham (1990), 74 to 97 percent; Oliver and Shapiro (1995), 58 percent; and Avery and Rendall (1997), 23 to 30 percent. Estimates using black coefficients include Altonji and Doraszelski (2001), 12 to 84 percent; Gittleman and Wolff (2000), 28 to 33 percent; and Blau and Graham (1990), 22 percent; and Oliver and Shapiro (1995), 29 percent. Regression decomposition estimates where the results from using white and black coefficients are averaged include Menchik and Jianakoplos (1997), 44 to 93 percent. Estimates using linear regression include Hurst *et al.* (1998), 100 percent; and Smith (1995), 63 to 67 percent. Barsky *et al.* (2001) find that income accounts for 64 percent of the black-white wealth gap.

[20] Because of the nonlinear relationship between income and wealth, and because the white earnings distribution extends further to the right than the black earnings distribution, linear estimates of white wealth as a function of income will be much steeper than linear estimates of black wealth. Using these linear estimates will overestimate the black-white wealth gap at the upper end of the income distribution and therefore will also overestimate the contribution of earnings to the wealth gap. Including a quadratic income term to take into account the nonlinear relationship between income and wealth should improve the estimate, but will continue to overstate the fraction of the wealth gap attributable to differences in income.

[21] These include Menchik and Jianakoplos (1997), Avery and Rendall (1997), and Gittleman and Wolff (2000).

[22] The range of estimates for income ignores the Avery and Rendall estimate of 6.3 percent, which applies to households 55 years and older.

[23] Menchik and Jianakoplos (1997) find mostly small, negative, but insignificant coefficients on number of children. In contrast, Blau and Graham (1990) find that wealth is positively related to number of children in the household.

[24] Back-of-the-envelope calculations using 1998 SCF data suggest that inheritances and gifts may account for a relatively small percentage of the racial gap in mean wealth. Mean net worth of white households in 1998 is $332,979; mean current wealth of black and Hispanic households is $68,473. Mean inheritance amounts received by white and black households are $30,345 and $8,248, respectively, when the value of inheritances is grossed up by a 5 percent nominal rate from the date of receipt. The gap in mean inheritance amounts is $22,097, which is 8.4 percent of the difference in mean wealth amounts, $264,506.

[25] Fewer than half of all households in the SCF pooled sample report having received an inheritance. Therefore, the median inheritance amount for both whites and blacks is zero.

[26] Smith (1999b) concludes, however, that "financial inheritances appear not to be quantitatively important in explaining wealth levels of wealth changes" (page 7) based on his analysis of data from the PSID.

[27] Housing can be considered a high-return investment because of the substantial tax preferences accorded to owner-occupied housing.

[28] Menchik and Jianakoplos (1997) also present estimates from the 1976 NLS, where the contribution of inheritances is only 2.2 percent of the wealth gap for married couples. The SCF estimates are likely to be more reliable as they are based on reported inheritances received rather than predicted inheritance amounts, which are used in the NLS estimates. Furthermore, the SCF is more recent and is likely to have better information on wealth.

[29] Avery and Rendall (1997) examine mean regression decompositions using the 1989 SCF, but their dependent variable is log of noninherited wealth rather than level of current wealth. Using coefficients

estimated on a white sample to predict black wealth, they find that for 25-54 year olds, received

inheritances account for 21.8 percent of the racial wealth gap and for 55+ year olds, received inheritance

accounts for 24.0 percent. These analyses account for earnings, age, marital status, and education.

Because coefficients estimated from a white sample tend to explain a larger fraction of the wealth gap

than the reverse, the results from Menchik and Jianakoplos, which are averages, appear to be consistent

with the Avery and Rendall results.

[30] Here we ignore the estimates from the NLS provided by Menchik and Jianakoplos (1997), as they are

based on predicted rather than actual inheritances, and they do not seem consistent with other studies.

[31] These percentages are based on weighted responses. Of the remaining respondents, 1.2 percent did not

respond or did not know and 3.7 percent disagreed with their spouse so an answer was not coded.

[32] Those who believe leaving an estate is "somewhat important" accumulate $56,000 more wealth than

those who believe leaving a bequest is not important. For the median household, the differentials are

much less, at $12,000 and $9,000. These results are all statistically significant at conventional levels.

[33] Although their analysis was designed to test the importance of intergenerational transfers, the fixed

effects should control for *all* time-invariant unobservable aspects of family behavior. These include

learned saving preferences and behavior, experience with financial institutions or types of assets, and

potential risk-sharing.

[34] Additional evidence from the PSID 1996 supplement supports the possibility that saving preferences

are correlated across generations. Charles and Hurst (2001) find that preferences for risk aversion are

similar between parents and children, particularly at the tails of the risk aversion distribution.

[35] Charles and Hurst (2001) also find that several other factors account for the intergenerational

correlation of wealth, such as correlation of income between parent and child, family risk-sharing, and

received and expected bequests.   However, these factors are all addressed in the literature and discussed in other sections of this paper.

[36] Altonji and Doraszelski (2001) also note that Conley excludes permanent income measures for adult children; his sample size is small; he does not control for family-specific effects; his sample may be questionable given the fact that he reports similar percentages of self-employed blacks and whites; and his standard errors are large.

[37] Strong family support networks may also increase wealth by encouraging individuals to engage in riskier behavior or by enabling them to make certain investments, such as buying a home. Portfolio choices such as these are discussed in Section VII.

[38] Smith (1999b) also raises the possibility that increasing income inequality, coupled with the fact the high-income households save more than low-income households, could significantly increase wealth inequality. He concludes, however, that this is unlikely to be the most important factor in explaining the evolution of wealth inequality in recent decades.

[39] Lawrance estimates Euler equations (equations governing the choice of consumption over time) derived from the utility function $V_{it} = E_t \left[\sum_{s=t}^{N} (1+\rho_i)^{t-s} U(C_{is}) \right]$. From this process she is able to estimate the time preference parameter ρ for different groups of households. According to one set of estimates, the time preference parameter for white, college-educated families in the top 5 percent of the labor income distribution is 0.10, compared with 0.19 percent for nonwhite families without a college education whose labor incomes are in the bottom fifth percentile (Table 3). These suggest large differences in the "patience" of each group of households, where patience is defined as the extent to which households prefer to consume today rather than save in order to consume more in the future. A time preference of 0.10 implies that the value of consumption decreases by 90.9 percent each year into the future, while a value of 0.19 implies a decrease in the value of consumption of 84.0 percent each year. This means, for

example, that households with a time preference of 0.19 will value consumption five years in the future at 41.8 percent of the same amount of consumption today; for households with a time preference rate of 0.10, this figure is 62.1 percent. Although other sets of Lawrance's estimates are smaller, such as those using the passbook savings rate rather than the Treasury bill interest rate to estimate the Euler equations, she finds that having high income, a college education, and being white are all consistently associated with lower rates of time preference.

[40] Dynan (1993) questions Lawrance's result, suggesting that the faster growth of consumption among higher income households was due to favorable wealth shocks not received by lower income households. Dynan, Skinner, and Zeldes (2000) develop a sophisticated life-cycle simulation model and conclude that different time preference rates for low- and high-income households cannot properly account for observed savings patterns. Their simulations indicate that if high income households have lower time preference rates, these households will save more than their low income counterparts when young, but will dissave more than low income households when old; this is inconsistent with the empirical findings, which show that saving rates increase with income, even among the elderly.

[41] The question reads, "In planning your family's saving and spending, which of the time periods listed on this page is most important to you and [if appropriate] your (spouse/partner)?" Potential responses include "next few months," "next year," "next few years," "next 5 to 10 years," and "longer than 10 years."

[42] Controls include indicator variables for high school completion, some college, college degree and post-college training, five-year age intervals, income quintile, and survey year.

[43] Specifically, the SCFs ask the following question: "Which of the statements on this page comes closest to the amount of financial risk that you and your (spouse/partner) are willing to take when you save or make investments?" The four possible answers are as follows: "take substantial financial risks expecting

to earn substantial returns," "take above average financial risks expecting to earn above average returns," "take average financial risks expecting to earn average returns," and "not willing to take any financial risks."

[44] The regressions include indicator variables for high school completion, some college, college degree and post-college training, five-year age intervals, income quintile, and survey year.

[45] We use an inverse hyperbolic sine transformation of net worth when looking at the log specification. This transformation allows us to account in a reasonable way for the fact that some SCF households have negative net worth. These analyses also confirm that, as expected, being black or Hispanic is negatively correlated with net worth after including the appropriate controls.

[46] Blacks have shorter life expectancies than whites. For example, at age 20, white men are expected to live an additional 55.5 years, compared with 49.5 years for black men. Life expectancies for white and black women at age 20 are 60.8 years and 56.2 years, respectively (Anderson, 2001).

[47] Studies, for example, document differences in race and ethnicity in the use of long-term care and home health care, with black families making less use of nursing homes and skilled nursing facilities (Cagney and Agree, 1999; and Wallace *et al.*, 1998). It is not yet clear whether racial differences in wealth and income can account for these patterns.

[48] One study estimates the combined effect of asset-specific rates of return and portfolio choices on the wealth gap: Menchik and Jianakoplos (1997), using data from the 1976 NLS, suggest racial differences in the after-tax household rate of return account for 1 percent of the wealth gap for married households and 8 percent of the wealth gap for single households. These results average the results using white and black coefficients.

[49] It is possible that these results simply indicate that blacks are more likely to apply for loans that exceed their ability to repay. So they are only suggestive of the possibility there is differential access to credit markets based on race.

[50] Long and Caudill (1992) find a much smaller differential in rates of homeownership using the 1986 Current Population Survey; however they restrict their sample to married households with the head over age twenty. Home ownership rates for black households and white households are 63.2 and 78.5 percent, respectively.

[51] Stable households are those in which the head of household remained the same in the relevant time period: in this instance, between 1989 and 1994.

[52] Wolff (2002) provides a different perspective on the role of policy. He suggests that while wealth appeared to become more unequal in the United States during the 1980s, when Ronald Reagan was president, wealth also appeared to get more unequal in Sweden during a time when the government was (mainly) controlled by Social Democrats. In contrast, wealth appeared to become less unequal in the United Kingdom when Margaret Thatcher was the leader. Wolff concludes that "... the differences in public policy alone cannot account for these trends in wealth distribution" (page 12).

Table X.1. Proportion of Total Net Worth Held by Different Percentile Groups: 1989, 1992, 1995, and 1998 Surveys of Consumer Finances

| Survey Year | Percentile of the Net Worth Distribution | | | |
	0 to 89.9	90 to 99	99 to 99.5	99.5 to 100
1989	32.7	37.1	7.3	22.9
	(3.1)	(3.5)	(1.2)	(2.8)
1992	33.0	36.9	7.5	22.6
	(1.7)	(1.9)	(0.5)	(1.4)
1995	32.2	33.1	7.6	27.1
	(1.8)	(1.4)	(0.7)	(2.0)
1998	31.3	34.7	8.2	25.8
	(1.7)	(1.7)	(0.5)	(1.8)

Standard errors due to imputation and sampling are given in parentheses
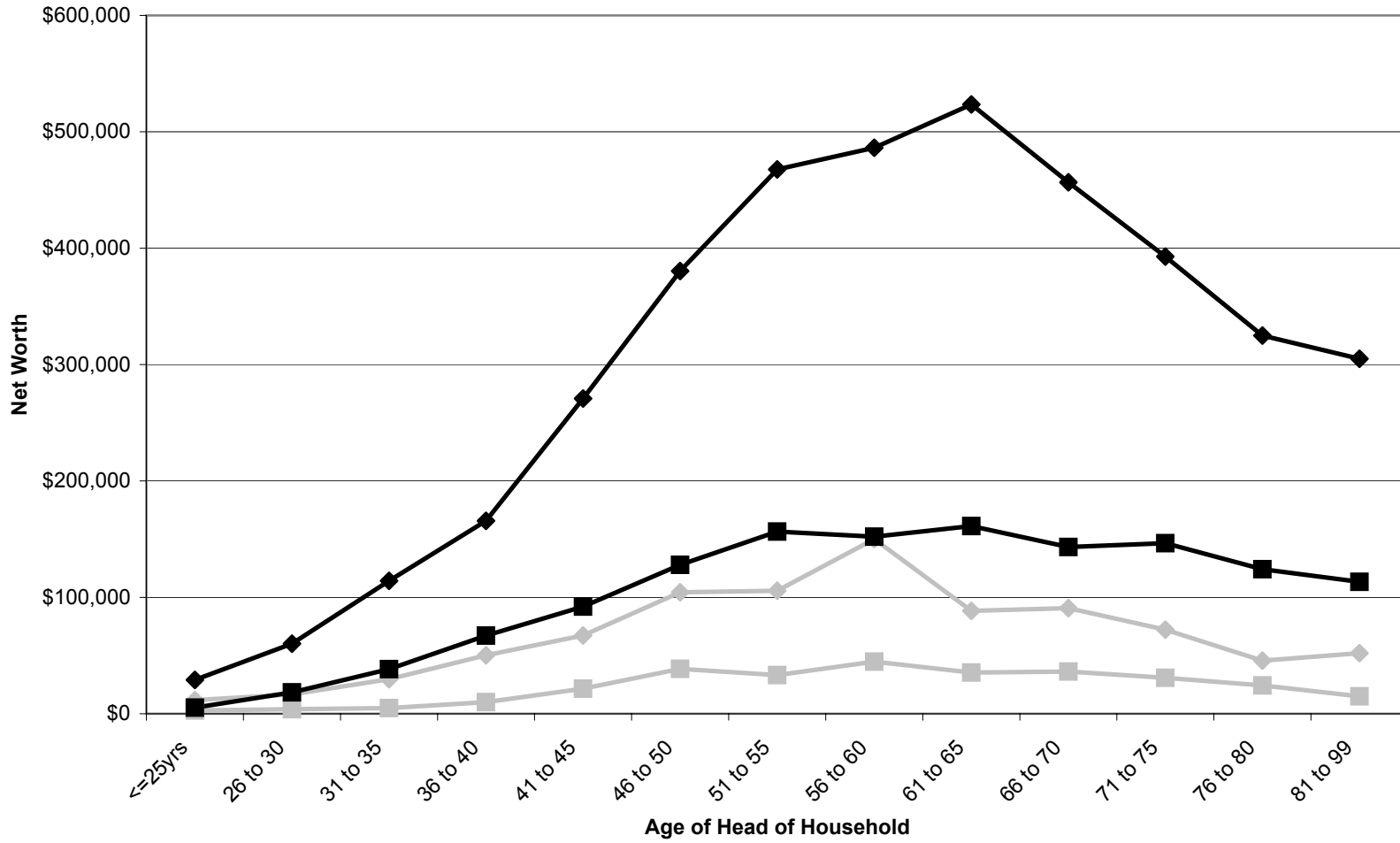Source: Kennickell (2000), Table 5.

Table X.2. Summary of Studies Analyzing the Black-White Wealth Gap

Author(s) and Year	Data	Age cohort	Estimation type	Dependent variable	Independent variables	Estimate separately for married couples & singles?
Smith (1995)	Health and Retirement Study, Wave 1, 1992	51-61	Linear mean and median regression	Level wealth	Family income quintile, health status, education, financial horizon, subjective probability of living until age 75, labor force status, region, pension indicator, expectations regarding salary, bequest preferences, received inheritance dummy, inheritance amount, black, Hispanic.	No
Oliver and Shapiro (1995)	Survey of Income and Program Participation	All	Linear mean regression	Level wealth	Race dummy, residence in south, education, age, work experience, upper-white collar dummy (includes self-employed), number of workers in household, household income, male, children, widow dummy.	No
Hurst, Luoh, and Stafford (1998)	PSID wealth supplements: 1984, 1989, 1994	All	Linear mean and median regression	Level wealth	Permanent income, African American dummy, age of head, education of head, married dummy, number of children, male, holding stock dummy, region.	No
Conley (1999)	PSID 1992 to 1994	18-30	Linear mean regression	Log wealth	Respondent characteristics: Race, female, age, number of siblings, education, income in 1992; parental characteristics: age, number of years household was female-headed 1980-84, welfare receipt in 1984, education of head, occupational prestige of head, permanent income, indicator for positive wealth in 1984, net worth, primary residence equity, business equity, other illiquid assets, liquid assets.	No
Blau and Graham (1990)	1976 and 1978 National Longitudinal Survey of Young Men and Young Women	24-34	Regression decomposition (linear mean regression)	Level wealth	Permanent income, transitory income, age of head, dummy if the head is a single woman, number of children, dummy if residence is in the central city, dummy if residence is in SMSA outside of the central city, dummy if residence is in the south, and number of weeks worked by wife.	Yes
Avery and Rendall (1997)	Survey of Consumer Finances, 1989	25+	Regression decomposition (linear mean regression)	Log non-inherited wealth	Age, education, military service, health, number of children, number of siblings, current earnings (or social security pension income for older households), received inheritances.	No

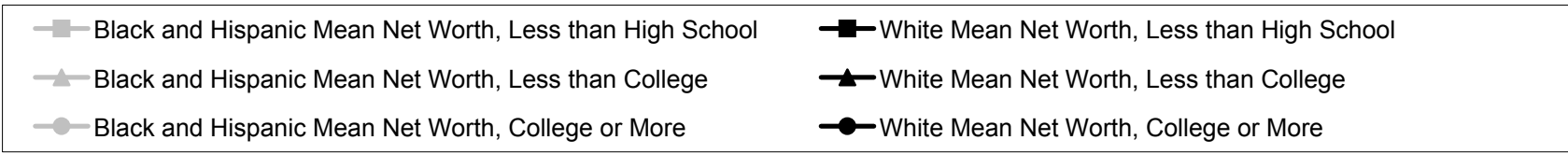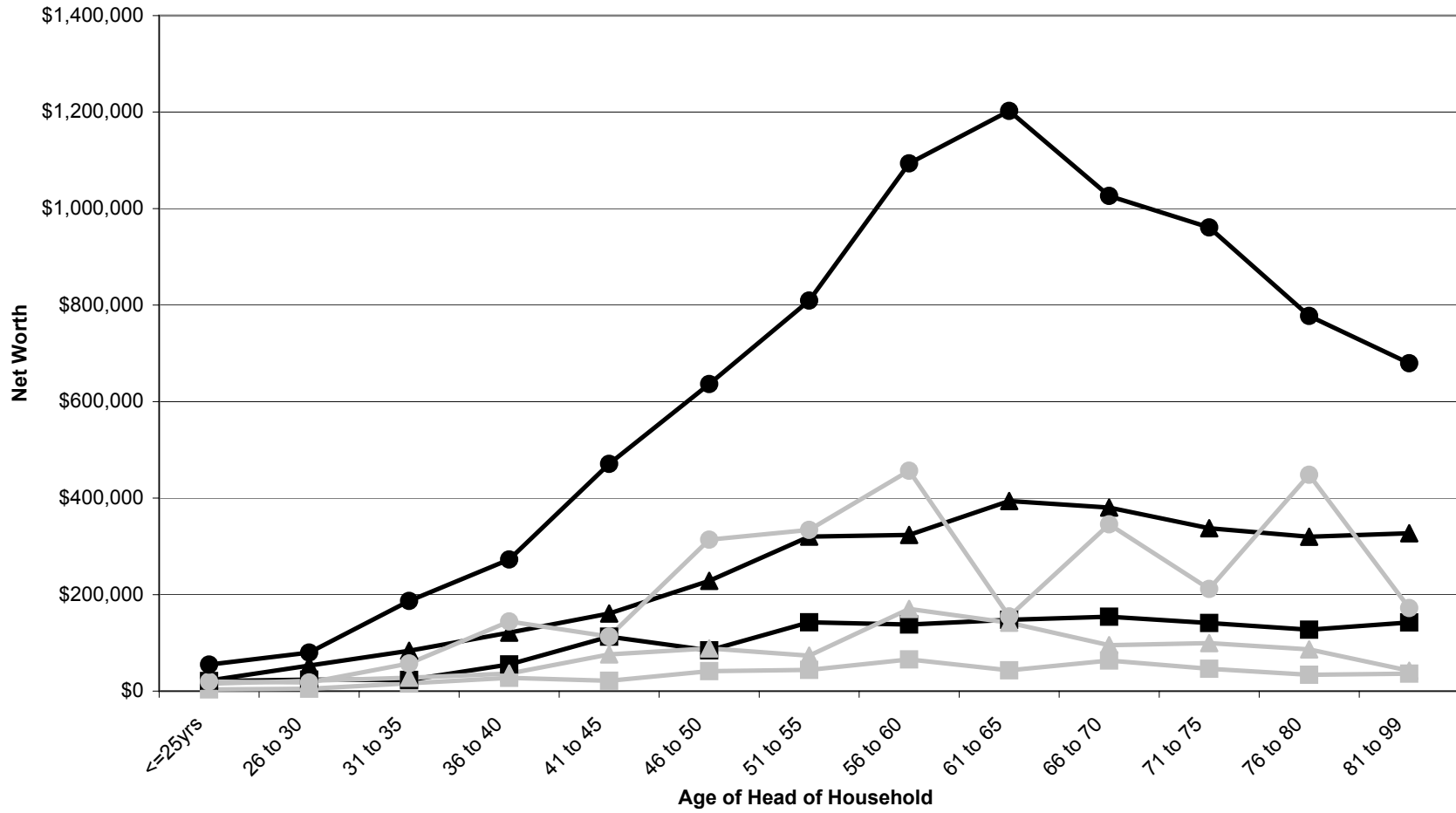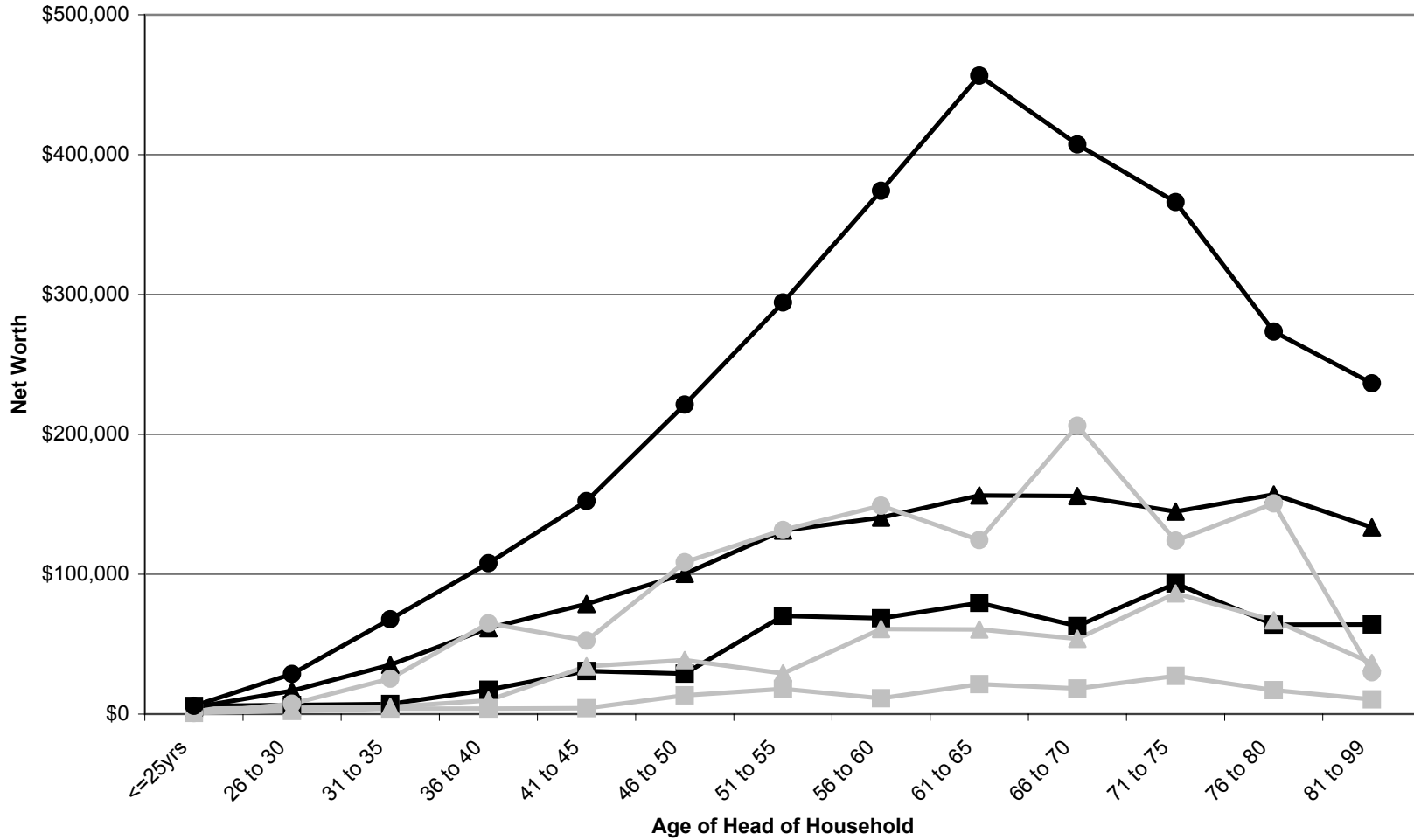|						
Menchik and Jianakoplos (1997)	National Longitudinal Study of Mature Men, 1976; Survey of Consumer Finances, 1989	58-72; All	Regression decomposition (linear mean regression)	Level wealth	NLS: Permanent income, transitory income, age, number of children, predicted inheritance value, self-employment status, weeks spouse worked, bequest intent, residence in central city, residence in SMSA outside central city, residence in south, expected rate of return, pension wealth, social security wealth; SCF: permanent income, transitory income, age, number of children, inheritance value, self-employment status, female head, weeks spouse worked, bequest intent.	Yes
Gittleman and Wolff (2000)	PSID wealth supplements: 1984, 1989, 1994	All	Regression decomposition (linear mean regression); Counterfactual simulations	Level wealth; Change in wealth	Age, female head, single head, number of children, education, family income, small or large city.	No
Altonji and Doraszelski (2001)	Panel Study of Income Dynamics (PSID): wealth supplements 1984, 1989, 1994; main files, marriage history file; childbirth and adoption file.	All	Regression decomposition (linear mean regression, linear median regression, mean regression index, median regression index)	Level wealth, log wealth, and wealth to income ratio W/Y	Current family income, permanent family income, age, region, weeks spouse worked, number of children both in and outside of household, children present dummy, health status, education, number and tenure of marriages, self-employment status, number of siblings. Note: for analysis of couples, measures are included for both head and spouse, where applicable.	Yes
Barsky, Bound, Charles, and Lupton (2001)	PSID: 1984, 1989, 1994	45-49	Nonparametric	Level wealth	Average household labor earnings over 5-year period as a proxy for lifetime earnings.	No

Figure X.1. Mean and Median Net Worth By Age

Net Worth

Age of Head of Household

Black and Hispanic Mean Net Worth | Black and Hispanic Median Net Worth | White Mean Net Worth | White Median Net Worth

Figure X.2. Mean Net Worth by Age and Education

Net Worth (y-axis): $0, $200,000, $400,000, $600,000, $800,000, $1,000,000, $1,200,000, $1,400,000

Age of Head of Household (x-axis): <=25yrs, 26 to 30, 31 to 35, 36 to 40, 41 to 45, 46 to 50, 51 to 55, 56 to 60, 61 to 65, 66 to 70, 71 to 75, 76 to 80, 81 to 99

Legend:
- Black and Hispanic Mean Net Worth, Less than High School
- White Mean Net Worth, Less than High School
- Black and Hispanic Mean Net Worth, Less than College
- White Mean Net Worth, Less than College
- Black and Hispanic Mean Net Worth, College or More
- White Mean Net Worth, College or More

Figure X.3. Median Net Worth by Age and Education

Net Worth (y-axis): $0, $100,000, $200,000, $300,000, $400,000, $500,000

Age of Head of Household (x-axis): <=25yrs, 26 to 30, 31 to 35, 36 to 40, 41 to 45, 46 to 50, 51 to 55, 56 to 60, 61 to 65, 66 to 70, 71 to 75, 76 to 80, 81 to 99

Legend:
- Black and Hispanic Median Net Worth, Less than High School
- White Median Net Worth, Less than High School
- Black and Hispanic Median Net Worth, Less than College
- White Median Net Worth, Less than College
- Black and Hispanic Median Net Worth, College or More
- White Median Net Worth, College or More

Figure X.4. The Contribution of Income and Demographics to the Wealth Gap

Income & demographics (white coeffs)
Income & demographics (black coeffs)
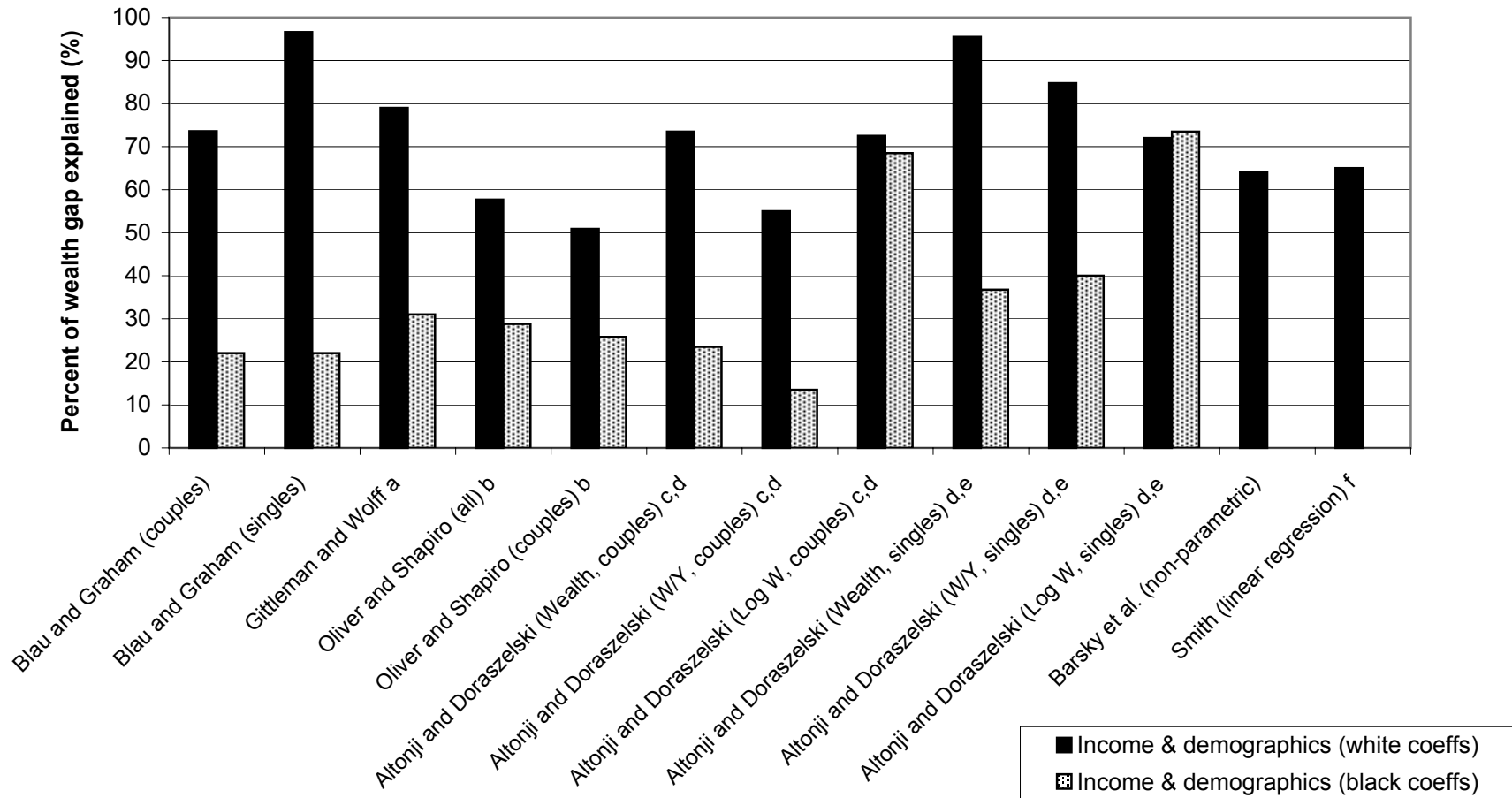
Notes: (a) Reported estimate is an average of regression decompositions performed for 1984, 1989, 1994. (b) Includes a dummy indicating self-employment or professional status; because self-employment could be considered an aspect of portfolio choice or rate of return, including it here could inflate the contribution of income and demographics. (c) Reported estimate is an average of mean and median regression analyses for couples. (d) Included are health status and self-employment measures; since these could affect saving and rate of return, respectively, including them here may inflate the estimate of the importance of income and demographics. (e) Reported estimate is an average of results from 4 analyses: mean and median regression for single men and women (equal weights). (f) Included in this estimate are measures reflecting health status, received inheritances, bequest preferences, and financial planning horizons; this could inflate the estimate of the importance of income and demographics relative to the importance of family transfers and saving behavior.

Figure X.5. Factors Explaining the Wealth Gap: Looking Beyond Income and Demographics
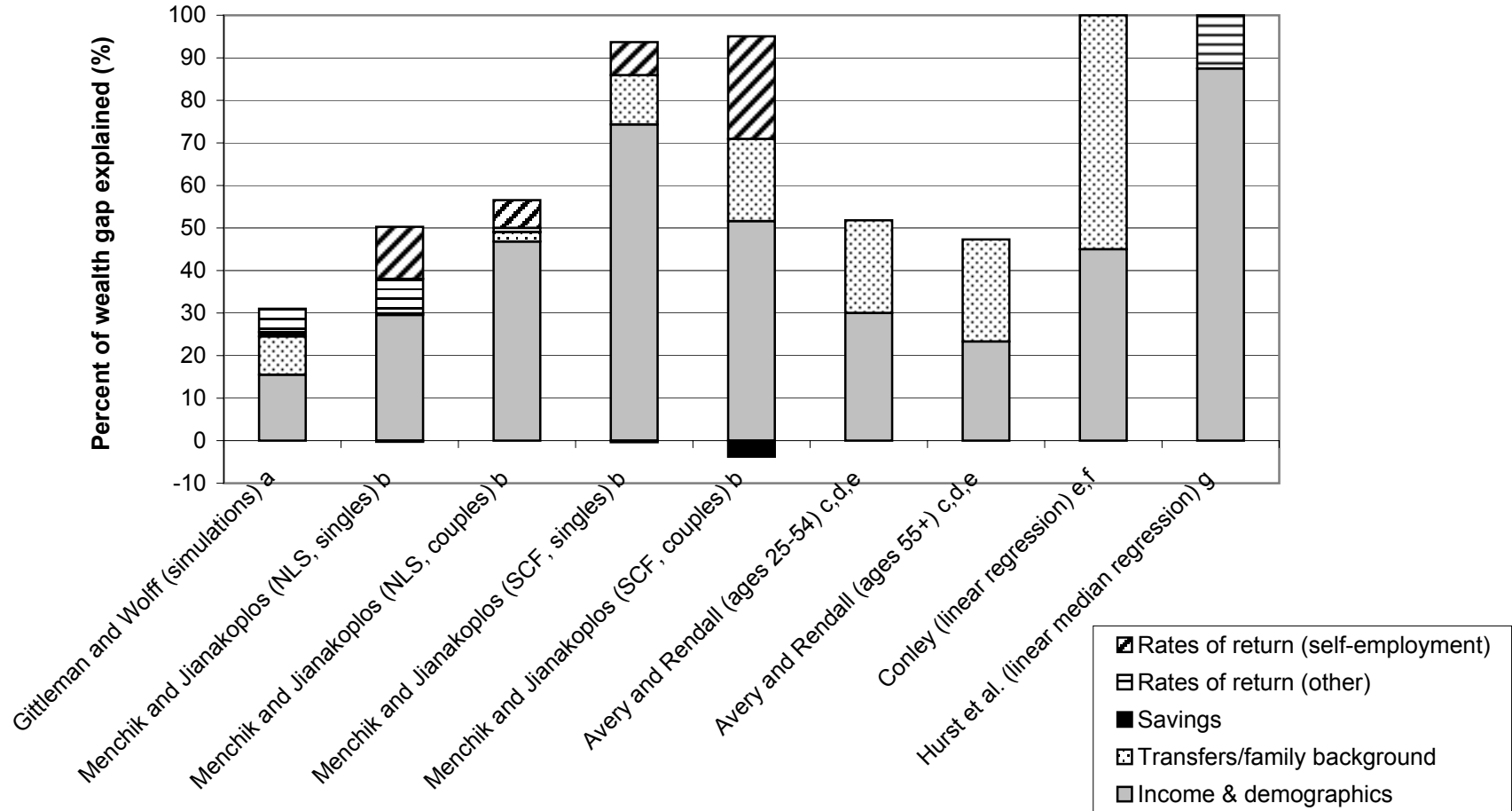
Notes: (a) Simulation based on 10-year wealth changes: black wealth is recalculated after substitution of relevant white parameter. (b) Estimates based on average of analyses using white and black coefficents to estimate wealth. (c) Includes measure of health status as part of demographics, although it could affect wealth through saving behavior. (d) Estimate based on white coefficients. (e) Savings and rates of return not were considered in this analysis. (f) Conley reports that parental wealth, income and demographics together account for all of the wealth gap, with parental wealth being more important. For purposes of this figure, we assigned 55 percent to parental wealth and 45 percent to income and demographics. (g) These are not the actual percentages reported by the authors but were derived from three things: (1) their regression yields an insignificant coefficient on the indicator for black; this leads them to conclude that they can account for 100 percent of the wealth gap; (2) their results imply that "holding stock" may account for 11 to 14 percent of the wealth gap; (3) all other covariates are income or demographic factors.