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THE DECLINE OF AFRICAN-AMERICAN AND HISPANIC WEALTH SINCE THE GREAT RECESSION

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ABSTRACT

The ratio in standard net worth NW between African-Americans and (non-Hispanic) whites was the same in 2007 as in 1983 (0.19) but then fell to 0.14 in 2016, while that between Hispanics and whites climbed from 0.16 to 0.26 but then plunged to 0.19. Minorities had much higher debt-net worth ratios in 2007 – 0.55 for blacks, 0.51 for Hispanics, and 0.18 for whites. Minorities also had a higher share of assets in homes than whites – 0.54 and 0.53 versus 0.31. Decomposition analysis reveals that the lower return on wealth for minorities explained a large share of the widening wealth gap between 2007 and 2010. From 2010 to 2016, the return was higher for minorities but this was offset by larger dissavings. Adding pension and Social Security wealth to standard wealth substantially lowers the wealth gap. The racial ratio of mean augmented wealth AW (net worth, pension, and Social Security wealth) was 0.27 in 2016 and the ethnic ratio was 0.28. The racial gap was the same in 2016 as in 1989, while the ethnic ratio increased from 0.25 to 0.28. In 2016, NW inequality was considerably higher for blacks and Hispanics than whites (by 0.120 and 0.093 Gini points, but AW inequality was considerably lower (by 0.098 and 0.067 points). While AW inequality increased by 0.067 Gini points for whites from 1989 to 2016, it fell by 0.046 points for blacks and by 0.015 points for Hispanics. Social Security was the principal factor.

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1. Introduction

This paper documents the more or less steady deterioration in the income, wealth holdings, and the homeownership rate of black and Hispanic relative to white households from 1983 to 2016, particularly since the onset of the Great Recession. It is also the case that the gap in wealth between the minorities and whites was considerably greater than the gap in income. Using decomposition analysis, I show that differences in capital revaluation explain much of the racial/ethnic wealth gap with savings, wealth transfers, and other factors accounting for the remainder. I also standardize wealth trends using a constant racial/ethnic mix to see how changes in race/ethnicity composition affect overall time trends.

The paper focuses mainly on how the different racial and ethnic groups fared in terms of wealth over years 2007 to 2010 during one of the sharpest declines in stock and real estate prices and over years 2010 to 2016 as asset prices recovered. The wealth gap between African-American and white families was much the same in 2007 as in 1983 but it lessened considerably for Latinos over these years.[1] The relative indebtedness of minorities exploded from 1983 to 2007, making their finances very fragile in 2007. The racial and ethnic disparity in wealth holdings widened considerably in the years between 2007 and 2010, a period often referred to as the Great Recession. Hispanics, in particular, got hammered over these years in terms of net worth. However, during the recovery period, from 2010 to 2016, the racial wealth gap remained largely unchanged, though there was some diminution of the ethnic wealth gap.

The rest of the paper is organized as follows. The next section, Section 2, provides some historical background. Section 3 offers a brief literature review and Section 4 discusses the measurement of household wealth and describes the data sources used for this study. Section 5 presents results on time trends on wealth holdings by race and ethnicity. Section 6 highlights differences in portfolio composition among the three groups and reports on the results of a decomposition analysis of racial and ethnic wealth differences. Section 7 adds pension and Social Security wealth to the household portfolio for years 1989 to 2016.[2] A summary of results and concluding remarks are provided in Section 8.

2. Historical background on asset price movements

The last two decades have witnessed some remarkable events. Perhaps, most notable was the housing value cycle which first led to an explosion in home prices and then a collapse, affecting net worth and helping to precipitate the Great Recession, followed by a strong recovery. The median house price remained virtually the same in 2001 as in 1989 in real terms.[3] However, the home ownership rate shot up from 62.8 to 67.7 percent. Then, 2001 saw a recession (albeit a short one). Despite this, house prices suddenly took off and over the years 2001 to 2007 housing prices gained 19 percent.[4] The home

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[1] Technically, "Latinos" refer to people of Latin American descent, while "Hispanics" refer to Hispanic-speaking persons living in the U.S., especially of Latin American descent. The official SCF category is "Hispanics." However, here, I use the two terms interchangeably.

[2] Complete data on defined benefit and Social Security wealth are not available for 1983 (see below).

[3] The source for years 1983 to 2007 is Table 935 of the *2009 Statistical Abstract*, US Bureau of the Census, available at http://www.census.gov/compendia/statab/. For years after 2007, the source is: National Association of Realtors, "Median Sales Price of Existing Single-Family Homes for Metropolitan Areas," available at: http://www.realtor.org/sites/default/files/reports/2012/embargoes/2012-q1-metro-home-prices-49bc10b1efdc1b8cc3eb66dbcdad55f7/metro-home-prices-q1-single-family-2012-05-09.pdf [both accessed April 17, 2018].The figures are based on median prices of existing houses for metropolitan areas only. All figures are in constant (2016) dollars unless otherwise indicated.

[4] The Case-Schiller 20-City Composite Home Price NSA Index showed a rather different trend. It advanced by 35.0 percent from January, 2001, to January, 2004, and then by 33.5 percent from January, 2004, to January, 2007 (the

ownership rate continued to expand, though at a somewhat slower rate, from 67.7 to 68.6 percent.

Then, the recession and associated financial crisis hit. The recession officially began in December, 2007, and "officially" ended in June, 2009.[5] Over this period, real GDP fell by 4.3 percent and then from the second quarter of 2009 to the second quarter of 2013 it gained 9.2 percent. After that it grew by another 6.8 percent through the third quarter of 2016.[6] The unemployment rate shot up from 4.4 percent in May of 2007 to a peak of 10.0 percent in October of 2009 but by October of 2016 it was down to 4.9 percent. [7]

One consequence was that asset prices plummeted. From 2007 to 2010, the median home price (in constant dollars) nose-dived by 24 percent, and the share of households owning their own home fell off, from 68.6 to 67.2 percent. This was followed by a partial recovery, with median house prices rising 7.8 percent through September 2013, though still far below its 2007 value. However, the homeownership rate continued to contract, falling to 65.1 percent. In contrast, median home prices in real terms jumped by 18.4 percent from 2013 to 2016, though the homeownership rate continued to fall to 63.7 percent.

In contrast to the housing market, the stock market boomed during the 1990s. On the basis of the Standard & Poor (S&P) 500 index, stock prices surged 159 percent in constant dollars between 1989 and 2001.[8] Stock ownership spread and by 2001 over half of U.S. households owned stock either directly or indirectly. However, the stock market peaked in 2000. It was then down from 2000 to 2004, rebounded by 2007, with the S&P 500 rising by 6 percent from 2001 to 2007. However, the stock ownership rate fell to 49 percent. Then came the Great Recession. Stock prices crashed from 2007 to 2009 and then partially recovered in 2010 for a net decline of 26 percent. The stock ownership rate also once again declined, to 47 percent. The stock market continued to rise after 2010 and by 2013 was up 39 percent over 2010 and above its previous high in 2007. However, the stock ownership rate continued to drop, to 46 percent. Once again, the stock market continued to boom from 2013 to 2016, up by 27.9 percent in real terms[9], but in this case the stock ownership rate rebounded to 49.3 percent.

What have all these major transformations wrought in terms of the distribution of household wealth by race and ethnicity? This is the subject of the remainder of the paper.

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source is: https://fred.stlouisfed.org/series/SPCS20RSA [accessed November 6, 2017]). It is not clear why the trends are so different between the two sources. However, the Case-Shiller index is based on data from the largest 20 metropolitan areas, whereas the National Association of Realtors index is much broader based, covering some 160 metropolitan areas. For my purposes here, the latter is a more reliable indicator of national housing price movements.

[5] The source is: http://www.nber.org/cycles/cyclesmain.html [accessed April 20, 2014]. As noted above, I use the term "Great Recession" to refer to the period from 2007 through 2010.

6 The source for the GDP figures is http://www.bea.gov/iTable/index_nipa.cfm [accessed December 1, 2016].

[7] The source is the U.S. Bureau of Labor Statistics at: http://data.bls.gov/timeseries/LNS14000000 [accessed December 1, 2016].

[8] The source for stock prices is Table B-96 of the *Economic Report of the President, 2013*, available at http://www.gpoaccess.gov/eop/tables13.html, with updates to 2013 from: http://us.spindices.com/indices/equity/sp-composite-1500 [both accessed April 17, 2018].

[9] This figure is based on the change in the S&P 500 index from early March, 2013, to early March 2016. Different three-year periods show somewhat different time trends.

3. A Brief Literature Review

A vast literature in economics has examined the economic progress of African Americans over the past century. Most of these studies have focused on income -- or on even narrower measures of economic well-being such as earnings -- and have sought to assess the extent to which any gains that were made relative to other race groups can be attributed to factors such as declining race discrimination, affirmative action policies, changes in household composition and other demographic characteristics, shifts in industrial composition, a narrowing of the gap between the educational levels of African Americans and the rest of the population, and the like. Much less is known, however, about how African Americans have fared in terms of wealth, an important measure of economic well-being that is more informative in many respects than those derived from income flows during a particular year. While a number of studies have examined inequality by race in wealth levels, little attention has been paid to differences by race in patterns of wealth accumulation. To fill this gap, I examine wealth changes over the period 1983-2016, showing how the races differ in terms of the main components of wealth growth: savings, capital gains and inheritances.

While studies of earnings and income are important for assessing the extent to which labor market discrimination exists and the ability of African Americans to move closer to whites in terms of acquiring the skills and connections that are currently rewarded by the markets, they provide what is clearly an incomplete picture. It is evident that the economic positions of two families with the same incomes but widely different wealth levels are not identical. The wealthier family is likely to be able to better provide for the educational and health needs of its children, to be living in a neighborhood characterized by more amenities and lower levels of crime, to have greater resources that can be called upon in times of economic hardship, and to have more influence in political life.

Previous research on explaining the racial/ethnic wealth gap has tended to focus on three topics: (1) the role of differences in demographic characteristics; (2) disparities in homeownership; and (3) differentials in inheritances. The major contribution here is to focus on differences in portfolio composition between the three groups and on the role of pension wealth and Social Security wealth in explaining differences in augmented wealth (the sum of net worth, pension wealth, and Social Security wealth).

The handful of recent studies on racial differences in wealth have paid little attention to patterns in wealth *accumulation*, focusing instead almost exclusively on trying to explain gaps in wealth *levels*. The typical approach has been to employ a Blinder-Oaxaca means-coefficient analysis (Blinder 1973), using regressions estimated separately by race, to calculate how much of the gap can be attributed to differences in characteristics that are associated with wealth accumulation, such as family income and education (Blau and Graham 1990; Oliver and Shapiro 1995; Menchik and Jianakoplos 1997; Avery and Rendall 1997; and Conley 1999). The resulting estimates, however, turn out to vary widely depending on whether coefficients are used from the regression equation estimated for whites or that from African Americans. That is, because the wealth of whites rises more steeply than that of African Americans with increases in such characteristics as income and education, the lower mean levels of these characteristics for African Americans "explain" much more when the coefficients for the whites are used. Altonji and Doraszelski (2005) find this to be true even when long histories are used to construct improved income and demographic variables.[10] Maroto (2016) examined demographic and economic factors accounting for racial and ethnic wealth disparities at different points of the wealth distribution and found that demographic and income differences mattered more for high-wealth households but differential access to credit markets and homeownership were more important among low wealth households. Lerman (2017)

[10] Barsky *et al.* (2001) demonstrate that the discrepancies are related, in part, to parametric assumptions about the wealth functions.

investigated changes in differences in family structure between blacks and whites over years 2007 and 2013 and found that they were too small to play a large role in explaining trends in the racial wealth gap.

The fact that the explanatory power of this exercise depends on the coefficients used is less than satisfying, however, as a more complete understanding of the forces behind the racial wealth gap as well the efficacy of various public policies designed to narrow it hinge on what causes the wealth functions to differ so much by race in the first place. That is, do white families have higher levels of wealth than African American families at comparable age levels because they have received greater amounts of inheritances and other intergenerational transfers, because they devote larger amounts of income to savings, or because they earn higher rates of returns on assets? Unfortunately, with data on family wealth for only one point in time, it is difficult to do more than speculate as to which of these three categories holds the key to racial wealth inequality.

Hurst, Luoh and Stafford (1998) also contains some analysis of racial differences in wealth accumulation, but this subject is not the main focus of their study. While they do assess whether *overall* wealth changes vary by race, they do not attempt to decompose these changes into the three key components of wealth accumulation noted above, nor do they examine differences by race with respect to these components.

Gittleman and Wolff (2004), in contrast, do examine wealth changes over the period 1984-1994, showing how the races differ in terms of the main components of wealth growth: savings, capital gains and inheritances. Making use of panel data from the PSID, they find, as expected, that inheritances raise the rate of wealth accumulation of whites relative to that of African Americans. But, while whites devote a greater share of their income to savings, racial differences in savings rates are not significant, once income is controlled for. They also do not find evidence that the rate of return to capital is greater for whites than for African Americans, at least for this period.

Why might patterns of wealth accumulation differ by race? Most obvious is that racial wealth gaps in the past imply that younger generations of African-American families will inherit from their parents smaller amounts than their white counterparts (Menchik and Jianakoplos 1997; Avery and Rendall 1997; and Williams 2017).

The rate of return to capital may vary by race because of a combination of differences in portfolio composition and differences in the rate of return to specific assets. African Americans may face barriers to the acquisition of homes and business because of discrimination in mortgage and small business credit markets, customer discrimination, limited access to information about investment opportunities and other factors (Munnell, *et al.* 1996; Blanchflower, Levine and Zimmerman 1998). Moreover, if children's asset allocations are influenced by those of their parents, the historically lower likelihood of African Americans to hold such financial assets as stocks and transaction accounts will persist over time (Chiteji and Stafford 1999).

Though the substantial differences by race in asset allocation that I document below are well known, the evidence on rate of return by asset type is rather scanty. A partial exception is the housing market, where earlier research, summarized by Blau and Graham (1990) concluded that homes in African American neighborhoods have appreciated at a lower rate than those in predominantly white areas. However, in an examination of mean housing prices by race using the decennial Censuses for 1960 to 1990, Denton (2001) finds that the ratio of the value of African American to white homes, while still well below unity, reached its highest level in 1990.[11] Williams (2017, Chapter 3), on the other hand, in a

[11] Blau and Graham (1990) conclude on the basis of a simulation that differences in rates of return could not account

review of the pertinent literature concludes that white households enjoy higher returns on assets than black families. This is particularly so for the appreciation of housing prices and this may be largely due to racial segregation of neighborhoods. Moreover, Chiteji (2010) finds in her study that African Americans pay higher interest rates on auto loans, home mortgages, and education loans than do whites.

Interestingly, economic theory does not offer unambiguous predictions about the effect of racial discrimination in the small business credit market with respect to the rate of return to business ownership for blacks relative to whites. If such discrimination occurs in the form of higher credit costs, it can lower the relative rate of return. If, however, a lack of access to credit causes African Americans to be unable to start businesses that a similarly qualified white would be able to, then, on average, African American entrepreneurs able to start businesses would be expected to be better qualified than their white counterparts, and thus have a higher rate return.

The various models that have been developed to study the behavior of consumption have implications for the pattern of household saving rates by race (Browning and Lusardi 1996; Browning and Crossley 2001). Life-cycle models predict that, because African Americans have shorter life expectancies and larger families, they will consume at a faster rate than whites. Though economists have not yet reached a consensus on the importance of precautionary savings and the appropriate proxy for the uncertainty that generates it (Browning and Lusardi 1996; Carroll, Dynan and Krane 1999), African Americans experience greater income uncertainty (Gittleman and Joyce 1996; Mazumder 2001). In buffer-stock saving models, the volatility of income increases the necessity of building up savings, but also makes it more likely that reserves will have to be drawn down (Carroll 1997).

Differences by race may also emerge because savings as a proportion of *current income* tend to rise with current income, and whites have higher levels of current income than do African Americans. In standard models, this relationship between saving rates and current income may occur because households with high levels of transitory income may be saving at a faster clip to offset expected lower income in the future (Dynan, Skinner and Zeldes 2000). A number of other economic explanations have also been offered in addition to an array of psychological and sociological theories (Beverly 1997; Carney and Gale 1999). These explanations include that relative to the rest of the population, low-income households may be more impatient (Lawrance, 1991), have a higher Social Security replacement rate, and have more limited access to institutionalized saving mechanisms such as 401(k) plans. Further, the saving behavior of African Americans may be more affected than that of whites by the presence of asset-based, means-tested social insurance programs, because of the higher concentration of African Americans in the low-income population. Programs such as AFDC/TANF and Medicaid may depress savings by providing a consumption floor and thereby reducing income uncertainty and thus the need for precautionary savings, and by imposing assets limits that, in some circumstances, effectively tax assets at a rate of 100 percent for those who are income-eligible for a program but have savings above the threshold (Hubbard, Skinner and Zeldes 1995).

4. Data sources and methods

The primary data sources used for this study are the 1983, 1989, 1992, 1995, 1998, 2001, 2004, 2007, 2010, 2013, and 2016 Survey of Consumer Finances (SCF) conducted by the Federal Reserve Board. Each survey consists of a core representative sample combined with a high-income supplement. In 1983, for example, the supplement was drawn from the Internal Revenue Service's Statistics of Income

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for much of the racial difference in wealth levels in their sample. Though their analysis was not based on actual rates of return, Menchik and Jianakoplos (1997) calculated a specific rate of return for each household on the basis of the actual portfolio composition of each household. They concluded that racial differences in rates of return were not important in explaining racial differences in wealth levels.

data file. Starting in 1989, the high income supplement was selected as a list sample from statistical records (the Individual Tax File) derived from tax data by the Statistics of Income Division of the Internal Revenue Service (SOI). This second sample was designed to disproportionately select families that were likely to be relatively wealthy (see, for example, Kennickell, 2001). Typically, about two thirds of the cases come from the representative sample and one third from the high-income supplement.

The principal wealth concept used here is marketable wealth (or net worth), which is defined as the current value of all marketable or fungible assets less the current value of debts. Total assets are the sum of: (1) housing; (2) other real estate; (3) bank deposits, certificates of deposit, and money market accounts; (4) financial securities; (5) the cash surrender value of life insurance; (6) defined contribution pension plans, including IRAs, Keogh, and 401(k) plans; (7) corporate stock and mutual funds; (8) unincorporated businesses; and (9) trust funds. Total liabilities are the sum of: (1) mortgage debt, (2) consumer debt and (3) other debt such as educational loans.

This measure reflects wealth as a store of value and therefore a source of potential consumption. I believe that this is the concept that best reflects the level of well-being associated with a family's holdings. Thus, only assets that can be readily converted to cash (that is, "fungible" ones) are included. As a result, consumer durables such as automobiles, televisions, and the like, are excluded here, since these items are not easily marketed, with the possible exception of vehicles, or their resale value typically far understates the value of their consumption services to the household. Another justification for their exclusion is that this treatment is consistent with the national accounts, where purchase of vehicles is counted as expenditures, not savings. As a result, my estimates of household wealth will *differ* from those provided by the Federal Reserve Board, which includes the value of vehicles in their standard definition of household wealth (see, for example, Kennickell and Woodburn, 1999).

Also excluded in the concept of net worth is the value of future Social Security benefits the family may receive upon retirement ("Social Security wealth"), as well as the value of retirement benefits from private pension plans ("pension wealth"). Even though these funds are a source of future income, they are not in their direct control and cannot be marketed. The value of these two components will be included in a measure of augmented wealth as detailed in Section 7.

I also use a more restricted concept of wealth, which I call “financial resources” or FR. This is defined as net worth minus net equity in owner-occupied housing (the primary residence only). FR is a more liquid concept than marketable wealth, since one's home is difficult to convert into cash in the short term. Moreover, primary homes also serve a consumption purpose besides acting as a store of value. FR represents what a household can draw down without lowering its standard of living. Thus, it excludes homes (and vehicles) and reflects the resources that may be immediately available for consumption expenditure or various forms of investments.[12]

5. The racial divide widens over the Great Recession

4.1 Trends from 1983 to 2007

Striking differences are found in the wealth holdings of different racial and ethnic groups. In Table 1, households are divided into three groups: (i) non-Hispanic whites, (ii) non-Hispanic African-Americans, and (iii) Hispanics.[13] In 2006, while the ratio of mean incomes between non-Hispanic white

[12] However, it does include miscellaneous assets like artwork, since this can be sold without significantly lowering a family’s standard of living. As a result, FR is not a 100 percent pure concept since it reflects a mixture of savings and consumption motives.

[13] The residual group, American Indians and Asians, is excluded here because of its small sample size.

("white") and non-Hispanic black ("black") households was an already low 0.48 and the ratio of median incomes was 0.60, the ratios of mean and median wealth holdings in 2007 were even lower, at 0.19 and 0.06, respectively, and those of FR still lower, at 0.14 and 0.01, respectively (also see Figures 1a – 9b).[14] The homeownership rate for black households was 49 percent in 2007, a little less than two thirds the rate among whites, and the percentage of black households with zero or negative net worth stood at 33.4, more than double the corresponding percentage among whites. The Gini coefficient for net worth among whites was 0.818 whereas it was considerably higher among blacks at 0.848 and among Latinos at 0.880.

[Table 1 and Figures 1a – 9b about here]

Between 1982 and 2006, while the average real income of white households increased by 42 percent and the median by 10 percent, the former rose by only 28 percent for blacks and the latter by 18 percent. As a result, the ratio of mean income slipped from 0.54 to 0.48, while the ratio of median income rose from 0.56 to 0.60. The contrast in the time trends for the ratio of means and that of medians reflects the fact that a relatively small number of white households increased their incomes by a huge amount over these years – a result of rising income inequality among white households.

Between 1983 and 2001, average net worth (in constant dollars) climbed by 73 percent for whites but rose by only 31 percent for black households, so that the net worth ratio fell from 0.19 to 0.14. Then, between 2001 and 2007, mean net worth among black households gained an astounding 58 percent while white wealth advanced only 29 percent, so that by 2007 the net worth ratio was back to 0.19, the same level as in 1983. In the case of median wealth, the black-white ratio increased from 7 percent in 1983 to 10 percent in 2001 but then dipped to 6 percent in 2007, a little less than the ratio in 1983. In this case, median wealth among white households grew by 37 percent between 1983 and 2001 but more than doubled among black households. However, between 2001 and 2007, median net worth among black households actually crashed by 26 percent, reflecting in part the rising share of black households with zero or negative net worth.

Average financial resources, FR, also increased about the same for black and white households between 1983 and 2001, so that the ratio remained basically unchanged. Between 2001 and 2007, it increased somewhat faster for blacks so that the ratio increased to 0.14. Median FR of black households also increased, from virtually zero in 1983 to a positive $1,400 in 2001, and the corresponding ratio also grew, from zero to 3 percent. However, from 2001 to 2007, median FR among blacks toppled to only $600 and the corresponding ratio fell to only 1 percent. The reason for the decline was the faster growth of non-mortgage debt among black middle class households than among whites.

The homeownership rate of black households grew from 44.3 to 47.4 percent between 1983 and 2001 but relative to white households, the homeownership ratio slipped slightly to 0.64 in 2001. From 2001 to 2007, the black homeownership rate went up a bit more to 48.6 percent, while the white homeownership rate moved up to 74.8 percent, so that the homeownership ratio increased to 0.65. The percentage of black households reporting zero or negative net worth fell from 34.1 percent in 1983 to 30.9 percent in 2001 (and also fell relative to white households). However, by 2007, the share was up to 33.4 percent (though a bit lower relative to whites). Wealth inequality was uniformly higher among black than among white households. This difference largely reflects the higher share of blacks with zero or negative wealth. While there was moderate increase in the Gini coefficient among the former, from 0.781 in 1983 to 0.818 in 2007, there was almost no change among black households over this period.

[14] It should be stressed that the unit of observation is the household, which includes both families (two or more related individuals living together), as well as single adults. As is widely known, the share of female-headed households among African-Americans is much higher than that among whites. This difference partly accounts for the relatively lower income and wealth among African-American households.

The picture is somewhat different for Hispanics. The ratio of mean income between Hispanics and (non-Hispanic) whites in 2007 was 0.50, almost the same as that between blacks and whites. However, the ratio of median income was 0.70, much higher than the black-white ratio. The ratio of mean net worth was 0.26 compared to a black-white ratio of 0.19, and the ratio of mean FR was 0.19, compared to 0.14. However, the ratios of medians were 0.06 and 0.01, respectively, almost identical to those between blacks and whites. The Hispanic homeownership rate was 49 percent, almost identical to that of black households, and 34 percent of Hispanic households reported zero or negative wealth, almost the same as among African-Americans.

Progress among Hispanic households over the period from 1983 to 2007 was generally a positive story. Mean household income for Hispanics grew by 18 percent and median household income by 16 percent, so that the ratio of mean income slid from 60 to 50 percent while that of median income advanced from 66 to 70 percent. Between 1983 and 2001, mean wealth almost doubled for Hispanic households and mean FR grew almost four-fold. As a result, the Hispanic-white ratio of mean net worth advanced somewhat from 16 percent in 1983 to 17 percent in 2001, and the ratio of mean FR jumped from 7 to 14 percent. Another wealth surge occurred from 2001 to 2007 for Hispanics with mean NW almost doubling again and mean FR up by 60 percent and the corresponding ratios climbed to 26 and 19 percent, respectively, quite a bit higher than those between black and white households. The upturn in Hispanic wealth can be traced to a five percentage point jump in the Hispanic homeownership rate.

From 1983 to 2007, median wealth among Hispanics remained largely unchanged, as did median FR (at virtually zero!), so that the ratio of both median wealth and median FR between Hispanics and whites stayed virtually the same. In contrast, the homeownership rate among Hispanic households climbed from 32.6 to 49.2 percent and the ratio of homeownership rates between the two groups grew from 0.48 to 0.66.

The percentage of Hispanic households with zero or negative net worth fell rather steadily from 40.3 percent in 1983 to 33.5 percent in 2007, and the share relative to white household tumbled from a ratio of 3.55 to 2.30. Wealth inequality was also uniformly higher among Hispanic households than among both whites and blacks over these years. This difference once again largely reflects the higher share of Hispanic households with zero or negative wealth than white or black households. While there was moderate increase in the Gini coefficient among whites and no net change among blacks between 1983 and 2007, there was a substantial jump among Latinos over these years, from 0.791 to 0.880. The time trend among Latinos likely reflects the successive waves of new Latino immigrants arriving in the U.S. over these years with little or no net worth (see Love and Schmidt, 2017, for example).

Despite some progress from 2001 to 2007, the respective wealth gaps between African-Americans and Hispanics on the one hand and whites on the other were still much greater than the corresponding income gaps in 2007. While mean income ratios were of the order of 50 percent, mean wealth ratios were of the order of 20 to 25 percent. Median FR among black and Hispanic households was still virtually zero in 2007 and the percent with zero or negative net worth was around a third, in contrast to 15 percent among white households (a difference that appeared to mirror the gap in poverty rates). All three racial/ethnic groups saw an increase in their debt to asset ratio from 2001 to 2007.

4.2 Trends from 2007 to 2016

The racial/ethnic picture with regard to wealth changed radically by 2010. While the ratio of both mean and median income between black and white households changed very little between 2007 and 2010 (mean income, in particular, declined for both groups), the ratio of mean net worth dropped from 0.19 to 0.14 and that of mean FR from 0.14 to 0.10. The proximate causes were the higher leverage of

black households and their higher share of housing wealth in gross assets (see Table 2). In 2007, the ratio of debt to net worth among African-American households was an astounding 0.553, compared to 0.154 among whites, while housing as a share of gross assets was 54 percent for the former as against 31 percent for the latter. The ratio of mortgage debt to home value was also much higher for blacks, 0.49, than for whites, 0.32. The sharp drop in home prices from 2007 to 2010 thus led to a relatively steeper loss in home equity for black homeowners, 26 percent, than for white homeowners, 24 percent (see Tables 3 and 4), and this factor, in turn, led to a greater fall in mean net worth for black than white households.[15] The annual real rate of return on the net worth of black families over years 2007 to 2010 was a -9.9 percent, compared to -7.1 percent for white households (see Table 6). Moreover, the higher leverage of African-American households relative to white households and the broad decline in asset prices led to greater relative losses in mean FR for the former than the latter.[16]

The Gini coefficient for net worth shot up from 0.848 to 0.948 among black households. The rise was more moderate for white households, from 0.818 to 0.844. In the case of white households, the increase likely reflects both the rise in the share with non-positive net worth and the much steeper decline in median wealth than mean wealth. For the latter, the main reason appears to be the relatively steeper decline in median than mean wealth, since the share with non-positive wealth showed little change.

The Great Recession hit Hispanics harder than blacks in terms of wealth. Mean income among Hispanic households rose a bit from 2007 to 2010 and the ratio with respect to white households increased from 0.50 to 0.57. On the other hand, the median income of Hispanics fell, as did the ratio of between Hispanic and white households. However, the mean net worth in constant dollars of Hispanics fell almost in half, and the ratio relative to whites plummeted from 0.26 to 0.15. The same factors were responsible as in the case of black households. In 2007, the debt-net worth ratio for Hispanics was 0.51, compared to 0.15 among whites, and housing as a share of gross assets was 53 percent for the former as against 31 percent for the latter (see Table 5). The ratio of mortgage debt to home value was also higher for Hispanics, 0.452, than for whites, 0.324. As a result, net home equity dropped by 47 percent among Hispanic homeowners, compared to 24 percent among white homeowners, and this factor, in turn, was largely responsible for the huge decline in Hispanic net worth both in absolute and relative terms. Indeed, the annual real rate of return on the net worth of Hispanic families over these years was -10.8 percent, compared to -7.1 percent for white households. The high overall leverage among Hispanics was also mainly responsible for the nearly 50 percent decline in mean FR and the fall in the ratio relativwe to whites from 0.19 to 0.11.

There are two reasons that might explain the extreme drop in Hispanic net worth. First, a large proportion of Hispanic home owners bought their home in the interval from 2001 to 2007, when home prices were peaking. This is reflected in the sharp increase in their home ownership rate over this period. As a result, they suffered a disproportionately large percentage drop in their home equity. Second, it is likely that Hispanic home owners were more heavily concentrated than whites in parts of the country like Arizona, California, Florida, Arizona, and Nevada where home prices plummeted the most.

There was also a drop in the homeownership rate among Hispanic households of 1.9 percentage points from 2007 to 2010. Indeed, after catching up to white households in this dimension from 1983 to

[15] Unfortunately, there are no data available from the SCF to separate out actual declines in house prices for white, black, and Hispanic homeowners.

[16] There was almost no change in the relative homeownership rates of the two groups – both experienced moderate losses – while the share of households with non-positive net worth actually increased more in relative terms for white households than black ones.

2007, Hispanic households fell back in 2010 to the same level as in 2004. These results accord with those of Wolff, Owens, and Burak (2011) showing that Hispanics had by far the highest percentage of homeowners who were delinquent in their mortgage payments in 2009 of any group.

The Gini coefficient for net worth climbed steeply from 0.880 to 0.960 among Latinos, as it did for blacks. The main reason appears to be the much steeper decline in median than mean wealth, since the share with non-positive wealth showed little movement.

Was there any improvement over the recovery period, 2010-2013? Black households continued to suffer moderate losses in both mean and median household income in absolute terms and relative to whites from 2010 to 2013. The mean net worth of black households also continued to fall, in this case by 9 percent, and the ratio of mean net worth between black and white households dipped further to 0.13 from 0.14. Their median net worth actually fell from $6,700 to $1,700, and the ratio relative to white households plunged from 0.06 to 0.01. Their mean FR increased slightly but the ratio relative to white households remained the same, while their median FR declined slightly and also relative to whites.

One of the most notable developments was a sharp fall in the black homeownership rate from 47.7 to 44.0 percent, which followed a more modest 0.9 percentage point decrease from 2007 to 2010, and a decline in the homeownership rate relative to white households from 0.64 in 2010 to 0.60 in 2013. Equally striking was the steep uptick in the share of black households with no net worth, from 33 percent in 2010 to 40 percent in 2013. Thus, by almost all indicators, the absolute and relative position of black households deteriorated even further from 2010 to 2013.

The absolute and relative decline in the net worth of black households over these years actually seems surprising in light of the fact that the annual yield on the portfolio of black households was 7.14 percent, compared to 6.12 percent for white households. The key is the sharp decline in their homeownership rate. Indeed, this led to a considerable loss in home equity in the black portfolio, which fell by 26 percent overall and 20 percent among black homeowners (see Table 4).

The Gini coefficient for net worth among black households continued its steep ascent between 2010 and 2013, from 0.948 to 1.010(!).[17] There was basically no change for white households. In the case of black households, the increase likely reflects both the sharp rise in the share with non-positive net worth, from 32.9 to 40.0 percent, and the much more precipitous fall in median wealth than mean wealth.

Income developments were very similar for Hispanics but wealth developments were different. Mean incomes of Hispanics were down 15 percent from 2010 to 2013, and the ratio relative to white households plunged from 0.57 to 0.45. The story was similar for median income. On the other hand, the mean net worth of Hispanic households remained stable from 2010 to 2013, as did their position relative to white households, though their median wealth fell from $2,900 to $2,000. Their mean FR remained unchanged from 2010 to 2013, as did their relative position, and their median FR increased slightly.

However, like black families, their homeownership rate continued to fall, in this case from 47.3 percent to 43.9 percent (back to where it was in 1992), and their homeownership rate relative to white households also slipped from 0.63 to 0.60. The percent of Hispanics with non-positive wealth actually fell slightly from 2010 to 2013. Overall, Hispanic households had an average annual rate of return on their portfolio of 7.48 percent, compared to 7.14 percent for black households (see Table 6). The main difference with respect to black households was a much smaller decline in home equity – only 5 percent overall – and an actual 1.6 percent increase among Hispanic homeowners alone. The Gini coefficient for

[17] The Gini coefficient is no longer bounded between zero and one if a variable can take on negative values.

net worth among Hispanic households showed little change from 2010 to 2013, as it did for white households. This trend was partly a reflection of the fact that the share with non-positive net worth showed little change.

Things generally turned around for the two minority groups from 2013 to 2016. Incomes of black and Hispanic households recovered and by 2016 had either equaled or surpassed their 2007 peaks. Moreover, the ratio of mean income between blacks and white households jumped from 0.42 to 0.46 and that between Hispanic and white households from 0.45 to 0.48, while the ratio of median incomes between black and white households increased a bit from 0.56 to 0.58 and that between Hispanics and whites shot up from 0.59 to 0.65

The mean net worth of both groups showed a remarkable recovery. It grew by 45 percent among black households and 64 percent among Hispanic households, though the 2016 levels were still below their 2007 peaks. In contrast, the net worth of whites surpassed its 2007 peak. However, the wealth gap did attenuate somewhat during these years, with the racial wealth ratio increasing from 0.13 to 0.14 and the Hispanic-white ratio climbing from 0.15 to 0.19. Median net worth among the two minority groups showed some recovery also, though relative to white households the ratios remained close to zero. Mean FR of black households rose by 51 percent and mean FR of Hispanics by a huge 81 percent. In the case of black households, mean FR in 2016 slightly surpassed its previous peak in 2007 but in the case of Hispanics it was still below its previous peak. Mean FR for whites in 2016 was way above its 2007 peak. The ratio of mean FR between blacks and whites advanced slightly from 0.10 to 0.11 while that between Hispanics and whites climbed from 0.11 to 0.15. However, median FR of the two minority groups remained close to zero. The homeownership rate picked up somewhat for Hispanics, remained unchanged for black households, and fell for whites. As a result, the homeownership rate of black households relative to white households was up slightly and that of Hispanics relative to whites up more strongly, from 0.60 to 0.63. The percentage of households with non-positive wealth fell for all three groups, particularly among Hispanics. Partly as a result of this factor, the Gini coefficient for wealth fell sharply for both blacks (by 0.038 points) and Hispanics (by 0.022 points), though it was up slightly for whites.

6. Portfolio Composition and Decomposition Analysis

6.1 Changes in Portfolio Composition

I first look at the year 2007 for all households (see Table 2) Owner-occupied housing was the most important household asset in the average portfolio breakdown for all households in 2007, accounting for 32.8 percent of total assets. However, net home equity -- the value of the house minus any outstanding mortgage -- amounted to only 21.4 percent of total assets. Real estate, other than owner-occupied housing and business equity comprised another 31.3 percent. Demand deposits, time deposits, money market funds, CDs, and the cash surrender value of life insurance (collectively, “liquid assets”) made up 6.6 percent and pension accounts 12.1 percent. Bonds and other financial securities, corporate stock, mutual funds, and trust fund equity collectively amounted to 15.5 percent. Debt as a proportion of net worth was 18.1 percent, and the debt-income ratio was 1.187. The ratio of home mortgage debt to home value amounted to 34.9 percent. Stocks directly or indirectly owned through mutual funds, trusts, IRAs, 401(k) plans, and other retirement accounts comprised 16.8 percent of all assets.

[Table 2 about here]

There are striking differences in portfolio composition among the three groups. The breakdown of assets owned was not surprisingly very similar for white households as for all households. The debt to net worth ratio was slightly lower, at 0.154, as was the ratio of debt to income, at 1.090. Stocks directly or indirectly owned as a share of gross assets was slightly higher at 18.3 percent.

As noted above, black households invested a much higher share of their assets in their home,

54.0 percent. Liquid assets as a share of total assets was slightly higher and the share of pension accounts was about the same as overall. The proportion of assets invested in financial securities, corporate stock, mutual funds, and trust fund equity was correspondingly lower, at only 3.4 percent, as was the share invested in non-home real estate and business equity at 20.9 percent. Stocks directly or indirectly owned amounted to only 5.0 percent of total assets. African-American households as noted above, had much higher levels of relative indebtedness – a debt to net worth ratio of 0.553 and a debt-income ratio of 1.522. The ratio of home mortgage debt to home value was higher than overall, at 49.4 percent, and as a consequence net home equity amounted to 27.3 percent of assets, only moderately greater than the overall ratio.

Among Hispanics, homes comprised 52.5 percent of their assets, roughly the same as among black households, though the share in liquid and pension assets was smaller, at 3.9 and 7.7 percent respectively. The share invested in non-home real estate and business equity was 32.9 percent, close to the overall average. The ratio of home mortgage debt to home value was somewhat lower than that for black households, 45.2 percent, and as a result the ratio of net home equity to assets was a bit higher at 28.8 percent.

There were some important changes in the composition of household wealth over years 1983 to 2016. First, among white households, the share of housing in total assets declined from 35.6 percent in 1983 to 23.1 percent in 2016 (see Table 3). Second, net home equity also fell almost continuously from 27.0 to 16.6 percent of assets. Third, mortgage debt as a proportion of homeowner's property increased from 24.0 to 32.6 percent. Fourth, pension accounts rose from 3.9 to 15.7 percent. This increase largely offset the decline in the share of liquid assets in total assets, from 12.2 to 6.8 percent. Fifth, total stocks directly or indirectly owned climbed from 8.4 percent of assets in 1989 to 23.5 percent in 2016. Sixth, the debt-net worth ratio first fell from 16.6 percent in 1983 to 13.0 percent in 2001, climbed to 18.0 percent in 2010, and then dropped off to 12.2 percent in 2016, while the debt-income ratio surged from 66.9 percent in 1983 to 125.8 percent in 2010 but then declined to 90.7 percent in 2016.

[**Table 3 about here]**

The large rise in *relative* indebtedness among white households between 2007 and 2010 could be due to a rise in the absolute level of debt and/or a fall off in net worth and income. Both mean net worth and mean income fell over the three years and there was a slight increase of debt in constant dollars of 3.2 percent. The steep rise in the debt-net worth and debt-income ratio over the three years was almost entirely due to the reduction in wealth and income. In contrast, from 2010 to 2013, relative indebtedness declined. In this case, both net worth and income showed a modest increase, so that the proximate cause was a sizeable reduction in household debt of 12.6 percent. Once again, from 2013 to 2016, there was a steep reduction in relative indebtedness. However, in this case average debt in constant dollars remained relatively unchanged, so that the proximate cause was sharp increases in both average income and average wealth.

As noted above, the homeownership rate among white households first expanded from 65.1 percent in 1983 to 74.8 percent in 2007 but then remitted to 71.9 percent in 2016. Almost a third of white households owned a pension asset in 1983 and this ratio expanded to almost three fifths in 2016. A quarter of white households held corporate stock, mutual funds, financial securities or a trust fund in 1983 and this share expanded to 38.1 percent in 2001 and then fell off to 28.9 percent in 2016. In 1983 37.5 percent of white households reported owning stock either directly or indirectly, and this proportion expanded to a peak of 57.5 percent in 2001, fell of somewhat to 53.9 percent in 2013, and then rebounded to 57.5 percent in 2016. If we exclude small holdings of stock, then the ownership rates dropped off sharply – in 2013, for example, from 53.9 percent to 44.2 percent for stocks worth $5,000 or more and to 39.8 percent for stocks worth $10,000 or more.

Among African-American households, first, the share of housing wealth in total assets bounced around a bit before reaching 54.0 percent in 2007 (see Table 4). It then fell sharply to 43.1 percent in 2016. Second, net home equity rose from 35.5 percent of total assets in 1983 to 39.9 percent in 1989, slid to 23.5 percent in 2001 and then rose slightly to 23.9 percent in 2016. This pattern partially reflected the trend in mortgage debt as a proportion of homeowner's property, which rose from 23.5 percent in 1983 to 52.6 percent in 2013 before diminishing to 44.6 percent in 2016. This latter figure was considerably higher than for white households at 32.6 percent. Third, as among white households pension accounts as a share of assets rose over time, from 3.0 percent in 1983 to 13.9 percent in 2016. Fourth, unlike white households, the share of liquid assets in total assets first increased, from 9.7 percent in 1983 to 13.5 percent in 2001 but then fell off, to 7.0 percent in 2016. Fifth, stocks directly or indirectly owned jumped from 3.3 percent of assets in 1989 to 14.9 percent in 2001 but then diminished to 9.3 percent in 2016.

[**Table 4 about here]**

Sixth, unlike white households, the debt-net worth ratio first increased over time from 24.8 percent in 1983 to 60.9 percent in 2013 but then dropped sharply to 44.5 percent in 2016, while the debt-income ratio first climbed from 46.9 percent in 1983 to 152.2 percent in 2007 but then ebbed to 104.3 percent in 2016. Over the whole stretch from 1983 to 2016, the debt-net worth ratio among black households surged by a factor of 1.8 and the debt-income ratio by a factor of 2.2, whereas the former actually declined among white households, by 26 percent, and the latter was up by only 36 percent. Between 2007 and 2010 there was a huge increase of 43.4 percent in the absolute level of debt. These increases were much greater than among white households. From 2010 to 2013, while debt levels diminished among white households, total debt was up by 7.5 percent. Between 2013 and 2016, mean overall debt of African-Americans continued to increase, by 4.7 percent, while it rose by only 1.7 percent among whites.

As noted above, the homeownership rate among black households bounced around a bit from 49.4 percent in 1983 to 48.6 percent in 2007 and then dropped to 44.0 percent in 2016. About a fifth of black households held a pension account in 1983, the share reached 38.9 percent in 2001 but then fell off to 34.0 percent in 2016. In comparison the share of white households with a pension asset increased sharply between 1983 and 2001, leveled off until 2013, and then climbed to 59.6 percent in 2016. The share of black households owning stock either directly or indirectly rose from 10.1 percent in 1983 to a peak of 34.2 percent in 2001 but then dropped to 29.7 percent in 2016. If small holdings of stock are excluded, then the ownership rates diminished – in 2013, for example, from 27.5 percent to 16.2 percent for stocks worth $5,000 or more and to only 12.1 percent for stocks worth $10,000 or more – but time trends are very similar.

Portfolio changes among Hispanic households generally paralleled those of black households (see Table 5). First, the share of housing wealth in total assets actually fell sharply from 66.2 percent in 1983 to 47.6 percent in 2001, bounced back to 56.8 percent in 2010 but ebbed again to 44.2 percent in 2016. Second, net home equity declined rather continuously from 48.7 percent of total assets in 1983 to 24.9 percent in 2016. This pattern generally reflected the trend in mortgage debt as a share of homeowner's property, which increased from 26.5 percent in 1983 to 55.4 percent in 2010 and then dropped to 43.7 percent in 2016. This latter figure was considerably higher than for white households at 32.6 percent but about the same as for black households. A third change is that as among white households pension accounts as a share of assets rose over time, from 4.9 percent in 1983 to 12.3 percent in 2016. Fourth, unlike both white and black households, the share of liquid assets first fell from 8.4 percent in 1983 to 4.2 percent in 2013 but then rebounded to 8.1 percent in 2016. Fifth, stocks directly or indirectly owned mushroomed from 1.6 percent of assets in 1989 to 10.6 percent in 2001, ebbed to 7.0 percent in 2013, and then climbed back to 12.9 percent in 2016.

[**Table 5 about here]**

Fifth, in similar fashion to white households, the debt-net worth ratio increased from 40.4 percent in 1983 to 68.3 percent in 2001 but then fell off sharply to 39.1 percent in 2016, while the debt-income ratio, like that of black households, soared from 53.6 percent in 1983 to 187.9 percent in 2007 but then plunged to 113.7 percent in 2016. Over the whole stretch from 1983 to 2016, the debt-net worth ratio among Latinos was basically unchanged, compared to being up by a factor of 1.8 among black households, and the debt-income ratio rose by a factor of 2.1, compared to 2.2 among black households. Between 2007 and 2010, as for black households, there was a surge in the absolute level of debt by 93.0 percent. This change was much greater than among white households. From 2010 to 2013, while debt levels diminished among white households and rose moderately among black households, average debt were down by about 23 percent in absolute terms. From 2013 to 2016, average debt dropped by 7.5 percent, while it rose slightly for black and white households.

As noted in Section 5, the Latino homeownership rate rose rather continuously from 42.8 percent in 1983 to 49.2 percent in 2007, fell off sharply to 43.9 percent in 2013 but then rebounded to 45.4 percent in 2016, though still well below its 2007 peak. The proportion of Hispanic households with a pension account increased moderately from 28.3 percent in 1983 to a high point of 32.0 percent in 2007, fell somewhat to 25.6 percent in 2013, but then climbed back to 30.8 percent in 2016. The share of Latinos with stock either directly or indirectly owned rose from 12.4 percent in 1983 to a high point of 28.0 percent in 2001, dropped off to 19.5 percent in 2013, but then rose back to 26.3 percent in 2016.

All in all, there was a sizeable sell-off of assets between 2007 and 2016 among minorities. Among black households, the homeownership rate fell by 4.7 percentage points. Much of this reduction was due to forced sales of homes either through short sales or foreclosures. The ownership rate of pension accounts by 2.6 percentage points, and that of securities, stocks, and trusts by 3.2 percentage points. In the Latino community the homeownership rate tumbled by 3.8 percentage points, the fraction holding pension accounts by 1.2 percentage points, and that of securities, stocks, and trusts by 1.2 percentage points, but the share with stocks directly or indirectly owned was up by 3.9 percentage points.

6.2 Rates of Return

Table 6 shows average annual *real* rates of return for both gross assets and net worth by race and ethnicity over the period from 1983 to 2016. Results are based on the average portfolio composition over the period and assume that all households receive the *same rate of return* by period and asset type. Though there is some evidence reported in Section 3 above that white households receive higher returns on some assets, particularly homes, than black households, there is no systematic evidence that this is the case across all asset classes. Moreover, Gittleman and Wolff (2004) also concluded that rates of return were similar for the two groups, at least for the 1984-1994 period.[18]

It is first of interest to look at the results for all households (see Appendix Table 1 for the source data). The overall average annual rate of return on gross assets rose from 2.32 percent in the 1983-1989 period to 3.01 percent in the 1989-2001 period and then fell slightly to 3.10 percent in the 2001-2007 period before plummeting to -5.98 percent over the Great Recession (2007-2010). This was followed by a substantial recovery to 4.60 percent over years 2010 to 2013 and then to 5.42 percent over 2013-2016.

[18] If whites, say, receive a higher return on their stock holdings than, say blacks, and/or experience higher appreciation on their homes, then the estimated rate of return for whites on the basis of this assumption will be biased downward and that for blacks biased upward. As a consequence, in the decomposition analysis discussed below, capital appreciation will be understated for whites and overstated for blacks and correspondingly savings will be overstated for whites and understated for blacks.

[Table 6 about here]

As shown in Appendix Table 1, the largest declines in asset prices over the years 2007 to 2010 occurred for residential real estate and the category businesses and non-home real estate. The value of financial assets, including stocks, bonds, and other financial securities, registered an annual nominal rate of return of "only" -1.33 percent because interest rates on corporate and foreign bonds continued to remain strong over these years. The value of pension accounts had a -0.20 percent annual nominal rate of return, reflecting the mixture of bonds and stocks held in pension accounts. From 2010 to 2013, all asset classes with the exception of liquid assets made a robust recovery. This was led by financial assets which recorded a 11.6 percent annual nominal return and businesses and non-home real estate, which experienced a 7.4 percent annual nominal rate of return. Returns on these assets, again with the exception of liquid assets, remained strong in 2013-2016.

The average annual *real* rate of return on net worth among all households also increased from 3.31 percent in the first period to 3.97 percent in the second and then to 4.04 percent in the third before falling off sharply to -6.81 percent in the 2007-2010 period. Once again, there was a strong recovery to 5.91 percent in the 2010-2013 period and 6.46 percent in 2013-2016. It is first of note that the annual returns on net worth were uniformly higher – by about one percentage point – than those of gross assets over the first three periods and the last two periods when asset prices were rising. However, in the 2007-2010 period, the opposite was the case, with the annual return on net worth about one percentage point lower than that on gross assets. These results illustrate the effect of leverage, raising the return when asset prices rise and lowering the return when asset prices fall. Over the full 1983-2016 period, the annual return on net worth was 0.84 percentage points higher than that on gross assets.

There are striking differences in rates of return by race and ethnicity. The highest returns on gross assets were registered by white households except for the 2001-2007 period. In the 1983-1989, 1989-2001, and again the 2010-2013 periods, returns for blacks and Hispanics were quite a bit lower than for whites and in a virtual tie between the two groups. In the 2001-2007 period, Hispanics registered the highest returns, followed by whites and blacks who in this case were in a virtual tie. In 2013-2016, whites had the highest return on gross assets but the differential between them and the two minorities was very small (because of a sharp rise in house prices). Years 2007 to 2010 saw negative rates of return for all three groups but they were highest (least negative) for whites, followed by blacks and then Hispanics. Over the full 1983-2016 period, the average annual return on gross assets for white households was 0.76 percentage points greater than that of black households and 0.72 percentage points greater than that of Hispanics. The differences reflected the greater share of high yield investment assets like stocks in the portfolios of whites and the greater share of housing in the portfolio of the two minorities.

This pattern is generally reversed when we look at returns on net worth. In this case, in the first three periods and the last two when asset prices were rising, higher returns were recorded by the two minority groups than whites but in the 2007-2010 period, when asset prices were declining, minorities registered lower (that is, more negative) rates of return than whites. The exception was the first period when African-Americans had the lowest return, though Hispanics enjoyed a higher return than whites. The reasons were the substantial spread in returns on gross assets between whites and the two minority groups – over one percentage point – and the relatively low debt-net worth ratio of black households (24.8 percent), which mitigated the leverage effect.

Differences in returns between whites and minorities were quite substantial in some years. In the 2001-2007 period, the average return on net worth was 6.00 percent for blacks, 6.51 percent for Hispanics, and only 3.87 percent for whites – a difference of 2.13 percentage points between blacks and whites and of 2.64 percentage points between Hispanics and whites. The spread was less over years 2010 to 2013, only 0.98 and 1.20 percentage points, respectively, and over years 2013 to 2016, 2.21 and 2.01

percentage points, respectively. The smaller differences in 2010-2013 compared to 2001-2007 were due to the much higher returns on the gross assets of whites than of the two minority groups in the later period. However, in the 2013-2016 period, returns were only modestly higher for whites than either blacks or Latinos. On the other hand, over years 2007 to 2010, when asset prices declined, the return on net worth was -6.57 percent for whites, -9.76 percent for blacks, and -10.61 percent Hispanics – a differential of 3.18 percentage points in favor of whites relative to blacks and 4.04 percentage points of whites relative to Hispanics. The spread in rates of return between white households on the one hand and minority households on the other reflects the much higher leverage of the minority groups. In 2007, for example, the debt-net worth ratio of black households was 0.553 and that of Hispanics was 0.511 while that of white households was only 0.181 (see Table 2).

The huge negative return on net worth of both blacks and Latinos was largely responsible for the precipitous drop in their mean net worth between 2007 and 2010, as we shall see below. This factor, in turn, was due to the steep drop in housing prices and their very high leverage. Likewise, the very high return on net worth of the two minorities over the 2001-2007 period played a large role in explaining the robust advance of their mean net worth, despite the sluggish growth in their income. This in turn, was a result of their high leverage coupled with the boom in housing prices. However, somewhat puzzling is the fact that the rate of return on net worth of the minority groups was very high over years 2010 to 2013 – in fact, the second highest of any period – and yet their wealth stagnated over these years. We shall return to this issue below with a more formal decomposition.

The substantial differential in returns on net worth between whites and the two minority groups (three to four percentage points lower) helps explain why the wealth differential rose sharply between 2007 and 2010 despite the fact that income differentials changed relatively little (actually, the ratio of mean income between Hispanics and whites rose over these years). Likewise the variation in rates of return over the 2001-2007 period (a spread of over 2 percentage points in favor of the minority groups) helps account for the relative gains in mean wealth among the two minority groups despite no change in the gap in mean incomes (though the ratio of median income between blacks and whites did advance from 0.57 to 0.60 and that between Hispanics and whites from 0.54 to 0.70). The higher rate of return of the two minorities relative to white households over years 2010 to 2013 also helps account for the relative constancy in the mean wealth gap despite the widening of the income differential. From 2013 to 2016, the racial and ethnic income gaps narrowed, as did the wealth gap, though particularly for Hispanics relative to whites. I return to these issues below.

6.3 Decomposition Analysis

What are the factors that affect both movements in mean wealth and those of wealth differences between groups? To analyze these trends, I conduct a decomposition analysis of wealth trends into a savings, capital gains, and net wealth transfer components. I begin with the basic wealth relationship as established in Wolff (1999):

$$(1) \qquad \Delta W_t \equiv W_t - W_{t-1} = r_t W_{t-1} + s_t Y_t + G_t.$$

where W_t = net worth (in constant dollars) at time t, r = real rate of return on wealth, Y* = household income net of capital gains and property income (in constant dollars),[19] s = savings rate out of gross income Y* (not disposable income), and G = net inheritances and gifts (in constant dollars).

[19] Though the standard SCF income measure includes realized capital gains, this component as well as property income, is excluded here since it is already partially captured in the term $r_t W_{t-1}$.

On the basis of Equation (1), the change in wealth over a period can be decomposed into capital revaluation (existing wealth multiplied by the rate of return), savings, and net intergenerational transfers. The analysis will be divided into six sub-periods: 1983-1989, 1989-2001, 2001-2007, 2007-2010, 2010-2013, and 2013-2016.

The same decomposition can be used for mean wealth by racial/ethnic group. For my inequality analysis, I will consider changes over time in the *ratio* of mean wealth between black and white households on the one hand and that between Hispanic and white households on the other. I can then also determine what portion of the change in this ratio is due to capital gains and what portion is due to savings and net wealth transfers. It should be noted that race/ethnicity remains constant over the lifetime for an individual but once again since this category is based on the household head, changes in marital status may affect the classification of a household over time.

There are several important methodological issues regarding the implementation of this model that should be addressed before the actual results are shown.

6.3.1 Aggregate wealth changes

Let us first consider changes in *aggregate* household wealth from time t to t+1. W_t is the total wealth held by households living in the U.S. at time t and W_{t+1} is the total wealth held by households living in the U.S. at time t+1. If this were a closed economy, then generally speaking the only sources of change, ΔW_t, would be from savings and capital appreciation. However, there may be some "leakages" and additions for a few reasons. First, a household could make a charitable contribution, which would subtract from current household wealth. Second, someone could die in this time interval and pay estate taxes or leave a charitable bequest. However, bequests from the decedent to a living individual would not change aggregate *household* wealth. Likewise gifts from one person to another would not alter aggregate household wealth.

Third, there may also be outflows if an American resident emigrates from the U.S. and takes wealth out of the U.S. over this interval. Fourth, there may be additions to the stock of household wealth if immigrants bring new wealth in. This issue may be particularly germane for Latino households during the 1980s when there was a large influx of Mexicans and Central Americans into the U.S. However, if these effects are small, then changes in aggregate wealth are due generally to only savings and capital gains on wealth at time t (see equation 1).[20]

The situation is different when one considers *mean household* wealth. In this case, the death of a person living alone will reduce the household count and, if the estate is fully given to other individuals, raise mean household wealth. (The death of a married spouse, on the other hand, will not affect the household count.) New households may also form over a time period. If a married couple gets divorced, the household count would increase by one. If two individuals living on their own get married, on the other hand, the household count would go down by one. Of course, if two individuals living with their parents wed, this will increase the household count by one. Likewise, a single leaving a parental home and setting up his or her own home will increase the household count.

Another source of change in mean wealth is that over time a given group of households gets older ("ages") and, normally, their wealth rises. A comparison of mean wealth in the two years would

[20] Zucman (2013) presented convincing evidence that substantial wealth was transferred from domestic accounts to foreign ones over time ("offshoring"). In principle, offshoring should not present a problem for the SCF data since the SCF asks questions to domestic respondents about asset holdings in foreign accounts. This problem appears more germane to aggregate data like the Financial Accounts of the United States since these accounts are based on only domestically held assets.

thus reflect not only this aging process but the entry of new households into the population. Of course, new household entrants over a time period are likely to be relatively young, so that it is likely that the age distribution of households tends to remain relatively constant over time. However, if this is not the case, it is possible that the decomposition in equation (1) will be biased. Below I shall incorporate changes in the age distribution of households into the decomposition analysis. [21]

6.3.2. Gifts and inheritances

The SCF contains several questions on (*inter-vivos)* gifts and inheritances received as well as gifts given to others and donations made to non-profits and other charitable organizations. Questions on inheritances and gifts are asked in two different ways. First, there are several questions on what are called "general wealth transfers." These questions presumably refer to any type of gift or inheritance. Second, there are specific questions on inheritances and gifts of real estate and businesses. These are asked in the sections of the questionnaire which deal specifically with the value of homes, other properties, and businesses. The recall or recollection method is likely to have under-reporting problems and estimates of inheritances reported below are very likely to be biased downward. However, it is difficult to ascertain whether there is a systematic bias in under-reporting by wealth class, by income class, or by demographic characteristics of the respondent. Net wealth transfers are defined as gifts and inheritances received minus gifts and donations given. The data are available in the SCF from 1989 onward.[22]

6.4 Decomposition results

Results shown in Table 7 indicate that capital revaluation generally explained the bulk of the change in overall mean net worth, NW, by race/ethnicity. Over the 1983-1989 period , the mean net worth of white households gained $67,000 (in 2016 dollars). Capital appreciation on their wealth holdings in 1983 by itself would have led to a $70,600 increase in their average wealth holdings, thus accounting for 105 percent of its actual change (Panel B). For blacks, the corresponding figure was 280 percent and for Hispanics 106 percent. Over 1989-2001, the figures were, respectively, 131 percent, 285 percent, and 139 percent. In the 2001-2007 period, while capital revaluation accounted for 133 percent of the net addition to the mean wealth of white households, it contributed only 75 percent to that of black households and 59 percent to Hispanics. From 2007 to 2010, average wealth among white households lost $88,900 and capital losses by themselves would have caused their mean holdings to decline by $135,100, more than fully accounting for the actual loss in mean wealth. In contrast, among blacks, capital losses accounted for 78 percent of the actual reduction in their mean holdings and among Hispanics, even less, at 57 percent. From 2010 to 2013, there was very little change of mean net worth for the three groups according to the SCF data, and capital gains and savings offset each other in the three cases. From 2013 to 2016, the mean NW of white households rose by $199,500, with capital gains contributing 71 percent. Among black and Hispanic households, capital gains accounted for 65 percent and 44 percent, respectively.

[Table 7 about here]

Net wealth transfers were generally relatively small in dollar terms in each of the five periods for all three groups.[23] The residual is then computed as the change in net worth minus capital appreciation

[21] Another possible, more subtle, issue is that since households are classified according to the age of the household head, a death of the household head may change the age class of the surviving spouse over the period.

[22] Inheritances and gifts are recorded in five-year intervals. In the 1989 SCF, for example, wealth transfers cover years 1985 through 1989. I use this information to estimate net wealth transfers received over the period from 1983 to 1989.

[23] Generally speaking, for the population as a whole, total gifts given would equal total gifts received. However, there are two offsetting factors in the computation of net wealth transfers. First, since the simulations are performed

and minus net wealth transfers (see equation 1). The residual is presumably mainly savings. Its contribution to wealth growth was generally much lower than that of capital gains. In the first period, 1983-1989, it accounted for virtually none of the growth in mean wealth for whites and Hispanics and -$1,100 out of the $3,700 change for blacks. In the second period, 1989-2001, the residual made a negative contribution for all three groups, which partially offset the positive contribution of capital appreciation. Over years 2001 to 2007 capital gains accounted for over 100 percent of wealth gains made by white households while savings made a negative 41.2 percent contribution. For blacks and Hispanics, in contrast, savings were positive, accounting for 38.4 percent and 39.1 percent of wealth gains over the period.

Mean wealth fell for all three groups during the next period, 2007 to 2010. For white households, the residual amounted to $48,500 but capital losses were $135,100, resulting in a $88,900 net decline in mean wealth. Black households suffered a $46,400 loss in mean wealth, with capital losses accounting for 77.7 percent of the decline and the residual for another 12.8 percent (net wealth transfers were negative and made a 9.5 percent contribution). Among Hispanics, mean wealth dropped by a staggering $94,800, with 56.7 percent due to capital losses and 39.7 percent to the residual (presumably, mainly dissavings). For years 2010 to 2013, the change in mean wealth was quite small for all three groups according to the SCF data. Capital gains made a positive contribution but this was largely offset by a negative residual. Wealth then rose for all three groups from 2013 to 2016. Among whites 70.7 percent of the gain was attributable to capital gains and 28.2 percent to the residual. Among blacks, the respective figures were 64.6 percent and 24.7 percent, and among Hispanics 44.4 and 53.3 percent.

6.4.1 Decomposing changes in wealth inequality

The next step is to decompose changes in wealth inequality over time into three components: capital revaluation, net wealth transfers, and a residual. As far as I can tell, there is no simple analytical decomposition of equation (1) into these three components. As a result, the technique I use is to add the change in the between-group wealth ratio emanating from each component to the actual wealth ratio. The difference between the original wealth ratio and the newly re-computed simulated change is then the measure of the contribution of that component to the change in the net worth ratio. As might be apparent, the three components do not necessarily add up to the actual change in the wealth ratio over the period.

For the most part, as shown in Table 6, rates of return on net worth have been higher for minorities than whites. As a result, the effect of adding capital gains to initial wealth should have the effect of lowering wealth ratios between whites and the two minority groups. As shown in Table 8, the ratio of mean wealth between African-Americans and whites dropped modestly from 0.188 to 0.168, or by 0.021 between 1983 and 1989. Of the 0.021 decline in the ratio, 0.007 or 33 percent was due to the higher relative contribution of capital gains for white households, reflecting the relatively higher rate of return received by white households compared to black households (this period is a bit of an anomaly); 0.014 or 67 percent was attributable to the relatively higher net wealth transfers of white households (actually less negative net wealth transfers); and 0.003 or 13 percent was due to the relatively higher residual (presumably savings) of white households. From 1989 to 2001, the mean wealth ratio between blacks and whites fell again, from 0.168 to 0.142 or by 0.025. Of this decline, 129 percent could be attributed to the difference in net wealth transfers (positive for whites but negative for blacks) and 84 percent to the higher residual (savings) of whites, but this was offset somewhat by the slightly higher rate

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over time, it is possible for an *inheritance* to be received over the period with no corresponding negative entry since the household is no longer in the population. Second, donations to charities are subtracted in the calculation of net wealth transfers received. The net wealth transfer figures are adjusted so that the total *gifts* reported received in a given year for the full population are equal to the total *gifts* reported given (aligned to the greater of the two figures).

of return on the net worth of black households, which explained -35.2 percent. Between 2001 and 2007, the wealth ratio reversed course and increased from 0.142 to 0.188 or by 0.046. Of this, the higher residual of black households was the most important factor, accounting for 103 percent of the increase. The higher rate of return received by black households relative to white households (2.1 percentage point gap) explained another 43 percent of the increase, while the higher net wealth transfers among white households (again positive for whites but negative for blacks) offset the rise by 28 percent.

[Table 8 about here]

Over years 2007 to 2010 the ratio of mean wealth between whites and blacks reversed once again and collapsed from 0.188 to 0.144 or by 0.045. In this case, the rate of return was 3.18 percentage points higher (that is, less negative) for white households than black households and this factor accounted for 39 percent of the decline. However, though the gap in returns was quite high, the principal factor accounting for the large drop in the racial wealth gap was the discrepancy in the residual (savings), which explained 42 percent of the change (the remainder was due to the less negative net wealth transfers for whites compared to blacks). The racial wealth ratio continued to fall from 2010 to 2013 (by 0.015). In this case, the gap in the residual made the largest contribution, 113 percent. This was offset in part by the gap in rates of return in favor of black households, 29 percent. The higher net wealth transfers of white households (they were again positive for whites but negative for blacks) also added 44 percent to the rise in the net worth ratio. From 2013 to 2016 the racial wealth ratio increased a bit, by 0.016. In this case, differences in rates of return would have caused the ratio to rise by 0.009 but this was offset by the higher residual of white households, which caused a 0.034 drop in the ratio.

The pattern of results for Hispanics was different from that for blacks except for the 2001-2007 and 2007-2010 periods. Between 1983 and 1989, there was virtually no change in the Hispanic-white wealth gap (the black-white ratio fell by 11 percent). From 1989 to 2001, the wealth ratio increased by a very modest 0.007, with gaps in capital appreciation and savings making a positive contribution and differences in net wealth transfers (positive for white households but negative for Hispanics) offsetting these two effects. Wealth growth among Hispanic households was a stunning 82 percent from 2001 to 2007. Of the increase, capital gains made up 59 percent (because of the very high 6.51 percent per year rate of return) and the residual 39 percent (with 2.4 percent from net wealth transfers).

Hispanic mean wealth then collapsed by 48 percent from 2007 to 2010. Capital losses in this case accounted for the bulk of the drop (57 percent) and the residual for 40 percent (with the other 3.6 percent from negative net wealth transfers). The very large negative rate of return on the wealth holdings of Hispanics (-10.61 percent per year) was not enough to explain the full decline in their wealth. As a result, the residual was highly negative (it was moderately negative for black households). Over years 2010 to 2013, the mean wealth of Hispanic households remained largely unchanged, with positive capital gains and offsetting negative savings. Hispanic wealth then took off from 2013 to 2016, growing by 64 percent, with 44 percent due to capital gains and 53 percent to the residual.

The ratio of mean wealth between Hispanics and whites climbed by 0.089 from 2001 to 2007. The higher rate of return for Hispanic households (2.64 percentage point gap) explained a third of the increase, while the higher residual among Hispanic households accounted for the majority -- 84 percent (the sum is greater than one). Between 2007 and 2010 the mean worth ratio reversed, as it did for black households, and collapsed by 0.107. In this case, the return was 4.04 percentage points less negative among whites and this factor explained 28 percent of the decline. However, once again, the primary factor was the difference in the residual (savings), which accounted for 58 percent of the change (with 3.4 percent due to differences in the net wealth transfers). The wealth ratio was basically unchanged from 2010 to 2013, with differences in capital appreciation making a positive contribution and being offset by differences in savings. However, from 2013 to 2016, the Hispanic-white wealth ratio climbed by 0.040. Both differences in capital gains and savings made positive contributions but the lion's share came from

the residual (127 percent) and differences in capital gains contributed only 23 percent.

6.4.2 The Age Distribution and the Racial Wealth Gap

There was a dramatic aging of households over years 1983 to 2016 (see Table 9). Among white households, the share under age 45 fell from 49 to 33 percent while the proportion aged 55 and over increased from 36 to 50 percent.[24] Their mean age climbed from 47.4 to 53.6 and their median age from 45 to 55. Aging was a little less dramatic among black and Hispanic households. Among blacks, the share under age 45 dropped from 53 to 41 percent while the proportion aged 55 and over rose from 31 to 38 percent; and their mean age went from 45.4 to 49.3 and their median age from 43 to 49. Among Hispanics, the proportion under age 45 fell from 62 to 51 percent while the share 55 and over picked up from 22 to 26 percent. Their mean age advanced from 41.8 to 45.8 and their median age from 39 to 44. The time trend in the age distribution of Hispanics living in the U.S. partly reflects trends in immigration. There was a large influx of young Mexicans and Central Americans into the U.S. during the 1980s and 1990s, and the proportion of Hispanic-Americans under the age of 45 increased from 62 percent in 1983 to 65 percent in 2001 while the share aged 55 and over fell from 22 to 16 percent. Immigration softened after 2001 and the share under age 45 fell off to 51 percent in 2016 and the percentage aged 55 and over advanced from 16 to 26 percent.

Differences in the age distribution are quite pronounced across the three groups. White households were the oldest, African-Americans were in the middle, and Hispanics were the youngest. In 2001, for example, the median age was 48 for white households, 43 for black households and 40 for Hispanics. The share of households under age 45 amounted to 65 percent for Hispanics, 53 percent for blacks and 41 percent for whites, while the proportion aged 55 and over was 38 percent for whites, 26 percent for blacks, and only 16 percent for Hispanics.

Differences in the age distribution explain part of the differential in mean wealth holdings between groups and time trends over time since older households hold more wealth, on average, than younger ones. Whereas there is a straightforward analytical decomposition of the *difference* in mean wealth between groups into an age effect and a wealth difference effect,[25] there is none available, as far as I can tell, for the *ratio* in mean wealth between groups. As a result, the analysis is conducted by standardizing the age distribution across groups and then re-computing the mean wealth for that group on the basis of the group's mean wealth by age group. Three choices are used to standardize the age

[24] Households are classified into age group on the basis of the age of the household head.

[25] The mean wealth of group i is given by

$$M_1 = \sum_{g} \mu_{i1}\, a_{i1}$$

where M_1 is the mean wealth of group 1, μ_{i1} is the mean wealth of age class i in group 1, a_{i1} is the percentage of households in group 1 in age class i, and g is the number of age classes. Then

$$M_1 - M_2 = \sum (\Delta\mu_i)\, a^*_i \quad + \sum \mu^*_i \Delta a_i ,$$

where a^*_i is the average share of households in the two groups in age class i, μ^*_i is the average wealth in the two groups in age class i, and Δ is the difference between the two groups.

distribution: (1) group 1's age distribution, (2) group 2's age distribution, and (3) the average age distribution of the two groups.

Results are shown in Table 10. Standardizing the ratio of mean wealth between African-Americans and whites by the age distribution of white households raises the mean wealth of the former since white households are, on average, older than black ones. The ratio increases by 0.031 in 1983 and 0.018 in 2016. It is interesting that there does not appear to be a clear relation between the degree to which the wealth ratio is increased by standardizing the age distribution and the difference in mean or median age between whites and blacks. On average, over the seven years, differences in the age distribution between black and white households (that is, the fact, that black household are on average younger than white households) accounted for 10.6 percent of the overall black-white wealth ratio. On net, the change in the mean wealth ratio between black and white households is augmented by age standardization. For the whole 1983-2016 period, while the actual wealth ratio fell by 0.044, the standardized ratio fell more, by 0.057.

Next, standardizing by the age distribution of black households lowers the wealth of white households and once again raises the wealth ratio between the two groups. On average, over the seven years, differences in the racial age distribution explained 11.1 percent of the overall black-white wealth ratio. The change in the wealth ratio is lowered in some periods – 1983-1989 and 2007-2013 – but raised in 1989-2001, 2001-2007, and 2013-2016. Over the whole period, the change in the mean wealth ratio based on the standardized age distribution is slightly lower than the change in the actual wealth ratio -- -0.042 versus -0.044. Finally, standardizing by the average age distribution of black and white households once again raises the wealth ratio in all years. On average, differences in age distribution by race explained 10.7 percent of the overall black-white wealth ratio. In this case, the standardized wealth ratio falls by 0.049 from 1983 to 2016, compared to its actual decline of 0.044.

Results are rather different for the ratio of mean wealth between Latinos and whites. However, once again, standardizing the wealth ratio by the age distribution of Hispanic households, that of white households, and the average age distribution raises the mean wealth ratio between the two groups in all years compared to the actual wealth ratio. In this case on average over the seven years differences in the age distribution between Latino and white households (that is, the fact that Latino household are on average younger than white households) has a much greater effect than standardizing the racial age distribution, accounting for about 40 percent of the overall Hispanic-white wealth ratio. Over the whole 1983-2016 period, standardizing by the age distribution of white households leads to a 0.083 jump in the overall Latino-white net worth ratio, compared to the actual increase of 0.027. Standardizing by the Latino age distribution results in a 0.053 rise and by the average age distribution a 0.070 increase. Between 2001 and 2007 age standardization leads to a much greater jump in the ethnic wealth ratio and from 2007 to 2013 a substantial plunge.

6.4.3 The Racial/Ethnic Composition and overall wealth trends.

How does the changing racial and ethnic composition of the U.S. population affect trends in overall household wealth? To answer this question, I standardize the racial/ethnic distribution for year 2001 (about the midpoint over the time series). I then reweight net worth in each year by the corresponding 2001 share of households in each group and re-compute mean and median net worth and the Gini coefficient. Results are shown in Table 11. Since the share of Hispanics rose sharply over the years 1983 to 2016, from 3.5 to 11.3 percent of all households, and the share of black households increased from 12.7 to 15.9 percent, reweighting decreases median and mean net worth in years before 2001 and increases them in years after 2001 since Hispanic and black households hold less wealth than whites. The reweighted results still indicate strong growth in both median and mean wealth from 1983 to 2007, a substantial collapse in median wealth from 2007 to 2016, and a positive but relatively slow

increase in mean wealth over the later period.

However, the rate of change of both median and mean net worth (NW) is higher with standardization by race and ethnicity than in actuality. Standardized mean NW gained 140 percent between 1983 and 2016, compared to a 113 percent rise in actual mean NW, and standardized median NW showed a 22.4 percent gain, compared to a 2.9 percent fall in actual median NW. The reason is that a rising share of minorities in the total population lowers the growth in mean and median wealth, *ceteris paribus,* since these groups hold lower wealth than white households. If the racial/ethnic composition had remained constant over time, both mean and median NW would have grown faster than in actuality.

Standardizing the population weights on the basis of the 2001 racial and ethnic composition makes a very small difference in estimated Gini coefficients. Standardization gives greater weight to minority and hence poorer households before 2001 and lesser weight to white and hence richer households. The former effect seems to dominate for the Gini coefficient calculation in 1983 but the latter effect seems to dominate for 2001. After 2001, standardization gives greater weight to richer, white households and lower weight to minorities. In this case, the former effect appears to dominate in 2010, 2013 and 2016, lowering the Gini coefficient. Over the full 30-year period, the Gini coefficient standardized for changes in the racial/ethnic composition advances by 0.069, a bit less than the actual increase of 0.078.

7. Including retirement wealth in the household portfolio lowers the wealth gap.

In the last stage of the analysis I add in defined benefit (DB) pension wealth and Social Security wealth to the household portfolio. How does the inclusion of these two components affect the estimated racial/ethnic wealth gap and its trend over time? The SCF provides considerable detail on both pension plans and Social Security contributions. The SCF also gives detailed information on expected pension and Social Security benefits for both husband and wife.

The imputation of both defined benefit pension wealth (DBW) and Social Security wealth (SSW) involves a large number of steps. These are discussed in detail in Appendix 1. As with the concept of household net worth, there are alternative formulations of both DBW and SSW and none is necessarily the "correct" measure (see Wolff, 1992, for further discussion of this point). I have elected to use the standard gross measure, since it is the conventional formulation. Kennickell and Sunden (1999), for example, use *net* Social Security wealth, the difference between the gross value of expected Social Security benefits and the discounted value of future Social Security contributions. This formulation is also quite legitimate. The distributional effect of net SSW is likely to be smaller than that of gross SSW since its average value will be smaller. I prefer to use gross SSW since this is the standard concept and its use will make it easier to compare my results with those of the vast majority of other research on the topic.

It should also be noted that the definition of DBW and SSW is based on the conventional "on-going concern" treatment. It is assumed that employees continue to work at their place of employment until their expected date of retirement. An alternative is to use the accrual value in which DBW and SSW are valued as of the current year on the basis of work experience *up to that date only*. The accrual method will produce lower values of both DBW and SSW for current workers. The accrual method and the on-going concern treatment represent two extremes in the valuation of DBW and SSW. The latter treatment, in particular, relies on the assumptions that (1) the firm or organization remains in existence over time and (2) the employee continues working at the enterprise.

I define "non-pension wealth" NWX be as marketable household wealth (NW) minus defined contribution wealth (DCW):

(2) $NWX = NW - DCW.$

Total pension wealth, PW, is given by:

(3) PW = DCW + DBW.

Private augmented wealth PAW is then defined as:

(4) PAW = NWX + PW.

The term "private augmented wealth" is used to distinguish contributions to wealth from private savings and employment contracts with both private and government employers from those of social insurance provided by the state – notably, Social Security. Retirement wealth is defined as the sum of pension and Social Security wealth:

(5) RW = PW + SSW

and augmented household wealth, AW, is given by

(6) AW = NWX + PW + SSW.

7.1 Time trends for all households

My earlier work on the subject (Wolff, 2011), found that, not surprisingly, the addition of DBW and SSW to the household portfolio reduces the measured wealth gap between minorities and whites. That is to say, the ratio of AW between the two groups was higher than the ratio of NW. Moreover, the degree to which the addition of DBW and SSW to standard NW lowered the wealth gap increased over years 1989 to 2007 (the analysis ended in 2007). The principal effect came from the addition of SSW. However, in the earlier analysis, African-Americans and Hispanics were grouped into a single category Here, I present separate estimates for African-Americans and Hispanics and update the empirical results to 2016.

I begin the empirical analysis by looking at pension wealth for *all* households. One of the most dramatic changes in the retirement income system over the last three decades or so has been the replacement of many traditional DB plans with DC pensions. The first focus of this part is to analyze the effects of the changeover in the pension system on the growth of pension wealth from 1989 to 2016. The picture that unfolds is a precipitous drop in DB coverage among all households largely compensated by a sizeable increase in DC coverage, at least until 2007 (see Table 12). Moreover, while mean pension wealth gained rapidly in the 1990s, its growth slowed down considerably in the years 2001 to 2007, showed an absolute decline over years 2007 to 2010 but a recovery in 2013 and again in 2016.

[Table 12 about here]

The share of all households with DC pension accounts more than doubled over the years 1989 to 2001, from 25.1 to 53.7 percent (see Panel A). The picture changed from 2001 to 2007 when there was virtually no change in the DC coverage rate. Trends are different for DB pension wealth. The share with a DB pension plan fell by 12 percentage points between 1989 and 2001.[26] There was little change from 2001 to 2007. The share of all households covered by either a DC or a DB plan increased from 58.6 to 67.5 percent between 1989 and 2001. However, from 2001 to 2007, the share declined by 0.6 percentage points.

There were huge increases in the average holdings of DCW (DC pension wealth), with the average value among all households increasing by a factor of 9.7 between 1989 and 2001 (see Table 13). The rise in DCW slowed down from 2001 to 2007, with the mean increasing by (only) 22 percent. Opposite trends are again evident for DBW. The mean rose by only 2.6 percent between 1989 and 2001. The years 2001 to 2007 again saw a small rise, 5.5 percent. Did the spread of DC type pension plans adequately compensate for the decline in traditional DB pension coverage? Average pension wealth PW (the sum of DCW and DBW)

[26] Figures on DBW and SSW cannot be estimated for households under age 47 in 1983 and, correspondingly, for all households as well. As a result, I show results for the period from 1989 to 2016 only.

climbed by 80 percent from 1989 to 2001.[27] The growth in PW slowed down markedly from 2001 to 2007, with mean PW up by 14.2 percent. Median PW among holders *only* did worse than mean PW from 1989 to 2001, rising 39 percent, but better than mean PW from 2001 to 2007, gaining 19 percent.

[Table 13 about here]

What happened over the Great Recession and its aftermath? From 2007 to 2010, the share of all households with a DC account fell off by 1.2 percentage points and then another 1.1 percentage points from 2010 to 2013 as firms discontinued 401(k) plans and the like, start-ups of IRA plans slackened, and, in some cases, workers closed down IRA accounts in response to the financial stress of the Great Recession. By 2013, the ownership share was down to 51.6 percent. However, there was a rebound of 3.0 percentage points from 2013 to 2016, and the share with DC accounts reached 54.7 percent, slightly below its peak value in 2007. The DB coverage rate also fell off, by 7.5 percentage points from 2007 to 2010, down to 28 percent in 2010 but it then recovered to 35 percent in 2016, about the same as in 2007. The share covered by either a DC or a DB plan also dropped, by 2.1 percentage points from 2007 to 2010, but then recovered to 67 percent in 2016, a little above its level in 2007.

Mean DCW, somewhat surprisingly, continued to expand over the Great Recession, by 6.5 percent.. It then expanded by another 25.7 percent to $119,100 in 2016. Mean DBW was down by 21.9 percent from 2007 to 2010, but then was up by 49.0 percent from 2010 to 2016 to $82,700. As a result, mean PW first fell by 6.0 percent from 2007 to 2010 and then recovered by 34.3 percent, to $201,800 in 2016. Over the whole period, 1989 to 2016, mean PW advanced 160 percent. This compares to a 102 percent gain in net worth. The growth in PW was led by DCW, which climbed almost ten-fold. DBW, on the other hand, rose by 26.3 percent. Median PW among holders of PW wealth only grew slower, 69 percent. It too showed robust gains from 1989 to 2007, a sharp drop from 2007 to 2010, and then a recovery from 2010 to 2016. In this case, the 2016 value was greater than the previous 2007 peak.

Mean SSW rose by 47.7 percent from 1989 to 2007, dipped by 8.1 percent over the Great Recession, and rebounded by 26.6 percent from 2010 to 2016. All told, it advanced by 72.0 percent from 1989 to 2016, about half as fast as mean PW. Median SSW grew a bit slower, 62.4 percent, from 1989 to 2016. Mean retirement wealth (RW) had a similar pattern. It increased robustly, by 69.5 percent, from 1989 to 2007, dropped 7.1 percent from 2007 to 2010, and then recovered by 30.2 percent from 2010 to 2016. Over the whole time span, it more than doubled. Median RW, on the other hand, saw only a 68.4 percent gain.

As shown in Table 14, mean NWX (net worth excluding DCW) among all households gained 58 percent over the whole time period from 1989 to 2016. With DCW now included, mean NW showed a higher advance, 86 percent, to $667,900 in 2016. Mean PAW (net worth plus DBW) grew a bit more slowly, 77 percent, because of the relatively smaller gains in DB pension wealth. All told, mean AW rose 76 percent over these years to $973,400 in 2016. This increase was somewhat lower than that of net worth. For all four variables, there were robust gains from 1989 to 2007, a sharp fall off over years 2007 to 2010 (from 15 to 20 percent), and then a recovery from 2010 to 2016 (around 30 percent). All four variables showed a net increment from 2007 to 2016, though percentage gains were fairly low, varying from 3 to 20 percent.

[Table 14 about here]

Median values displayed quite a different pattern. Over the full time span, 1989 to 2016, median NWX collapsed by 38 percent. Even with DCW, median NW still showed an absolute loss of 9.3 percent, down to $78,100 in 2016. Median PAW also dropped by 9.9 percent. However, because median SSW was up, median AW showed a positive gain of 27.0 percent. For all four variables, the maximum value was reached in 2007. This was followed by a sharp drop-off from 2007 to 2010, though it was less severe for median AW, -26.9 percent, than for median NW, -43.9 percent. All four variables showed a recovery

[27] Median pension values among all households are strongly affected by the share of households with pension wealth and, as a result, are not shown here.

from 2010 to 2016, though as noted above they were still down from their 2007 peak. Median AW did better than median NW, down only 7.6 percent compared to a 34.2 percent plunge for median NW.

Table 15 shows changes in the portfolio composition of AW. There was an almost steady rise in the share of DCW in AW, from 2.2 percent in 1989 to 12.2 percent in 2016. In contrast, the share of DBW fell, from 11.8 to 8.5 percent. Together, PW rose from 14.0 to 20.7 percent. SSW, on the other hand, remained more or less constant as a share of AW – about 23 or 24 percent. Adding the two, we find that RW rose by 6.2 percentage points from 37.4 to 43.6 percent. Consequently, the share of NWX in AW fell by 6.2 percentage points, from 62.6 to 56.4 percent. Since DCW rose in relative terms over this period, NW increased as a share of AW – by 3.8 percentage points to 68.6 percent. PAW as a proportion of AW remained fairly constant as the relative rise in NW offset the relative decline in DBW.

[Table 15 about here]

As shown in Table 16, the Gini coefficient for PW remained steady over time and was almost exactly the same in 2016 as in 1989 (0.798). The Gini coefficient for SSW was much lower than that for PW and actually dropped a bit over these years, to 0.354 in 2016. The inequality of RW is essentially a weighted average of that of PW and SSW.[28] In 2016, its Gini coefficient was 0.531 However, the inequality of RW rose over these years, by 0.046 Gini points, because of the relative increase in higher inequality PW than low inequality SSW. The inequality of NWX escalated over this period by 0.071 Gini points to 0.905. When DCW is added, the Gini coefficient for NW comes down by 0.028 Gini points to 0.877 in 2016 since DCW tends to be more concentrated among the middle classes than NWX. Moreover, the upturn in NW inequality is moderated, rising by 0.049 from 1989 to 2016.

[Table 16 about here]

The further addition of DBW to create PAW further lowers the Gini coefficient, by 0.031 to 0.846 in 2016 since DB entitlements tend to be concentrated in the middle of the wealth distribution. However, the addition of DBW actually further intensifies the rise of inequality by 0.054 Gini points because of its gradual diminution since 1989. Adding SSW to PAW to create AW has an even bigger effect on lowering measured inequality – in this case by 0.135 points to 0.711. In similar fashion, adding SSW to NWX lowers the Gini coefficient by 0.189 whereas adding PW to NWX reduces it by only 0.059. Thus the major equalizing effect of RW comes from SSW, not PW. Adding SSW to PAW lessens the rise of wealth inequality to from 0.054 to 0.048 points. Likewise, adding SSW to NWX decreases the rise in the Gini coefficient from 0.071 to 0.040, whereas adding PW to NWX lessens it to 0.054.

7.2. Trends by race/ethnicity

It is at once evident that whites were much more likely to have a pension plan than minorities. In 2016, 71.8 percent of white households held some form of pension wealth (see Table 12), compared to only 50.2 of African-American households and 39.5 percent of Hispanic households. The difference in the overall pension wealth ownership rate was 21.6 percentage points between whites and blacks and 32.3 between whites and Latinos. The gap in the ownership of DC plans was 25.6 percentage points between whites and blacks and 28.7 between whites and Hispanics. The racial gap in entitlements to DB plans was much smaller, 11.0 percentage points, as was the ethnic gap, 18.7 percentage points.

The disparity in DC pension ownership widened considerably over time, as the take-up rate for DC plans was much greater among white workers. DC ownership among whites expanded from 26.2 percent in 1989 to 59.6 percent in 2016, while among African-Americans it grew from 15.8 to 34.0 and among Latinos from 12.6 to 30.8 percent. The gap in participation in DC plans between whites and African-Americans thus rose from 10.5 to 25.6 percentage points and that between whites and Latinos from 13.6 to 28.8. In contrast, the racial and ethnic gap in participation in DB plans fell quite substantially over these years, as participation plummeted among all groups. As a result, the racial and

[28] There is also an interaction terms in the decomposition of RW into a PW term and a SSW terms.

ethnic gap in the share of households with PW (either DC or DB) was about the same in 2016 as in 1989.

Over time, from 1989 to 2016, mean PW in real terms rose for all three groups but more so for whites than minorities – 184.8 percent for whites versus 87.2 percent for blacks and 115.5 percent for Latinos. Mean SSW was also up for all three groups but in this case more so for the two minorities – 70.3 percent for whites, 133.9 percent for blacks, and 114.0 percent for Hispanics. Similar trends are evident for median SSW. It is also of note that for blacks and Hispanics mean SSW was substantially greater than mean PW – by a factor about three in 2016 – whereas the two were about equal for white households.

However, minority households also had a lot less wealth accumulated in their pension plans than white households. In 2016 the average pension wealth of black households was only 30 percent that of whites. The biggest gap was in DC wealth – a 17 percent ratio. The ratio in DB wealth was 0.50. Hispanics were even worse off in terms of pension wealth, with a ratio of 0.22. The ratio in DCW was lower, 0.18, while the ratio in DBW was higher, 0.26. It is also of note that minority households were better off in terms of pension holdings than in net worth. The ratio in NW between black and white households was 0.14, and that between Hispanics and whites was 0.19.[29]

Over time, the racial and ethnic gap in PW expanded, with the ratio of mean PW between blacks and whites dropping from 45 percent in 1989 to 30 percent in 2016. There was little change in the ratio of DBW over these years but the ratio of DCW fell from 0.22 to 0.17. The PW ratio between Hispanics declined from 0.29 to 0.22, with the DBW ratio falling from 0.30 to 0.27 and the DCW ratio from 0.23 to 0.18. Minorities did quite a bit better in terms of SSW. Between 1989 and 2016, the ratio in mean SSW between blacks and whites advanced from 0.44 to 0.60 and the ratio of median SSW from 0.37 to 0.56. Over the same years, the ratio of mean SSW between Hispanics and whites grew from 48 to 0.60 and the ratio of median SSW from 0.48 to 0.63. Time trends in RW reflect trends in both PW and SSW. The ratio of mean RW between blacks and whites was about the same in 2016 as in 1989 because mean SSW grew faster for the former but mean PW grew slower. However, the ratio of median RW advanced from 0.33 to 0.48. The story is very similar for Hispanics, with the ratio of mean RW between Hispanics and whites about the same in 2016 as in 1989 and the ratio of median RW advancing from 0.40 to 0.50.

Mean AW in real dollar terms rose for all three groups from 1989 to 2016 – 87.7 percent for whites, 87.9 percent for blacks, and 112.3 percent for Hispanics. All three saw robust growth from 1989 to 2007 and then a marked slowdown from 2007 to 2016 (an actual decline in the case of Hispanics). Median AW showed smaller real growth than mean AW over the 1989-2016 period. Over years 2007 to 2016, median AW was up only 3.1 percent for whites but down by 17.3 percent for blacks and by 9.4 percent for Latinos.

Even larger differences exist for total wealth than for retirement wealth. The ratio of average AW between blacks and whites was 0.27 in 2016, as was the ratio of median AW (see Table 14). The gap in mean AW was about half the gap in mean net worth – a ratio of 0.27 compared to 0.14 -- but larger than the gap in income, a ratio of 0.46. Results are similar for Hispanics. The ratio of mean AW between Hispanics and whites was 0.28, and the ratio of median AW was almost identical. Once again, the disparity in mean AW was smaller than that of mean NW but larger than that of income. The smaller gap in AW than NW is attributable mainly to the equalizing effect of SSW.

The ratio in mean AW between blacks and whites first climbed from 0.27 in 1989 to 0.30 in 2007 but then fell back to 0.27 in 2016 and the ratio of median AW went up even more, from 0.24 to 0.34, over

[29] Since NW includes DCW, the ratios of NWX between minorities and whites were even lower.

the first period but then retreated to 0.27 in 2016. Similar trends are evident for mean NWX, mean NW, and mean PAW. Results for Hispanics are similar. The ratio of mean AW between Hispanics and whites advanced from 0.25 in 1989 to 0.33 in 2007 and then fell off to 0.28 in 2016, though higher than in 1989, and that of median AW from 0.25 to 0.33 and then to 0.28 on 2016, also higher than in 1989. Mean NW converged between the two groups (the ratio rising from 0.16 in 1989 to 0.19 in 2016). While PW diverged between the two groups, SSW converged, largely explaining the overall trends in the AW ratio.

Indeed, as shown in the bottom panel of Table 14, adding DCW to NWX makes very little difference in the time trend of the overall black-white ratio of mean AW. Adding DBW has a larger effect, increasing the ratio by 0.04 to 0.05. The largest effect derives from the inclusion of SSW, which enlarges the ratio by 0.05 to 0.09, and this effect itself increases over time from 1989 to 2016. The impact is even greater on the ratio of median AW between blacks and whites. In this case, the addition of SSW augments the ratio by 0.22 to 0.28, and here again this effect generally rises over time. The results are very similar for the ratio of AW between Hispanics and whites. The largest effect on raising the ratio of mean AW comes from the addition of SSW (0.07 to 0.10) and, particularly, on the ratio of median AW (0.23 to 0.31). In these two cases, however, there is no evidence that the effects rise over time.

The most salient difference in the portfolio composition of AW between the two minority groups and white households is the much higher share of SSW among the former (see Table 15). In 2016, the proportion of SSW in AW was 20.4 percent for white households, 45.9 percent for African-Americans, and 43.7 percent for Hispanics. Black households also had a higher share of PW in their portfolio than whites – 23.3 versus 20.8 percent. The difference was due to the fact that the former had a greater share of DBW than the latter – 15.5 versus 8.3 percent. DCW made up a greater percentage of AW for whites – 12.5 versus 7.8. Consequentially, RW loomed larger for blacks than whites -- 69.2 percent as against 41.2 percent – and NWX was consequently greater for whites than blacks – 58.8 versus 30.8 percent. The differential in the share of SSW in AW between blacks and whites expanded over time from 14.4 percentage points in 1989 to 25.5 percentage points in 2016, while that of PW contracted from 9.7 to 2.5 percentage points and that of NWX from -24.0 to -28.0 percentage points.

In 2016, the share of SSW in AW was 43.7 percent for Hispanics – much higher than for whites but slightly lower than for blacks. On the other hand, Hispanics held a smaller portion of their wealth in PW, particularly DCW, compared to whites -- 16.2 versus 20.8 percent. As a result, RW assumed a greater proportion of AW for Hispanics than whites -- 59.9 as against 41.2 percent – and NWX a smaller proportion – 40.1 versus 58.8 percent. The percentage point gap in SSW widened between 1989 and 2016 from 20.9 to 23.3, that in PW fell from 2.3 to -4.6, and that in RW narrowed from 23.1 to 18.7.

Table 16 shows how the difference in portfolio composition plays out in inequality trends. Inequality in NW was considerably greater among the two minority groups – mainly a reflection of the higher share with zero or negative NW. In 2016, the Gini coefficient for NW among blacks was 0.972, compared to 0.852among whites – a gap of 0.120. PW inequality was also higher among blacks – 0.832 and 0.765, respectively, a difference of 0.067. The inequality of SSW was about the same for the two groups – Gini coefficients of 0.350 and 0.332, respectively. However, since SSW inequality was much lower than PW inequality and SSW had a much greater weight in the portfolio of black households, the Gini coefficient for RW was lower among the latter – a difference of 0.035. NWX inequality was much higher among blacks than whites – a difference of 0.161 Gini points. Adding DCW to create NW lowers the differential to 0.120. The further addition of DBW to form PAW reduces the differential even more – to 0.071. Finally, including SSW to create AW decreases the gap to -0.098. That is to say, AW inequality was considerably smaller among blacks than whites – Gini coefficients of 0.601 and 0.699, respectively.

The pattern is similar for Hispanics. In 2016, the Gini coefficients for NW among Hispanics and

whites were 0.945 and 0.852, respectively – a gap of 0.093. PW inequality was likewise greater among Hispanics – a difference of 0.114. The Gini coefficient for SSW was once again very similar for the two groups. Because SSW was much more important in the portfolio of Hispanics, the Gini coefficient for RW was much lower among Latinos – a differential of 0.077. Here too NWX inequality was much higher among Hispanics than whites – a difference of 0.097 Gini points. The differential in NW inequality was about the same, 0.093 Gini points, and that of PAW inequality only slightly lower, 0.084. Once again, adding SSW to form AW had a major effect, reducing the gap to -0.091, and AW inequality was much smaller among Latinos than whites – a Gini coefficient of 0.608 versus 0.699.

Thus, the principal finding is that while NW inequality is notably higher among minorities than whites, AW inequality is just the opposite. The primary reason is that minorities have a much bigger share of SSW in their portfolio, which reduces their AW inequality relative to whites. That is to say, SSW has much bigger impact on wealth inequality for minorities than whites because it is a larger share of AW. In 2016, adding SSW to PAW reduces the Gini coefficient by 0.291 for blacks and 0.297 for Latinos but only 0.122 for whites. Alternatively, adding SSW to NWX reduces the Gini coefficient by 0.473 and 0.394 for the two minority groups but only by 0.171 for whites.

Over time, the differential in SSW inequality between blacks and whites plunged from 0.169 Gini points to 0.018. This was largely due to the sharp rise in the percentage of black households holding SSW. The difference in PW inequality fell slightly, by 0.015 Gini points, and together the gap in RW inequality declined by 0.183 points. By 2016, the Gini coefficient for RW was lower for blacks than whites. In contrast, the Gini coefficient for NWX in 2016 was much higher for blacks than whites but in this case the differential widened sharply over time, from 0.057 in 1989 to 0.161 in 2016. This trend reflected primarily the notable jump in the share of black households with zero or negative NWX. In like fashion, NW inequality was much greater for black households in 2016 and the gap rose from 0.086 to 0.120. However, the change in the racial differential was much smaller for NW than NWX (0.034 versus 0.105), indicating that the rise in DCW helped mitigate the racial gap in NW inequality. This is true despite the fact that mean DCW increased faster for whites than blacks (931 percent as against 663 percent). The difference in PAW inequality rose from 0.052 in 1989 to 0.071 in 2016. However, this increase (0.019 Gini points) was smaller than that of NW (0.034 points), indicating that increases in DBW lowered the racial difference in inequality. This was the case even though mean DBW grew at about the same rate for blacks and whites.

Finally, while AW inequality increased substantially for whites from 1989 to 2016 (by 0.067 Gini points), it fell substantially for blacks (by 0.046 Gini points). Indeed, in 1989, AW inequality was somewhat greater for black households than white ones (0.646 and 0.632, respectively) but this reversed by 2016 (0.601 versus 0.699). The gap in AW inequality plummeted from 0.015 to -0.098. These results illustrate the power of Social Security as a mechanism to level inequality. Whereas the racial differential in PAW inequality between blacks and whites increased by 0.019 Gini points from 1989 to 2016, that in AW inequality dropped by 0.113 Gini points. In similar fashion, the racial difference in NWX inequality climbed by 0.105 Gini points, while that in the inequality of NWX+SSW plunged by 0.114 Gini points.

It is also of note that between 1989 and 2007 there was a huge decline in the racial gap in SSW inequality of 0.158 points. This was followed by a slight uptick from 2007 to 2016, so that all of the diminution in the gap in SSW inequality occurred before 2007. A similar pattern is evident for the difference in PW inequality, though the drop from 1989 to 2007 was much smaller (0.028). In the case of the difference in RW inequality, most of the overall decline of 0.183 Gini points occurred before 2007 (0.146 points) but there was a continued reduction after 2007 as well (0.038 points), reflecting the continuing increase of SSW among black households relative to white households (the difference in the share of AW in SSW rose from 18.6 to 25.5 percent). From 1989 to 2007 there was also a decline in the

racial differential in Gini coefficients for NW, so that all of the increase in the differential took place after 2007. The story is similar for PAW but different for AW. In the latter case, most of the decline in the racial differential in AW inequality took place before 2007 (0.092 out of 0.113 Gini points) but there was an additional drop of 0.021 points after 2007. Once again the result for 2007-2016 is a consequence of the relative rise in SSW among black households as compared to white households.

Results for the differential in inequality between Hispanics and white are similar to those for racial differences. From 1989 to 2016, the difference in SSW inequality between blacks and whites fell from 0.073 to -0.020 as the share of Latino households with SSW rose. The differential in PW inequality fell slightly, by 0.011 Gini points, and the gap in RW inequality plunged by 0.134 points. Once again, the Gini coefficient for RW was lower for Hispanics than whites in 2016 though the opposite was the case in 1989. The Gini coefficient for NWX in 2016 was much higher for Latinos than whites, as was the case for the racial difference, though in this case the differential fell somewhat over time, from 0.118 in 1989 to 0.097 in 2016. Likewise, NW inequality was much higher for Latinos in 2016 but the difference reduced from 0.136 to 0.093. In 1989, the disparity in NW inequality was greater than that in NWX inequality but in 2016 it was slightly lower. These results indicate that the rise in DCW helped close the ethnic gap in NW inequality, despite the fact that mean DCW increased faster for whites than Hispanics (931 versus 743 percent). The difference in PAW inequality declined from 0.112 in 1989 to 0.084 in 2016. This decrease (0.027 Gini points) was lower than that of NW (0.043 points). Adding DBW to NW thus lowered the ethnic difference in PAW inequality by 0.024 points in 1989 but by only 0.009 in 2016 because mean DBW showed stronger gains for whites than Latinos over these years.

Whereas AW inequality increased by 0.067 Gini points for whites over years 1989 to 2016, it fell by 0.015 for Hispanics. The gap in AW inequality between Latinos and whites went from -0.009 to -0.091. Once again SSW was the principal factor. While the differential in PAW inequality fell by 0.027 Gini points, that in AW inequality declined by 0.082 points. Likewise, whereas the difference in the Gini coefficient for NWX dipped by 0.02, that for NWX+SSW dropped by 0.076 Gini points.

The 2007-2016 period once again differed from 1989-2007. There was a sizeable decline in the differential in SSW inequality of 0.113 points between 1989 and 2007, followed by a slight rise from 2007 to 2016, so that all of the reduction in the gap in SSW inequality occurred before 2007. Almost all of the decrease in the differential in PW inequality also took place from 1989 to 2007, though the decline was much smaller than that in the SSW inequality differential. Once again, most of the decrease in the difference in RW inequality happened prior to 2007 but there was a continued decline after that because of the continuing relative increase of SSW among Latinos (the share difference of SSW in AW increased from 15.2 to 23.3 percent). Over 1989 to 2007, the difference in Gini coefficients for NW between Latinos and whites fell but increased from 2007 to 2016. The same pattern holds for PAW. In contrast, of the 0.082 reduction in the differential in AW Gini coefficients from 1989 to 2016, 0.036 occurred from 1989 to 2007 and 0.046 from 2007 to 2016. Here too the 2007-2016 trend is attributable to the relative rise in SSW among Hispanic households.

8. Summary and Concluding Remarks

In Wolff (2017, Chapter 3) I emphasize the role of differential leverage and the resulting differences in rates of return on net worth in explaining the wealth gap between the rich and the middle class. In this paper, these two factors play important roles in accounting for the relative collapse of the wealth of minorities over the Great Recession. Capital revaluation also explained about three quarters of the advance of mean net worth among black households from 2001 to 2007 and 78 percent of the ensuing collapse from 2007 to 2010. Among Hispanics, the corresponding figures were 59 percent for the earlier period and 57 percent for the later one. Differentials in rates of return accounted for 43 percent of the 32 percentage point gain in the net worth of black households relative to whites over years 2001 to 2007 and

39 percent of the 24 percentage point decline in the wealth ratio over years 2007 to 2010. Disparities in returns played a somewhat smaller role in explaining changes in the ratio of mean wealth between Hispanics and whites. Over years 2001 to 2007, they accounted for 33 percent of the 52 percentage point relative gain in the mean net worth of Hispanics and over years 2007 to 2010 for 28 percent of the 41 percentage point drop in the relative wealth of Hispanic households.

The racial disparity in wealth holdings, after fluctuating over the years from 1983 to 2007, was almost exactly the same in 2007 as in 1983. However, the Great Recession hit African-American households much harder than whites and the ratio of mean wealth between the two groups plunged from 0.19 in 2007 to 0.14 in 2010, reflecting a 33 percent decline (in real terms) in black wealth. The relative (and absolute) losses suffered by black households from 2007 to 2010 are ascribable to the fact that blacks had a higher share of homes in their portfolio than did whites and a much higher debt-net worth ratio (0.55 versus 0.15). These factors led to a wide disparity in annual real rates of return on their respective portfolios (-9.92 versus -7.07 percent).

Hispanic households made sizeable gains on whites from 1983 to 2007. The ratio of mean net worth grew from 0.16 to 0.26, the Hispanic homeownership rate climbed from 33 to 49 percent, and the ratio of homeownership rates with white households advanced from 48 to 66 percent. However, in a reversal of fortunes, Hispanic households got hammered in years 2007 to 2010, with their mean net worth plunging in half, the ratio of mean net worth with white households falling from 0.26 to 0.15, their homeownership rate down by 1.9 percentage points, and their net home equity plummeting by 47 percent. The relative (and absolute) losses suffered by Hispanic households over these three years were also mainly due to the much larger share of homes in their wealth portfolio and their much higher leverage (a debt-net worth ratio of 0.51 versus 0.15). These factors led to a large difference in real returns over years 2007 to 2010 (-10.76 versus -7.07 percent per year).

When the definition of wealth is expanded to include defined benefit (DB) pension and Social Security wealth, the picture of racial/ethnic wealth differences changes markedly. There was a profound alteration of the private pension system after 1989, with a dramatic rise in defined contribution (DC) pensions and a corresponding decline in DB pensions. However, the take-up rate in DC coverage was much greater for whites than the two minorities. The share of white households with DC pensions climbed from 26.2 percent in 1989 to 59.6 percent in 2016, among blacks the share rose from 15.8 to 34.0 percent, and among Hispanics from 12.6 to 30.8 percent. The differential in the share holding DCW between whites and blacks escalated from 10.5 to 25.6 percent and that between whites and Hispanics from 13.6 to 28.7 percent. The percentage with DB pensions declined for all three groups. All in all, the share holding any pension wealth went up from 61.5 to 71.8 percent among whites, from 39.8 to 50.2 percent among blacks, and from 31.4 to 39.5 percent among Hispanics.

All in all, there remained a big gap in RW and AW between minorities and whites. In 2016, the mean PW of whites was 3.35 times as great as that of African-Americans. Mean DCW was six times as large but mean DBW was just twice as high. These differences largely reflect disparities in pension ownership. The gap in SSW was much smaller – a ratio of 1.67. Overall the mean RW of the former was 2.23 times that of the latter. The ratio of median RW was slightly smaller, 2.10. Over time, the black-white ratio of PW went more or less steadily downhill, from 0.45 in 1989 to 0.30 in 2016. In contrast, the ratio of mean SSW went fairly steadily uphill, from 0.44 to 0.60. As a result, the racial gap in mean RW was about the same in 2016 as in 1989, while the ratio of median RW rose from 0.33 to 0.48. The gap in mean PW between whites and Hispanics was even greater than the racial gap, with a ratio of 4.60 in 2016. The ethnic discrepancy in SSW was of the same order as the racial difference. The gap in mean RW between whites and Hispanics was slightly greater than the racial disparity while the gap in median RW was a bit smaller. Almost in parallel to the black-white discrepancies, the Hispanic-white differential

in PW enlarged, that in SSW narrowed, the ratio in mean RW was about equal in 2016 and 1989, and that in median RW lessened over time.

The racial gap in AW was considerably smaller than that in NW. In 2016, the ratio of mean NW between blacks and whites was 6.93 while the ratio of mean AW was about half of that, 3.75. More dramatically, while the ratio of median NW in 2016 was 84.6, the ratio of median AW was only 3.65. Over time, the black-white ratio of mean NW was lower in 2016 than in 1989 to 0.19, while the ratio of AW was about the same in the two years. Social Security made the difference as can be seen by looking at the trend in the ratio of mean PAW between the two races, which fell from 0.22 in 1989 to 0.18 in 2016. Likewise, while the ratio of median NW remained a tad above zero over the whole time period, the ratio of median AW was higher in 2016 than in 1989. In similar fashion, the differential in AW between whites and Hispanics was lower than that of NW – a ratio of 3.58 in mean AW in 2016 compared to 5.28 in mean NW and a ratio of 3.56 in median AW in contrast to 72.0 in median NW. In this case, the ethnic ratio of mean NW was a bit higher in 2016 than in 1989, as was the ratio of AW. Whereas the ratio of median NW was slightly above zero over the whole period, that of median AW rose from 1989 to 2016.

The portfolio composition of AW is much more heavily tilted toward SSW among minorities than among whites. In 2016, SSW comprised 46 percent of AW among blacks and 44 percent among Hispanics but made up only 20 percent for whites. DCW was also notably higher as a share of AW among white households (12.5 percent) than among black or Hispanic households (7.8, and 8.3 percent, respectively).

In 2016, NW inequality was considerably higher among blacks and Hispanics than whites, by 0.120 and 0.093 Gini points, respectively, but AW inequality was considerably lower, by 0.098 and 0.091 points, respectively. One of the main finding here is that the equalizing power of SSW rose considerably over time among the two minority groups. While AW inequality increased by 0.067 Gini points for whites from 1989 to 2016, it fell by 0.046 Gini points for blacks and 0.015 points for Hispanics. SSW played the major role to level inequality. While the differential in PAW inequality between blacks and whites grew by 0.019 Gini points from 1989 to 2016 and declined by 0.027 Gini points between whites and Hispanics, that in AW inequality fell off by 0.113 and 0.082 Gini points, respectively.

The results of this study highlight the importance of Social Security in the minority community. In 2016, SSW made up 45.9 percent of the total (augmented) wealth of black households and 43.7 percent of AW among Latinos, in comparison to 20.4 percent for whites. SSW was a much greater equalizer of AW for minorities than whites. On a policy note, efforts to curtail Social Security payouts will have a much more deleterious effect on the finances and inequality of the two minority groups than among whites.

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Appendix 1. Estimation of Retirement Wealth

This appendix provides methodological details on the construction of estimates for both Social Security wealth (SSW) and defined benefit pension wealth (DBW). The imputation of both defined benefit pension wealth (DBW) and Social Security wealth (SSW) involves a large number of steps, which is summarized below. It should be noted that the standard definition of DBW and SSW is based on the conventional "on-going concern" treatment. It is assumed for this that employees continue to work at their place of employment until their expected date of retirement.

A1.1 DB pension wealth

For retirees (r) the procedure is straightforward. Let PB be the pension benefit currently being received by the retiree. The SCF questionnaire indicates how many pension plans each spouse is involved in and what the expected (or current) pension benefit is. The SCF questionnaire also indicates whether the pension benefits remain fixed in nominal terms over time for a particular beneficiary or is indexed for inflation. In the case of the former, DB pension wealth is given by:

$$(A1.1a) \quad DBW_r = \int_0^{109-A} PB(1 - m_t)e^{-\delta t}dt$$

and in the latter case,

$$(A1.1b) \quad DBW_r = \int_0^{109-A} PB(1 - m_t)e^{-\delta^* t}dt$$

where A is the current age of the retiree; m_t is the mortality rate at time t conditional on age, gender, and race; δ^* is the real annual discount rate, set to 2 percent; γ is the inflation rate assumed to be 3 percent per year; $\delta = \delta^* + \gamma$ is the nominal annual discount rate, equal to 5 percent; and the integration runs from zero to the number of years when the retiree reaches an arbitrary age limit of 109.

Estimates of DB pension wealth (as well as Social Security wealth) are quite sensitive to the choice of inflation rate and discount rate. I choose a 3 percent inflation rate since it is very close to the actual average annual change of the CPI-U index from 1983 to 2016. Moreover, I choose a 5 percent nominal discount rate because it likewise is close to the actual average annual rate of return on liquid assets over the same period. These two choices lead to a 2 percent *real* discount rate (the difference between the two rates). A higher real discount rate will lead to lower estimates of DB pension wealth (and likewise Social Security wealth), and, conversely, a lower discount rate will lead to higher estimates of these two variables.[30]

[30] I also used a 3 percent real discount rate to estimate both DB pension and Social Security wealth. The general

Among current workers (w) the procedure is more complex. The SCF provides detailed information on pension coverage among current workers, including the type of plan, the expected benefit at retirement or the formula used to determine the benefit amount (for example, a fixed percentage of the average of the last five year's earnings), the expected retirement age when the benefits are effective, the likely retirement age of the worker, and vesting requirements. Information is provided not only for the current job (or jobs) of each spouse but for up to five past jobs as well. On the basis of the information provided in the SCF and on projected future earnings, future expected pension benefits (EPB_w) are then projected to the year of retirement or the first year of pension eligibility. Then the present value of pension wealth for current workers (w) is given by:

$$(A1.2) \quad DBW_w = \int_{LR}^{109-A} EPB(1 - m_t)e^{-\delta t}dt$$

where RA is the expected age of retirement and LR = A - RA is the number of years to retirement. The integration runs from LR to the number of years when the retiree reaches age 109.[31]

A1.2 Social Security wealth

For current Social Security beneficiaries (r), the procedure is again straightforward. Let SSB be the Social Security benefit currently being received by the retiree. Again, the SCF provides information for both husband and wife. Since Social Security benefits are indexed for inflation, Social Security wealth is given by

$$(A1.3) \quad SSW_r = \int_{0}^{109-A} SSB(1 - m_t)e^{-\delta^* t}dt$$

where it is assumed that the current Social Security rules remain in effect indefinitely.[32]

The imputation of Social Security wealth among current workers is based on the worker's actual and projected earnings history estimated by a standard human capital regression equation. The steps are briefly as follows, First, coverage is assigned based on whether the individual expects to receive Social Security benefits and on whether the individual was salaried or self-employed. Second, on the basis of the person's earnings history,[33] the person's Average Indexed Monthly Earnings (AIME) is computed. Third, on

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results contained in Section 6 above are not materially altered by the use of this higher discount rate (results not shown). Another crucial choice is the selection of which mortality rates to use in the calculation of DB and Social Security wealth. I have used here the standard ones from the *Statistical Abstract of the United States* based on age, gender and race. However, there are also available unofficial life expectancy estimates for individuals by age, gender, and income class (and even by educational attainment). As is well known, higher income (and more educated) individuals live longer on average than lower income (or less educated) ones. The use of mortality rates conditional on income will have the effect of increasing estimates of DBW and SSW of higher income individuals *relative to* lower income ones.

[31] The mortality rate m_t associated with the year of retirement is the probability of surviving from the current age to the age of retirement.

[32] Separate imputations are performed for husband and wife. According to current and past rules, a spouse – say, the wife – is entitled to the greater of her own SS benefit or 50 percent of her husband's SS benefit. An adjustment in the Social Security benefit is also made for the surviving spouse. According to current and past rules, a surviving spouse – say, the wife -- is entitled to the greater or her own SS benefit or her deceased husband's.

[33] This is based on *retrospective* information on work history provided by the respondent. In particular, each individual is asked to provide data on the total number of years worked full-time since age 18, the number of years worked part-time since age 18, and the expected age of retirement (both from full-time and part-time work). On the

the basis of the rules current at the time of the survey year, the person's Primary Insurance Amount (PIA) is derived from AIME. Then,

$$(A1.4) \quad SSW_w = \int_{LR}^{109-A} PIA(1 - m_t)e^{-\delta^* t}dt$$

As with pension wealth, the integration runs from the number of years to retirement, LR, to the number of years when the retiree reaches age 109.[34]

basis of this information, it is possible to approximate the total number of full-time and part-time years worked over the individual's lifetime and use these figures in the calculation of the individual's AIME. It should be noted that though I can approximate the *number* of years of full-time and part-time work for a given worker, I can not determine when in his or her work history periods of non-employment occurred.

[34] As with pension wealth, the mortality rate m_t associated with the year of retirement is the probability of surviving from the current age to the age of retirement. Also, note that I use δ^* in the equation since Social Security benefits are indexed to the CPI.

Table 1. Household Income and Wealth by Race and Ethnicity, 1983-2016
(In thousands, 2016 dollars)

	1983	1989	1992	1995	1998	2001	2004	2007	2010	2013	2016
A. Mean Income											
Whites	75.0	82.2	81.7	75.0	85.2	102.8	98.9	106.9	95.6	102.9	117.8
Blacks	40.4	36.6	40.9	36.2	41.9	49.8	48.4	51.6	45.6	42.8	53.9
Hispanics	45.4	37.5	38.6	48.6	45.8	51.0	48.8	53.7	54.0	46.1	57.0
Ratio:											
Blacks/Whites	0.54	0.45	0.50	0.48	0.49	0.48	0.49	0.48	0.48	0.42	0.46
Hispanics/Whites	0.60	0.46	0.47	0.65	0.54	0.50	0.49	0.50	0.57	0.45	0.48
B. Median Income											
Whites	52.8	54.7	50.3	50.4	54.5	59.6	61.0	57.9	56.1	55.6	60.0
Blacks	29.4	20.8	28.5	26.8	29.4	33.9	35.6	34.7	33.0	30.9	35.0
Hispanics	35.0	26.2	26.8	34.6	33.9	32.5	33.0	40.5	37.4	33.0	39.0
Ratio:											
Blacks/Whites	0.56	0.38	0.57	0.53	0.54	0.57	0.58	0.60	0.59	0.56	0.58
Hispanics/Whites	0.66	0.48	0.53	0.69	0.62	0.55	0.54	0.70	0.67	0.59	0.65
C. Mean Net Worth											
Whites	365.8	432.8	418.8	381.7	472.5	631.3	678.4	754.9	666.0	676.1	875.6
Blacks	68.8	72.5	77.8	64.2	85.8	89.9	128.9	142.0	95.6	87.0	126.3
Hispanics	59.5	71.2	93.1	80.8	116.6	108.6	145.4	197.2	102.4	101.2	165.8
Ratio:											
Blacks/Whites	0.19	0.17	0.19	0.17	0.18	0.14	0.19	0.19	0.14	0.13	0.14
Hispanics/Whites	0.16	0.16	0.22	0.21	0.25	0.17	0.21	0.26	0.15	0.15	0.19
D. Median Net Worth											
Whites	105.3	125.1	104.9	96.1	120.3	144.2	150.3	166.3	113.8	120.3	140.5
Blacks	7.0	3.2	17.7	11.6	14.7	14.4	15.0	10.7	6.9	1.7	3.4
Hispanics	4.1	2.6	6.3	7.9	4.4	4.0	7.0	10.5	3.0	2.0	6.3
Ratio:											
Blacks/Whites	0.07	0.03	0.17	0.12	0.12	0.10	0.10	0.06	0.06	0.01	0.02
Hispanics/Whites	0.04	0.02	0.06	0.08	0.04	0.03	0.05	0.06	0.03	0.02	0.04
E. Mean Financial Resources											
Whites	269.5	327.1	322.4	296.8	375.2	501.0	511.4	573.3	528.8	546.2	722.5
Blacks	34.7	35.5	44.3	33.4	55.4	58.6	78.2	81.8	52.2	55.0	82.8
Hispanics	17.6	34.8	59.8	46.1	74.2	69.8	85.1	111.5	58.8	59.9	108.4
Ratio:											

Blacks/Whites	**0.13**	**0.11**	**0.14**	**0.11**	**0.15**	**0.12**	**0.15**	**0.14**	**0.10**	**0.10**	**0.11**
Hispanics/Whites	**0.07**	**0.11**	**0.19**	**0.16**	**0.20**	**0.14**	**0.17**	**0.19**	**0.11**	**0.11**	**0.15**
F. Median Financial Resources											
Whites	**29.3**	**39.6**	**32.2**	**28.4**	**55.4**	**57.1**	**45.8**	**50.5**	**36.7**	**42.0**	**47.5**
Blacks	**0.0**	**0.0**	**0.2**	**0.3**	**1.8**	**1.5**	**0.3**	**0.6**	**0.3**	**0.2**	**0.1**
Hispanics	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.3**	**0.1**	**0.5**	**0.1**	**0.2**	**0.2**
Ratio:											
Blacks/Whites	**0.00**	**0.00**	**0.01**	**0.01**	**0.03**	**0.03**	**0.01**	**0.01**	**0.01**	**0.00**	**0.00**
Hispanics/Whites	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**
F. Homeownership Rate (in Percent)											
Whites	**68.1**	**69.3**	**69.0**	**69.4**	**71.8**	**74.1**	**75.8**	**74.8**	**74.6**	**73.1**	**71.9**
Blacks	**44.3**	**41.7**	**48.5**	**46.8**	**46.3**	**47.4**	**50.1**	**48.6**	**47.7**	**44.0**	**44.0**
Hispanics	**32.6**	**39.8**	**43.1**	**44.4**	**44.2**	**44.3**	**47.7**	**49.2**	**47.3**	**43.9**	**45.4**
Ratio:											
Blacks/Whites	**0.65**	**0.60**	**0.70**	**0.67**	**0.64**	**0.64**	**0.66**	**0.65**	**0.64**	**0.60**	**0.61**
Hispanics/Whites	**0.48**	**0.57**	**0.62**	**0.64**	**0.61**	**0.60**	**0.63**	**0.66**	**0.63**	**0.60**	**0.63**
G. Percentage of Households with zero or negative net worth											
Whites	**11.3**	**12.1**	**13.8**	**15.0**	**14.8**	**13.1**	**13.0**	**14.5**	**17.9**	**16.3**	**15.5**
Blacks	**34.1**	**40.7**	**31.5**	**31.3**	**27.4**	**30.9**	**29.4**	**33.4**	**32.9**	**40.0**	**37.0**
Hispanics	**40.3**	**39.9**	**41.2**	**38.3**	**36.2**	**35.3**	**31.3**	**33.5**	**34.6**	**33.9**	**32.8**
Ratio:											
Blacks/Whites	**3.01**	**3.38**	**2.28**	**2.09**	**1.85**	**2.35**	**2.27**	**2.30**	**1.84**	**2.46**	**2.38**
Hispanics/Whites	**3.55**	**3.31**	**2.98**	**2.56**	**2.45**	**2.69**	**2.41**	**2.30**	**1.93**	**2.09**	**2.11**
H. Inequality of Net Worth (Gini coeff.)											
Whites	**0.781**	**0.781**	**0.786**	**0.810**	**0.804**	**0.803**	**0.822**	**0.818**	**0.844**	**0.843**	**0.852**
Blacks	**0.851**	**0.868**	**0.826**	**0.832**	**0.825**	**0.855**	**0.913**	**0.848**	**0.948**	**1.010**	**0.972**
Hispanics	**0.791**	**0.917**	**0.894**	**0.845**	**0.903**	**0.894**	**0.907**	**0.880**	**0.960**	**0.967**	**0.945**
Difference:											
Blacks-Whites	**0.070**	**0.086**	**0.040**	**0.022**	**0.021**	**0.052**	**0.091**	**0.030**	**0.104**	**0.168**	**0.120**
Hispanics-Whites	**0.010**	**0.136**	**0.108**	**0.035**	**0.098**	**0.092**	**0.086**	**0.062**	**0.115**	**0.124**	**0.093**

Source: author's computations from the 1983, 1989 1992, 1995, 1998, 2001, 2004, 2007, 2010, 2013, and 2016 SCF.
Households are divided into four racial/ethnic groups: (I) non-Hispanic whites; (ii) non-Hispanic blacks; (iii) Hispanics; and (iv) American Indians, Asians, and others. For 1995, 1998, and 2001, the classification scheme does not explicitly indicate non-Hispanic whites and non-Hispanic blacks for the first two categories so that some Hispanics may have classified themselves as either whites or blacks.

Table 2. Composition of Household Wealth by Race and Ethnicity, 2007
(Percent of gross assets)

Asset	All	Non-Hispanic Whites	African-Americans	Hispanics
Principal residence	32.8	30.8	54.0	52.5
Liquid assets	6.6	6.6	7.6	3.9
Pension accounts	12.1	12.5	12.3	7.7
Corporate stock, financial securities, mutual funds, and personal trusts	15.5	17.1	3.4	2.5
Unincorporated business equity other real estate	31.3	31.3	20.9	32.9
Miscellaneous assets	1.7	1.7	1.8	0.4
Total assets	100.0	100.0	100.0	100.0
Memo (selected ratios in percent):				
Debt / equity ratio	18.1	15.4	55.3	51.1
Debt / income ratio	118.7	109.0	152.2	187.9
Net home equity / total assets	21.4	20.8	27.3	28.8
Principal residence debt / house value	34.9	32.4	49.4	45.2
All stocks / total assets	16.8	18.3	5.0	5.1

a. Ratio of gross value of principal residence less mortgage debt on principal residence to total assets
b. Includes direct ownership of stock shares and indirect ownership through mutual funds, trusts, and IRAs, Keogh plans, 401(k) plans, and other retirement accounts
c. Based on average portfolio composition and rates of return by asset type over the period.

Table 3. The Evolution of the Composition of Household Wealth for Non-Hispanic Whites, 1983-2016

(Percent of gross assets)

Asset	1983	1989	2001	2007	2010	2013	2016
Principal residence	35.6	31.2	26.9	30.8	28.8	26.5	23.1
Liquid assets	12.2	11.8	9.0	6.6	7.9	7.8	6.8
Pension accounts	3.9	7.0	12.4	12.5	15.3	17.2	15.7
Corporate stock, financial securities, mutual funds, and personal trusts	9.6	13.1	22.6	17.1	16.2	18.6	21.8
Unincorporated business equity other real estate	36.5	33.4	27.2	31.3	30.0	28.4	31.4
Miscellaneous assets	2.4	3.5	1.9	1.7	1.7	1.5	1.3
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Memo (selected ratios in percent):							
Debt / net worth ratio	16.6	13.0	13.0	15.4	18.0	15.5	12.2
Debt / income ratio	66.9	64.0	79.6	109.0	125.8	102.1	90.7
Net home equity[a] / total assets	27.0	23.3	18.3	20.8	17.5	16.6	15.6
Principal residence debt/house value	24.0	25.4	32.2	32.4	39.5	37.3	32.6
All stocks / total assets[b]	--	8.4	25.4	18.3	18.2	22.0	23.5
Ownership Rates (Percent)							
Principal residence	65.1	70.5	74.1	74.8	74.6	73.1	71.9
Other real estate	19.4	22.8	19.3	21.0	21.2	20.7	20.3
Pension assets	32.1	43.4	56.9	57.4	57.3	56.0	59.6
Unincorporated business	15.1	13.7	14.0	13.7	14.3	12.1	13.7
Corporate stock, financial securities, mutual funds, and personal trusts	25.2	29.5	38.1	32.7	28.3	26.9	28.9
Stocks, directly or indirectly owned[b]	--	37.5	57.5	55.4	54.5	53.9	57.5
(1) $5,000 or more	--	23.2	46.6	42.0	43.0	44.2	47.3
(2) $10,000 or more	--	17.1	41.7	36.9	37.9	39.8	42.9
Sample Size	3468	2558	3580	3518	4759	4425	4480

a. Gross value of principal residence less mortgage debt on principal residence.

b. Includes direct ownership of stock shares and indirect ownership via mutual funds, trusts, IRAs, 401(k) plans, and other retirement accounts. This variable is not available for 1983.

Table 4. The Evolution of the Composition of Household Wealth for African Americans, 1983-2016

(Percent of gross assets)

Asset	1983	1989	2001	2007	2010	2013	2016
Principal residence	46.4	53.8	46.3	54.0	52.5	48.3	43.1
Liquid assets	9.7	10.3	13.5	7.6	8.7	7.0	7.0
Pension accounts	3.0	6.5	12.4	12.3	12.3	14.0	13.9
Corporate stock, financial securities, mutual funds, and personal trusts	1.0	1.4	8.8	3.4	4.0	3.7	10.1
Unincorporated business equity other real estate	36.8	20.0	16.5	20.9	20.8	24.6	24.2
Miscellaneous assets	3.1	8.0	2.4	1.8	1.7	2.4	1.6
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Memo (selected ratios in percent):							
Debt / net worth ratio	24.8	29.8	48.0	55.3	59.4	60.9	44.5
Debt / income ratio	46.9	58.8	86.7	152.2	124.5	124.0	104.3
Net home equity[a] / total assets[a]	35.5	39.9	23.5	27.3	28.5	22.9	23.9
Principal residence debt/house value	23.5	25.9	49.3	49.4	45.8	52.6	44.6
All stocks / total assets[b]	--	3.3	14.9	5.0	8.9	8.1	9.3
Ownership Rates (Percent)							
Principal residence	49.4	42.4	47.4	48.6	47.7	44.0	44.0
Other real estate	11.4	11.0	8.9	12.2	13.2	8.8	10.7
Pension assets	20.7	17.1	38.9	36.6	32.4	33.9	34.0
Unincorporated business	5.7	4.8	3.0	5.4	5.1	5.6	6.0
Corporate stock, financial securities, mutual funds, and personal trusts	9.2	6.3	16.2	10.7	8.3	5.5	7.5
Stocks, directly or indirectly owned[b]	--	10.1	34.2	28.3	27.6	27.5	29.7
(1) $5,000 or more	--	4.2	21.5	16.7	16.2	16.2	19.7
(2) $10,000 or more	--	3.2	16.1	14.2	12.5	12.1	15.2
Sample Size	478	308	462	410	790	746	835

a. Gross value of principal residence less mortgage debt on principal residence.

b. Includes direct ownership of stock shares and indirect ownership via mutual funds, trusts, IRAs, 401(k) plans, and other retirement accounts. This variable is not available for 1983.

Table 5. The Evolution of the Composition of Household Wealth for Hispanics, 1983-2016

(Percent of gross assets)

Asset	1983	1989	2001	2007	2010	2013	2016
Principal residence	66.2	56.9	47.6	52.5	56.8	54.0	44.2
Liquid assets	8.4	9.9	8.9	3.9	5.2	4.2	8.1
Pension accounts	4.9	6.3	9.3	7.7	11.0	8.0	12.3
Corporate stock, financial securities, mutual funds, and personal trusts	0.2	1.5	9.9	2.5	3.9	5.1	9.6
Unincorporated business equity other real estate	19.9	23.0	22.9	32.9	22.1	28.1	24.3
Miscellaneous assets	0.4	2.4	1.4	0.4	1.0	0.5	1.4
Total assets	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Memo (selected ratios in percent):							
Debt / net worth ratio	40.4	50.8	40.3	51.1	68.3	56.6	39.1
Debt / income ratio	53.6	96.1	85.9	187.9	129.5	124.1	113.7
Net home equity[a] / total assets	48.7	33.2	25.4	28.8	25.3	26.0	24.9
Principal residence debt/house value	26.5	41.7	46.6	45.2	55.4	51.8	43.7
All stocks / total assets[b]	--	1.6	10.6	5.1	6.9	7.0	12.9
Ownership Rates (Percent)							
Principal residence	42.8	41.9	44.3	49.2	47.3	43.9	45.4
Other real estate	15.8	9.7	7.7	12.9	8.7	8.0	8.8
Pension assets	28.3	15.5	30.8	32.0	27.6	25.6	30.8
Unincorporated business	7.5	4.0	5.3	7.4	5.6	5.7	5.5
Corporate stock, financial securities, mutual funds, and personal trusts	1.4	5.0	11.7	7.9	5.0	4.7	6.7
Stocks, directly or indirectly owned[b]	--	12.4	28.0	22.4	22.1	19.5	26.3
(1) $5,000 or more	--	3.0	15.0	13.5	11.1	11.7	17.1
(2) $10,000 or more	--	2.2	13.0	10.6	9.4	9.6	13.1
Sample Size	111	161	279	313	639	556	612

a. Gross value of principal residence less mortgage debt on principal residence.

b. Includes direct ownership of stock shares and indirect ownership via mutual funds, trusts, IRAs, 401(k) plans, and other retirement accounts. This variable is not available for 1983.

Table 6. Average Annual Real Rates of Return by Race and Ethnicity, 1983 - 2016

(percentage)

	1983-1989	1989-2001	2001-2007	2007-2010	2010-2013	2013-2016	1983-2016
A. Gross Assets							
1. All Households	**2.32**	**3.01**	**3.10**	**-5.98**	**4.60**	**5.42**	**2.45**
2. Non-Hispanic Whites	**2.09**	**3.11**	**3.06**	**-5.88**	**4.68**	**5.43**	**2.15**
3. African-Americans	**1.04**	**2.30**	**3.05**	**-6.82**	**3.42**	**5.26**	**1.40**
4. Hispanics	**1.01**	**2.20**	**3.64**	**-7.30**	**3.53**	**5.33**	**1.43**
B. Net Worth							
1. All Households	**3.31**	**3.97**	**4.04**	**-6.81**	**5.91**	**6.46**	**3.28**
2. Non-Hispanic Whites	**2.94**	**3.91**	**3.87**	**-6.57**	**5.84**	**6.32**	**2.85**
3. African-Americans	**2.34**	**4.34**	**6.00**	**-9.76**	**6.82**	**8.53**	**3.11**
4. Hispanics	**3.17**	**4.57**	**6.51**	**-10.61**	**7.12**	**8.33**	**3.41**
Memo: difference between :							
(a) Blacks and Whites	**-0.61**	**0.43**	**2.13**	**-3.18**	**0.98**	**2.21**	**0.26**
(b) Hispanics and Whites	**0.22**	**0.66**	**2.64**	**-4.04**	**1.28**	**2.01**	**0.56**

Source: author's computations from the 1983, 1989, 2001, 2007, 2010, 2013, and 2016 SCF.

Rates of return by asset type are provided in Appendix Table 1.
Calculations are based on household portfolios averaged over the period and assume the same rate of return by asset type for all three groups.

Miscellaneous assets are excluded from the calculation.

Table 7. Decomposition of the Change in Mean Net Worth by Component

Period	All	Non-Hispanic Whites	African-Americans	Hispanics
A. Dollar Changes (in 1000s, 2016$)				
1983-1989	**45.6**	**67.0**	**3.7**	**11.8**
a. Capital appreciation	**68.7**	**70.6**	**10.4**	**12.4**
b. Net wealth transfers	**-3.3**	**-3.2**	**-5.6**	**-1.0**
c. Residual(savings)	**-19.8**	**-0.4**	**-1.1**	**0.3**
1989-2001	**156.6**	**198.5**	**17.4**	**37.3**
a. Capital appreciation	**218.7**	**259.0**	**49.5**	**52.0**
b. Net wealth transfers	**1.6**	**5.8**	**-13.3**	**-10.2**
c. Residual(savings)	**-63.7**	**-66.3**	**-18.8**	**-4.5**
2001-2007	**105.3**	**123.6**	**52.1**	**88.7**
a. Capital appreciation	**141.3**	**164.8**	**38.9**	**51.9**
b. Net wealth transfers	**6.7**	**9.8**	**-6.9**	**2.1**
c. Residual(savings)	**-42.7**	**-51.0**	**20.0**	**34.7**
2007-2010	**-99.6**	**-88.9**	**-46.4**	**-94.8**
a. Capital appreciation	**-114.7**	**-135.1**	**-36.0**	**-53.8**
b. Net wealth transfers	**-2.7**	**-2.3**	**-4.4**	**-3.4**
c. Residual(savings)	**17.8**	**48.5**	**-5.9**	**-37.7**
2010-2013	**3.1**	**10.1**	**-8.6**	**-1.2**
a. Capital appreciation	**101.1**	**127.5**	**21.7**	**24.4**
b. Net wealth transfers	**4.8**	**6.9**	**-3.4**	**-0.1**
c. Residual(savings)	**-102.7**	**-124.3**	**-26.9**	**-25.6**
2013-2016	**143.5**	**199.5**	**39.3**	**64.7**
a. Capital appreciation	**112.0**	**141.1**	**25.4**	**28.7**
b. Net wealth transfers	**2.4**	**2.2**	**4.2**	**1.5**
c. Residual(savings)	**29.1**	**56.2**	**9.7**	**34.5**
Panel B. Percentage Decomposition				
1983-1989	**107.3**	**100.0**	**100.0**	**100.0**
a. Capital appreciation	**150.7**	**105.4**	**280.4**	**105.7**
b. Net wealth transfers	**-7.3**	**-4.8**	**-151.7**	**-8.4**
c. Residual(savings)	**-43.4**	**-0.6**	**-28.7**	**2.7**
1989-2001	**99.0**	**100.0**	**100.0**	**100.0**
a. Capital appreciation	**139.7**	**130.5**	**285.2**	**139.4**
b. Net wealth transfers	**1.0**	**2.9**	**-76.7**	**-27.4**
c. Residual(savings)	**-40.7**	**-33.4**	**-108.5**	**-11.9**
2001-2007	**93.6**	**100.0**	**100.0**	**100.0**
a. Capital appreciation	**134.1**	**133.3**	**74.7**	**58.5**
b. Net wealth transfers	**6.4**	**7.9**	**-13.2**	**2.4**
c. Residual(savings)	**-40.5**	**-41.2**	**38.4**	**39.1**

2007-2010	**97.3**	**100.0**	**100.0**	**100.0**
a. Capital appreciation	**115.2**	**151.9**	**77.7**	**56.7**
b. Net wealth transfers	**2.7**	**2.6**	**9.5**	**3.6**
c. Residual(savings)	**-17.9**	**-54.5**	**12.8**	**39.7**
2010-2013	**-52.3**	**100.0**	**100.0**	**100.0**
a. Capital appreciation	**3212.2**	**1263.5**	**-251.8**	**-1953.5**
b. Net wealth transfers	**152.3**	**68.3**	**39.2**	**5.6**
c. Residual(savings)	**-3264.5**	**-1231.8**	**312.6**	**2047.9**
2013-2016	**98.3**	**100.0**	**100.0**	**100.0**
a. Capital appreciation	**78.1**	**70.7**	**64.6**	**44.4**
b. Net wealth transfers	**1.7**	**1.1**	**10.7**	**2.3**
c. Residual(savings)	**20.2**	**28.2**	**24.7**	**53.3**

Source: author's computations from the 1983, 1989, 2001, 2007, 2010, 2013, and 2016 SCF.

Table 8. Decomposition of the Change in Mean Net Worth Ratios by Component

	Period					
Ratios	**1983-1989**	**1989-2001**	**2001-2007**	**2007-2010**	**2010-2013**	**2013-2016**
A. Ratio between African-Americans and Whites						
1. Change in the Actual Ratio	-0.021	-0.025	0.046	-0.045	-0.015	0.016
2. Add Capital Appreciation Only	-0.007	0.009	0.019	-0.017	0.004	0.009
3. Add Net Wealth Transfers Only	-0.014	-0.033	-0.013	-0.005	-0.006	0.001
4. Add Residual Only	-0.003	-0.021	0.047	-0.019	-0.017	-0.034
Memo: Percentage Contribution to the Change in the Ratio						
1. Change in the Actual Ratio	100.0	100.0	100.0	100.0	100.0	100.0
2. Add Capital Appreciation Only	32.6	-35.2	42.5	38.5	-28.6	56.8
3. Add Net Wealth Transfers Only	67.0	129.4	-28.2	11.9	43.6	3.5
4. Add Residual Only	13.1	83.8	102.9	42.1	112.7	-219.0
Sum of Components	112.6	178.0	117.2	92.4	127.6	-158.8
B. Ratio between Hispanics and Whites						
1. Change in the Actual Ratio	0.002	0.007	0.089	-0.107	-0.004	0.040
2. Add Capital Appreciation Only	0.002	0.014	0.030	-0.030	0.006	0.009
3. Add Net Wealth Transfers Only	-0.001	-0.026	0.001	-0.004	-0.002	0.002
4. Add Residual Only	0.001	0.018	0.075	-0.063	-0.012	0.050
Memo: Percentage Contribution to the Change in the Ratio						
1. Change in the Actual Ratio	100.0	100.0	100.0	100.0	100.0	100.0
2. Add Capital Appreciation Only	107.8	184.4	33.1	27.8	-144.8	23.3
3. Add Net Wealth Transfers Only	-62.7	-347.6	0.8	3.4	40.5	4.4
4. Add Residual Only	52.0	240.2	83.8	58.3	286.7	126.6
Sum of Components	97.0	77.0	117.7	89.5	182.4	154.3

Source: author's computations from the 1983, 1989, 2001, 2007, 2010, 2013, and 2016 SCF.
Note: Components 1, 2, and 3 do not necessarily sum to one.

Table 9 Distribution of Households by Age Group and Race/Ethnicity, 1983 - 2016
(Percentage)

Age Group	1983	1989	2001	2007	2010	2013	2016
White							
Under 25	7.5	3.8	4.7	4.0	4.7	4.4	4.8
Ages 25 - 34	21.9	20.4	15.7	13.6	14.1	14.0	13.5
Ages 35 - 44	19.5	23.8	20.8	18.7	16.0	15.3	14.7
Ages 45 - 54	15.4	14.5	21.0	20.8	20.5	18.7	16.8
Ages 55 - 64	15.2	14.2	14.0	18.2	19.2	20.3	20.9
Ages 65 - 74	13.2	13.3	11.7	11.7	12.4	14.5	15.8
Ages 75 and over	7.3	10.2	12.2	13.0	13.1	12.7	13.5
Total	100	100	100	100	100	100	100
Mean Age	47.4	49.1	50.6	52.2	52.4	53.0	53.6
Median Age	45.0	46.0	48.0	51.0	52.0	53.0	55.0
African-American Households							
Under 25	9.2	8.5	7.0	8.4	6.2	6.0	4.5
Ages 25 - 34	25.4	19.3	19.2	21.0	17.2	17.4	17.5
Ages 35 - 44	18.1	18.8	26.8	20.6	20.2	19.5	18.5
Ages 45 - 54	16.6	16.7	20.6	19.4	22.7	21.6	21.4
Ages 55 - 64	14.9	17.2	10.6	17.8	16.2	17.3	17.5
Ages 65 - 74	8.7	12.8	10.2	8.1	10.9	10.7	12.4
Ages 75 and over	7.2	6.7	5.5	4.7	6.6	7.5	8.1
Total	100	100	100	100	100	100	100
Mean Age	45.4	47.7	45.5	45.7	48.1	48.8	49.3
Median Age	43.0	46.0	43.0	45.0	47.0	48.0	49.0
Hispanic							
Under 25	11.8	3.6	12.3	12.3	6.6	7.6	5.0
Ages 25 - 34	27.6	36.7	26.7	26.6	24.8	23.8	20.5
Ages 35 - 44	22.6	28.1	25.6	24.1	28.5	23.8	25.9
Ages 45 - 54	16.4	10.9	18.9	20.8	21.9	20.7	22.3
Ages 55 - 64	11.5	9.5	9.8	7.2	9.5	13.3	13.0
Ages 65 - 74	6.3	6.4	4.6	6.3	6.6	5.3	9.1
Ages 75 and over	3.8	4.8	2.0	2.7	2.1	5.4	4.2
Total	100	100	100	100	100	100	100
Mean Age	41.8	42.2	40.7	41.3	42.4	44.3	45.8
Median Age	39.0	37.0	40.0	40.0	40.0	42.0	44.0

Source: author's computations from the 1983, 1989, 2001, 2007, 2010, 2013, and 2016 SCF.
Note: Households are classified by the age of the head of household.

Table 10 Mean Net Worth Ratios by Race/Ethnicity Standardized by Age Distribution, 1983 – 2016

								Change					
Ratios	1983	1989	2001	2007	2010	2013	2016	1983-1989	1989-2001	2001-2007	2007-2013	2013-2016	1983-2016
A. Ratio between African-Americans and Whites													
1. Actual Ratio	0.188	0.168	0.142	0.188	0.144	0.129	0.144	-0.021	-0.025	0.046	-0.059	0.016	-0.044
2. Ratio Standardized by age dist. of white households	0.219	0.178	0.152	0.191	0.174	0.144	0.162	-0.041	-0.026	0.039	-0.047	0.019	-0.057
3. Ratio standardized by age dist. dist. of black households	0.203	0.169	0.163	0.222	0.161	0.144	0.162	-0.034	-0.006	0.058	-0.077	0.017	-0.042
4. Ratio standardized by average age dist.	0.211	0.173	0.157	0.205	0.168	0.144	0.162	-0.038	-0.016	0.048	-0.061	0.018	-0.049
B. Ratio between Hispanics and Whites													
1. Actual Ratio	0.163	0.165	0.172	0.261	0.154	0.150	0.189	0.002	0.007	0.089	-0.112	0.040	0.027
2. Ratio Standardized by age dist. of white households	0.174	0.204	0.239	0.410	0.220	0.174	0.257	0.031	0.035	0.170	-0.236	0.083	0.083
3. Ratio standardized by age dist. of Hispanic households	0.196	0.211	0.233	0.383	0.223	0.208	0.249	0.015	0.022	0.150	-0.175	0.041	0.053
4. Ratio standardized by average age dist.	0.184	0.207	0.236	0.399	0.221	0.188	0.254	0.023	0.029	0.162	-0.210	0.066	0.070

Source: author's computations from the SCF.

Note: Households are classified by the age of the head of household.

Table 11. Trends in Net Worth: Actual and Standardized by 2001 Socio-Demographic Characteristics, 1983-2016

(In thousands, 2016 dollars)

							Percentage Change[a]		
Variable	**1983**	**1989**	**2001**	**2007**	**2010**	**2016**	**1983-2007**	**2007-2016**	**1983-2016**
A. Actual Net Worth									
1. Median	**80.4**	**86.1**	**99.6**	**118.6**	**66.5**	**78.1**	**47.5**	**-34.2**	**-2.9**
2. Mean	**313.0**	**358.6**	**515.2**	**620.5**	**521.0**	**667.6**	**98.2**	**7.6**	**113.3**
3. Gini Coeff.	**0.799**	**0.828**	**0.826**	**0.834**	**0.866**	**0.877**	**0.035**	**0.043**	**0.078**
B. Net worth standardized by 2001 racial/ethnic composition									
1. Median	**72.8**	**88.1**	**102.6**	**121.2**	**73.1**	**89.1**	**66.6**	**-26.5**	**22.4**
2. Mean	**298.6**	**356.4**	**530.8**	**627.4**	**543.5**	**716.4**	**110.1**	**14.2**	**139.9**
3. Gini Coeff.	**0.803**	**0.827**	**0.826**	**0.834**	**0.862**	**0.871**	**0.031**	**0.038**	**0.069**

Source: author's computations from the 1983, 1989, 2001, 2007, 2010, and 2016 SCF.

a. Change for the Gini coefficient.

Table 12. Percentage of Households Holding Pension Wealth, 1989-2016

							Change			
Category	1989	2001	2007	2010	2013	2016	1989-2001	2001-2007	2007-2016	1989-2016
A. All households										
DC Wealth DCW	25.1	53.7	54.9	52.8	51.6	54.7	28.6	1.2	-0.2	29.5
DB Wealth DBW	47.7	35.4	35.4	27.9	35.2	34.8	-12.3	0.0	-0.6	-12.9
Pension Wealth PW	58.6	67.5	66.9	64.7	65.7	67.4	8.9	-0.6	0.6	8.9
B. Non-Hispanic White										
DC Wealth DCW	26.2	56.9	57.4	57.3	56.0	59.6	30.6	0.5	2.2	33.3
DB Wealth DBW	50.5	37.4	37.2	30.5	38.4	37.8	-13.1	-0.2	0.6	-12.8
Pension Wealth PW	61.5	70.5	69.2	69.0	70.1	71.8	9.0	-1.3	2.6	10.3
C. African-American										
DC Wealth DCW	15.8	38.9	36.6	32.4	33.9	34.0	23.2	-2.4	-2.6	18.2
DB Wealth DBW	34.0	27.7	29.1	22.5	27.9	26.8	-6.3	1.4	-2.3	-7.2
Pension Wealth PW	39.8	52.6	49.8	46.5	49.5	50.2	12.9	-2.8	0.4	10.4
D. Hispanic										
DC Wealth DCW	12.6	30.8	32.0	27.6	25.6	30.8	18.2	1.2	-1.2	18.2
DB Wealth DBW	24.6	21.1	16.6	10.2	16.3	19.0	-3.5	-4.5	2.4	-5.5
Pension Wealth PW	31.4	42.5	39.0	34.1	33.9	39.5	11.1	-3.5	0.5	8.1
Racial/EthnicDifferences										
Whites minus Blacks										
DC Wealth DCW	10.5	17.9	20.8	24.9	22.1	25.6				
DB Wealth DBW	16.5	9.7	8.1	8.0	10.5	11.0				
Pension Wealth PW	21.7	17.9	19.4	22.6	20.7	21.6				
Whites minus Hispanics										
DC Wealth DCW	13.6	26.1	25.4	29.6	30.4	28.7				
DB Wealth DBW	26.0	16.3	20.6	20.4	22.1	18.7				
Pension Wealth PW	30.1	28.0	30.2	34.9	36.2	32.3				

Note: author's computations from the 1989, 2001, 2007, and 2016 SCF. Key:
Pension Wealth PW = DCW + DBW

Table 13. Mean Retirement Wealth by Race/Ethnicity and Age Class, 1989-2016

(in thousands, 2016 dollars)

Category	1989	2001	2007	2016	Percentage Change 1989-2001	2001-2007	2007-2016	1989-2016
A. All households								
Pension Wealth PW	77.7	139.9	159.8	201.8	80.1	14.2	26.3	159.8
DB Wealth DBW	65.4	67.1	70.8	82.7	2.6	5.5	16.7	26.3
DC Wealth DCW	12.2	72.8	88.9	119.1	494.4	22.2	33.9	872.7
Memo: Median PW among PW Holders Only	65.8	91.3	108.3	111.5	38.7	18.6	3.0	69.4
Social Security Wealth SSW	129.6	189.1	191.4	222.9	46.0	1.2	16.4	72.0
Retirement Wealth RW	207.3	329.0	351.2	424.6	58.8	6.7	20.9	104.9
Memo: Median among all households								
Memo: Median PW	6.5	14.8	22.0	25.0	128.5	49.0	13.6	286.6
Memo: Median SSW	116.3	163.6	161.1	188.9	40.6	-1.5	17.2	62.4
Memo: Median RW	146.0	213.7	217.3	245.8	46.4	1.7	13.1	68.4
B. Non-Hispanic White								
Pension Wealth PW	89.7	164.4	189.7	255.3	83.4	15.4	34.6	184.8
DB Wealth DBW	74.7	75.7	80.7	101.4	1.4	6.6	25.7	35.9
DC Wealth DCW	14.9	88.7	109.0	153.9	494.2	22.9	41.2	931.1
Social Security Wealth SSW	147.3	211.2	211.4	250.8	43.4	0.1	18.6	70.3
Retirement Wealth RW	236.8	375.6	401.1	506.1	58.6	6.8	26.2	113.7
Memo: Median SSW	136.1	192.0	183.3	224.8	41.1	-4.5	22.6	65.2
Memo: Median RW	171.0	254.3	259.8	306.7	48.7	2.2	18.0	79.3
C. African-American								
Pension Wealth PW	40.8	61.4	76.9	76.3	50.7	25.2	-0.7	87.2
DB Wealth DBW	37.3	44.9	49.7	50.9	20.2	10.7	2.5	36.3
DC Wealth DCW	3.3	16.5	27.2	25.4	396.1	64.5	-6.5	662.6
Social Security Wealth SSW	64.4	110.8	121.4	150.6	72.1	9.6	24.1	133.9
Retirement Wealth RW	105.0	172.2	198.3	226.9	63.9	15.1	14.4	116.0
Memo: Median SSW	50.9	96.9	98.8	126.2	90.5	2.0	27.7	148.0
Memo: Median RW	56.9	111.1	115.9	146.1	95.4	4.3	26.1	157.0

D. Hispanic								
Pension Wealth PW	**25.8**	**41.7**	**51.9**	**55.5**	**61.7**	**24.5**	**7.0**	**115.5**
DB Wealth DBW	**22.4**	**27.5**	**28.8**	**27.1**	**22.7**	**5.0**	**-6.1**	**20.9**
DC Wealth DCW	**3.4**	**14.2**	**23.1**	**28.5**	**321.0**	**62.3**	**23.4**	**743.4**
Social Security Wealth SSW	**70.0**	**112.2**	**123.5**	**149.9**	**60.2**	**10.2**	**21.3**	**114.0**
Retirement Wealth RW	**95.8**	**153.8**	**175.4**	**205.4**	**60.6**	**14.0**	**17.1**	**114.4**
Memo: Median SSW	**64.9**	**105.4**	**107.5**	**140.7**	**62.5**	**2.0**	**30.8**	**116.8**
Memo: Median RW	**67.7**	**118.4**	**115.5**	**151.9**	**74.9**	**-2.4**	**31.5**	**124.3**

Ratios in Retirement Wealth by Component					**Change**		
1. All Households					**1989-**	**2007-**	**1989-**
Blacks/Whites	**1989**	**2001**	**2007**	**2016**	**2007**	**2016**	**2016**
Pension Wealth PW	**0.45**	**0.37**	**0.41**	**0.30**	**-0.049**	**-0.106**	**-0.156**
DB Wealth DBW	**0.50**	**0.59**	**0.62**	**0.50**	**0.115**	**-0.114**	**0.002**
DC Wealth DCW	**0.22**	**0.19**	**0.25**	**0.17**	**0.026**	**-0.085**	**-0.058**
Social Security Wealth SSW	**0.44**	**0.52**	**0.57**	**0.60**	**0.137**	**0.026**	**0.163**
Retirement Wealth RW	**0.44**	**0.46**	**0.49**	**0.45**	**0.051**	**-0.046**	**0.005**
Memo: Median SSW	**0.37**	**0.50**	**0.54**	**0.56**	**0.165**	**0.022**	**0.188**
Memo: Median RW	**0.33**	**0.44**	**0.45**	**0.48**	**0.114**	**0.030**	**0.144**
Hispanics/Whites	**0.00**	**0.00**	**0.00**	**0.00**			
Pension Wealth PW	**0.29**	**0.25**	**0.27**	**0.22**	**-0.014**	**-0.056**	**-0.070**
DB Wealth DBW	**0.30**	**0.36**	**0.36**	**0.27**	**0.057**	**-0.090**	**-0.033**
DC Wealth DCW	**0.23**	**0.16**	**0.21**	**0.18**	**-0.014**	**-0.027**	**-0.041**
Social Security Wealth SSW	**0.48**	**0.53**	**0.58**	**0.60**	**0.109**	**0.013**	**0.122**
Retirement Wealth RW	**0.40**	**0.41**	**0.44**	**0.41**	**0.033**	**-0.032**	**0.001**
Memo: Median SSW	**0.48**	**0.55**	**0.59**	**0.63**	**0.110**	**0.039**	**0.149**
Memo: Median RW	**0.40**	**0.47**	**0.44**	**0.50**	**0.049**	**0.051**	**0.099**

Note: author's computations from the 1989, 2001, 2007, and 2016 SCF. Key:
Retirement Wealth RW = PW + SSW

Table 14. Mean Augmented Wealth by Race/Ethnicity and Age Class, 1989-2016

(in thousands, 2016 dollars)

Category	1989	2001	2007	2016	Percentage Change 1989-2001	2001-2007	2007-2016	1989-2016
A. All households								
1. NWX	346.5	442.6	531.8	548.8	27.7	20.2	3.2	58.4
2. Net Worth NW	358.8	515.4	620.8	667.9	43.7	20.4	7.6	86.2
3. Private Augmented Wealth (PAW)	424.0	582.7	691.9	750.6	37.4	18.7	8.5	77.0
4. Augmented Wealth AW	553.6	771.8	883.3	973.4	39.4	14.4	10.2	75.8
Memo: Median for all households								
1. NWX	81.8	78.6	87.1	51.0	-3.9	10.7	-41.4	-37.7
2. Net Worth NW	86.1	99.7	118.7	78.1	15.8	19.1	-34.2	-9.3
3. Private Augmented Wealth (PAW)	132.1	137.0	165.3	119.0	3.7	20.7	-28.0	-9.9
4. Augmented Wealth AW	260.6	321.4	358.1	330.9	23.3	11.4	-7.6	27.0
B. Non-Hispanic White								
1. NWX	417.5	542.8	646.3	722.1	30.0	19.1	11.7	73.0
2. Net Worth NW	433.2	631.5	755.2	876.0	45.8	19.6	16.0	102.2
3. Private Augmented Wealth (PAW)	507.1	707.2	835.9	977.4	39.5	18.2	16.9	92.7
4. Augmented Wealth AW	654.4	918.4	1047.4	1228.2	40.3	14.0	17.3	87.7
Memo: Median								
1. NWX	121.8	116.5	123.5	90.6	-4.3	6.0	-26.6	-25.6
2. Net Worth NW	126.2	144.2	166.3	140.5	14.2	15.3	-15.5	11.3
3. Private Augmented Wealth (PAW)	187.1	194.7	227.3	200.5	4.1	16.7	-11.8	7.2
4. Augmented Wealth AW	331.2	410.1	428.5	441.8	23.8	4.5	3.1	33.4
C. African-American								
1. NWX	69.5	73.4	114.8	100.9	5.6	56.4	-12.1	45.2
2. Net Worth NW	72.6	89.9	142.0	126.3	23.8	57.9	-11.0	74.0
3. Private Augmented Wealth (PAW)	110.2	134.8	191.7	177.2	22.3	42.2	-7.5	60.8
4. Augmented Wealth AW	174.5	245.6	313.0	327.8	40.7	27.5	4.7	87.9
Memo: Median								
1. NWX	2.2	7.6	5.2	0.9	238.9	-31.6	-82.9	-60.4

2. Net Worth NW	**3.3**	**14.4**	**10.7**	**1.7**	**343.5**	**-25.9**	**-84.5**	**-49.0**
3. Private Augmented Wealth (PAW)	**14.0**	**28.6**	**29.2**	**17.4**	**104.5**	**1.8**	**-40.4**	**24.1**
4. Augmented Wealth AW	**80.6**	**137.4**	**146.2**	**120.9**	**70.4**	**6.4**	**-17.3**	**49.9**
D. Hispanics								
1. NWX	**65.7**	**94.4**	**174.2**	**137.4**	**43.6**	**84.6**	**-21.1**	**109.1**
2. Net Worth NW	**71.3**	**108.6**	**197.2**	**165.9**	**52.2**	**81.7**	**-15.9**	**132.6**
3. Private Augmented Wealth (PAW)	**91.5**	**136.0**	**226.1**	**192.9**	**48.7**	**66.2**	**-14.7**	**110.9**
4. Augmented Wealth AW	**161.5**	**248.2**	**349.6**	**342.8**	**53.7**	**40.9**	**-2.0**	**112.3**
Memo: Median								
1. NWX	**2.7**	**3.5**	**5.4**	**1.9**	**32.8**	**52.1**	**-64.5**	**-28.4**
2. Net Worth NW	**2.7**	**4.0**	**10.5**	**2.0**	**50.7**	**163.8**	**-81.5**	**-26.5**
3. Private Augmented Wealth (PAW)	**5.4**	**12.7**	**14.8**	**12.2**	**136.4**	**16.3**	**-17.9**	**125.7**
4. Augmented Wealth AW	**84.2**	**136.9**	**137.1**	**124.3**	**62.6**	**0.2**	**-9.4**	**47.6**
							Change	
Ratios in Mean Augmented Wealth by Component						**1989-**	**2007-**	**1989-**
Blacks/Whites	**1989**	**2001**	**2007**	**2016**		**2007**	**2016**	**2016**
1. NWX	**0.17**	**0.14**	**0.18**	**0.14**		**0.011**	**-0.038**	**-0.027**
2. Net Worth NW	**0.17**	**0.14**	**0.19**	**0.14**		**0.020**	**-0.044**	**-0.023**
3. Private Augmented Wealth (PAW)	**0.22**	**0.19**	**0.23**	**0.18**		**0.012**	**-0.048**	**-0.036**
4. Augmented Wealth AW	**0.27**	**0.27**	**0.30**	**0.27**		**0.032**	**-0.032**	**0.000**
Memo: Median								
1. NWX	**0.02**	**0.07**	**0.04**	**0.01**		**0.024**	**-0.032**	**-0.009**
2. Net Worth NW	**0.03**	**0.10**	**0.06**	**0.01**		**0.039**	**-0.053**	**-0.014**
3. Private Augmented Wealth (PAW)	**0.07**	**0.15**	**0.13**	**0.09**		**0.053**	**-0.042**	**0.012**
4. Augmented Wealth AW	**0.24**	**0.34**	**0.34**	**0.27**		**0.098**	**-0.068**	**0.030**
Hispanics/Whites								
1. NWX	**0.16**	**0.17**	**0.27**	**0.19**		**0.112**	**-0.079**	**0.033**
2. Net Worth NW	**0.16**	**0.17**	**0.26**	**0.19**		**0.097**	**-0.072**	**0.025**
3. Private Augmented Wealth (PAW)	**0.18**	**0.19**	**0.27**	**0.20**		**0.090**	**-0.073**	**0.017**
4. Augmented Wealth AW	**0.25**	**0.27**	**0.33**	**0.28**		**0.087**	**-0.055**	**0.032**
Memo: Median								

1. NWX	**0.02**	**0.03**	**0.04**	**0.02**	**0.022**	**-0.022**	**-0.001**
2. Net Worth NW	**0.02**	**0.03**	**0.06**	**0.01**	**0.042**	**-0.050**	**-0.007**
3. Private Augmented Wealth (PAW)	**0.03**	**0.07**	**0.07**	**0.06**	**0.036**	**-0.005**	**0.032**
4. Augmented Wealth AW	**0.25**	**0.33**	**0.32**	**0.28**	**0.066**	**-0.039**	**0.027**
Differences in Ratios in Mean Augmented Wealth by Component							
Blacks/Whites							
Add DCW: Mean NW - Mean NWX	**0.00**	**0.01**	**0.01**	**0.00**			
Add DBW: Mean PAW - Mean NW	**0.05**	**0.05**	**0.04**	**0.04**			
Add SSW: Mean AW - Mean PAW	**0.05**	**0.08**	**0.07**	**0.09**			
Add DBW+SSW: Mean AW - Mean NW	**0.10**	**0.12**	**0.11**	**0.12**			
Add RW: Mean AW - Mean NWX	**0.10**	**0.13**	**0.12**	**0.13**			
Add DCW: Median NW - Median NWX	**0.01**	**0.03**	**0.02**	**0.00**			
Add DBW: Median PAW - Median NW	**0.05**	**0.05**	**0.06**	**0.07**			
Add SSW: Median AW - Median PAW	**0.17**	**0.19**	**0.21**	**0.19**			
Add DBW+SSW: Median AW - Median NW	**0.22**	**0.23**	**0.28**	**0.26**			
Add RW: Median AW - Median NWX	**0.23**	**0.27**	**0.30**	**0.26**			
Hispanics/Whites							
Add DCW: Mean NW - Mean NWX	**0.01**	**0.00**	**-0.01**	**0.00**			
Add DBW: Mean PAW - Mean NW	**0.02**	**0.02**	**0.01**	**0.01**			
Add SSW: Mean AW - Mean PAW	**0.07**	**0.08**	**0.06**	**0.08**			
Add DBW+SSW: Mean AW - Mean NW	**0.08**	**0.10**	**0.07**	**0.09**			
Add RW: Mean AW - Mean NWX	**0.09**	**0.10**	**0.06**	**0.09**			
Add DCW: Median NW - Median NWX	**0.00**	**0.00**	**0.02**	**-0.01**			
Add DBW: Median PAW - Median NW	**0.01**	**0.04**	**0.00**	**0.05**			
Add SSW: Median AW - Median PAW	**0.23**	**0.27**	**0.25**	**0.22**			
Add DBW+SSW: Median AW - Median NW	**0.23**	**0.31**	**0.26**	**0.27**			
Add RW: Median AW - Median NWX	**0.23**	**0.30**	**0.28**	**0.26**			

Note: author's computations from the 1989, 2001, 2007, and 2016 SCF.
Augmented Wealth AW = NWX + PW + SSW

Table 15. Portfolio Composition by Race/Ethnicity, 1989-2016

(Percentage of augmented wealth)

Category	1989	2001	2007	2016	Change 1989-2001	Change 2001-2007	Change 2007-2016	Change 1989-2016
A. All households								
Pension Wealth PW	14.0	18.1	18.1	20.7	4.1	0.0	2.6	6.7
DB Wealth DBW	11.8	8.7	8.0	8.5	-3.1	-0.7	0.5	-3.3
DC Wealth DCW	2.2	9.4	10.1	12.2	7.2	0.6	2.2	10.0
Social Security Wealth SSW	23.4	24.5	21.7	22.9	1.1	-2.8	1.2	-0.5
Retirement Wealth RW	37.4	42.6	39.8	43.6	5.2	-2.9	3.9	6.2
NWX	62.6	57.3	60.2	56.4	-5.3	2.9	-3.8	-6.2
Net Worth NW	64.8	66.8	70.3	68.6	2.0	3.5	-1.7	3.8
Private Augmented Wealth (PAW)	76.6	75.5	78.3	77.1	-1.1	2.8	-1.2	0.5
B. Non-Hispanic White								
Pension Wealth PW	13.7	17.9	18.1	20.8	4.2	0.2	2.7	7.1
DB Wealth DBW	11.4	8.2	7.7	8.3	-3.2	-0.5	0.6	-3.1
DC Wealth DCW	2.3	9.7	10.4	12.5	7.4	0.7	2.1	10.2
Social Security Wealth SSW	22.5	23.0	20.2	20.4	0.5	-2.8	0.2	-2.1
Retirement Wealth RW	36.2	40.9	38.3	41.2	4.7	-2.6	2.9	5.0
NWX	63.8	59.1	61.7	58.8	-4.7	2.6	-2.9	-5.0
Net Worth NW	66.2	68.8	72.1	71.3	2.6	3.4	-0.8	5.1
Private Augmented Wealth (PAW)	77.5	77.0	79.8	79.6	-0.5	2.8	-0.2	2.1
C. African-American								
Pension Wealth PW	23.4	25.0	24.6	23.3	1.6	-0.5	-1.3	-0.1
DB Wealth DBW	21.4	18.3	15.9	15.5	-3.1	-2.4	-0.3	-5.9
DC Wealth DCW	1.9	6.7	8.7	7.8	4.8	2.0	-0.9	5.8
Social Security Wealth SSW	36.9	45.1	38.8	45.9	8.2	-6.3	7.2	9.0
Retirement Wealth RW	60.2	70.1	63.3	69.2	9.9	-6.8	5.9	9.0
NWX	39.8	29.9	36.7	30.8	-9.9	6.8	-5.9	-9.0
Net Worth NW	41.6	36.6	45.4	38.5	-5.0	8.7	-6.8	-3.1
Private Augmented Wealth (PAW)	63.2	54.9	61.2	54.1	-8.3	6.3	-7.2	-9.1

D. Hispanic								
Pension Wealth PW	**16.0**	**16.8**	**14.8**	**16.2**	**0.8**	**-1.9**	**1.4**	**0.2**
DB Wealth DBW	**13.9**	**11.1**	**8.2**	**7.9**	**-2.8**	**-2.8**	**-0.4**	**-6.0**
DC Wealth DCW	**2.1**	**5.7**	**6.6**	**8.3**	**3.6**	**0.9**	**1.7**	**6.2**
Social Security Wealth SSW	**43.4**	**45.2**	**35.3**	**43.7**	**1.8**	**-9.9**	**8.4**	**0.4**
Retirement Wealth RW	**59.3**	**62.0**	**50.2**	**59.9**	**2.7**	**-11.8**	**9.7**	**0.6**
NWX	**40.7**	**38.0**	**49.8**	**40.1**	**-2.7**	**11.8**	**-9.7**	**-0.6**
Net Worth NW	**44.2**	**43.7**	**56.4**	**48.4**	**-0.4**	**12.7**	**-8.0**	**4.2**
Private Augmented Wealth (PAW)	**56.7**	**54.8**	**64.7**	**56.3**	**-1.9**	**9.9**	**-8.4**	**-0.4**
							Change	
Differences in portfolio percentages between races						**1989-**	**2007-**	**1989-**
E. Blacks - Whites						**2007**	**2016**	**2016**
Pension Wealth PW	**9.7**	**7.1**	**6.4**	**2.5**		**-3.2**	**-4.0**	**-7.2**
DB Wealth DBW	**10.0**	**10.0**	**8.2**	**7.3**		**-1.8**	**-0.9**	**-2.7**
DC Wealth DCW	**-0.4**	**-2.9**	**-1.7**	**-4.8**		**-1.3**	**-3.1**	**-4.4**
Social Security Wealth SSW	**14.4**	**22.1**	**18.6**	**25.5**		**4.2**	**6.9**	**11.1**
Retirement Wealth RW	**24.0**	**29.2**	**25.0**	**28.0**		**1.0**	**3.0**	**4.0**
NWX	**-24.0**	**-29.2**	**-25.0**	**-28.0**		**-1.1**	**-3.0**	**-4.0**
Net Worth NW	**-24.6**	**-32.1**	**-26.7**	**-32.8**		**-2.2**	**-6.0**	**-8.2**
Private Augmented Wealth (PAW)	**-14.3**	**-22.1**	**-18.6**	**-25.5**		**-4.3**	**-6.9**	**-11.2**
F. Hispanics - Whites								
Pension Wealth PW	**2.3**	**-1.1**	**-3.3**	**-4.6**		**-5.5**	**-1.3**	**-6.8**
DB Wealth DBW	**2.5**	**2.8**	**0.5**	**-0.4**		**-1.9**	**-0.9**	**-2.8**
DC Wealth DCW	**-0.2**	**-3.9**	**-3.8**	**-4.2**		**-3.6**	**-0.4**	**-4.0**
Social Security Wealth SSW	**20.9**	**22.2**	**15.2**	**23.3**		**-5.7**	**8.1**	**2.4**
Retirement Wealth RW	**23.1**	**21.1**	**11.9**	**18.7**		**-11.2**	**6.8**	**-4.4**
NWX	**-23.1**	**-21.1**	**-11.9**	**-18.7**		**11.2**	**-6.8**	**4.4**
Net Worth NW	**-22.0**	**-25.0**	**-15.7**	**-22.9**		**6.3**	**-7.2**	**-0.9**
Private Augmented Wealth (PAW)	**-20.8**	**-22.2**	**-15.2**	**-23.3**		**5.7**	**-8.1**	**-2.5**

Note: author's computations from the 1989, 2001, 2007, and 2016 SCF. Key:
Augmented Wealth AW = NWX + PW + SSW

Table 16. Inequality of Augmented Wealth by Race/Ethnicity, 1989-2016 (Gini coefficients)					Change			
Category	1989	2001	2007	2016	1989-2001	2001-2007	2007-2016	1989-2016
A. All Households								
Pension Wealth PW	0.799	0.788	0.783	0.798	-0.011	-0.005	0.015	-0.002
Social Security Wealth SSW	0.370	0.344	0.363	0.354	-0.026	0.019	-0.009	-0.015
Retirement Wealth RW	0.485	0.493	0.514	0.531	0.009	0.021	0.017	0.046
NWX	0.835	0.845	0.857	0.905	0.011	0.011	0.049	0.071
Net Worth NW	0.828	0.826	0.834	0.877	-0.002	0.008	0.043	0.049
PAW	0.793	0.796	0.805	0.846	0.003	0.009	0.042	0.054
NWX + SSW	0.676	0.665	0.693	0.716	-0.011	0.028	0.023	0.040
Augmented Wealth AW	0.663	0.661	0.684	0.711	-0.002	0.023	0.027	0.048
B. Non-Hispanic White								
Pension Wealth PW	0.771	0.764	0.762	0.765	-0.008	-0.001	0.003	-0.006
Social Security Wealth SSW	0.322	0.314	0.346	0.332	-0.009	0.033	-0.014	0.010
Retirement Wealth RW	0.443	0.469	0.500	0.513	0.026	0.031	0.013	0.070
NWX	0.808	0.824	0.842	0.883	0.015	0.018	0.041	0.074
Net Worth NW	0.781	0.803	0.818	0.852	0.021	0.015	0.034	0.070
PAW	0.758	0.772	0.788	0.821	0.014	0.016	0.033	0.063
NWX + SSW	0.648	0.649	0.687	0.711	0.001	0.037	0.025	0.063
Augmented Wealth AW	0.632	0.642	0.674	0.699	0.010	0.032	0.025	0.067
C. African-American								
Pension Wealth PW	0.853	0.837	0.816	0.832	-0.016	-0.021	0.016	-0.021
Social Security Wealth SSW	0.491	0.348	0.358	0.350	-0.143	0.009	-0.007	-0.141
Retirement Wealth RW	0.591	0.487	0.503	0.478	-0.104	0.015	-0.025	-0.113
NWX	0.865	0.895	0.891	1.044	0.030	-0.003	0.153	0.179
Net Worth NW	0.868	0.855	0.848	0.972	-0.013	-0.007	0.124	0.104
PAW	0.809	0.809	0.803	0.892	0.000	-0.006	0.089	0.082
NWX + SSW	0.622	0.513	0.568	0.571	-0.108	0.054	0.004	-0.050
Augmented Wealth AW	0.646	0.561	0.597	0.601	-0.086	0.036	0.004	-0.046

D. Hispanic								
Pension Wealth PW	**0.896**	**0.869**	**0.878**	**0.880**	**-0.027**	**0.008**	**0.002**	**-0.017**
Social Security Wealth SSW	**0.396**	**0.329**	**0.306**	**0.312**	**-0.067**	**-0.022**	**0.006**	**-0.083**
Retirement Wealth RW	**0.500**	**0.443**	**0.449**	**0.437**	**-0.057**	**0.006**	**-0.012**	**-0.064**
NWX	**0.926**	**0.917**	**0.900**	**0.980**	**-0.009**	**-0.017**	**0.080**	**0.054**
Net Worth NW	**0.917**	**0.894**	**0.880**	**0.945**	**-0.023**	**-0.014**	**0.064**	**0.027**
PAW	**0.869**	**0.852**	**0.853**	**0.905**	**-0.017**	**0.001**	**0.053**	**0.036**
NWX + SSW	**0.599**	**0.558**	**0.614**	**0.586**	**-0.041**	**0.055**	**-0.027**	**-0.013**
Augmented Wealth AW	**0.623**	**0.582**	**0.629**	**0.608**	**-0.041**	**0.047**	**-0.021**	**-0.015**

Differences in Gini coeffs between races						**Change**		
Blacks - Whites	**1989**	**2001**	**2007**	**2016**		**1989-2007**	**2007 2016**	**1989-2016**
Pension Wealth PW	**0.082**	**0.073**	**0.054**	**0.067**		**-0.028**	**0.013**	**-0.015**
Social Security Wealth SSW	**0.169**	**0.034**	**0.011**	**0.018**		**-0.158**	**0.007**	**-0.150**
Retirement Wealth RW	**0.148**	**0.019**	**0.002**	**-0.035**		**-0.146**	**-0.038**	**-0.183**
NWX	**0.057**	**0.071**	**0.049**	**0.161**		**-0.007**	**0.112**	**0.105**
Net Worth NW	**0.086**	**0.052**	**0.030**	**0.120**		**-0.057**	**0.091**	**0.034**
PAW	**0.052**	**0.037**	**0.015**	**0.071**		**-0.037**	**0.056**	**0.019**
NWX + SSW	**-0.026**	**-0.136**	**-0.119**	**-0.140**		**-0.092**	**-0.021**	**-0.114**
Augmented Wealth AW	**0.015**	**-0.081**	**-0.077**	**-0.098**		**-0.092**	**-0.021**	**-0.113**
Hispanics - Whites								
Pension Wealth PW	**0.125**	**0.106**	**0.115**	**0.114**		**-0.010**	**-0.001**	**-0.011**
Social Security Wealth SSW	**0.073**	**0.015**	**-0.040**	**-0.020**		**-0.113**	**0.020**	**-0.093**
Retirement Wealth RW	**0.057**	**-0.026**	**-0.051**	**-0.077**		**-0.108**	**-0.025**	**-0.134**
NWX	**0.118**	**0.093**	**0.058**	**0.097**		**-0.060**	**0.039**	**-0.021**
Net Worth NW	**0.136**	**0.092**	**0.062**	**0.093**		**-0.074**	**0.031**	**-0.043**
PAW	**0.112**	**0.080**	**0.065**	**0.084**		**-0.047**	**0.020**	**-0.027**
NWX + SSW	**-0.049**	**-0.091**	**-0.073**	**-0.125**		**-0.024**	**-0.052**	**-0.076**
Augmented Wealth AW	**-0.009**	**-0.060**	**-0.044**	**-0.091**		**-0.036**	**-0.046**	**-0.082**

Differences in Gini coeffs between PAW and AW							
A. Non-Hispanic White	**0.126**	**0.130**	**0.114**	**0.122**	**-0.011**	**0.008**	**-0.004**
B. African-American	**0.163**	**0.248**	**0.206**	**0.291**	**0.043**	**0.085**	**0.128**
C. Hispanic	**0.246**	**0.270**	**0.223**	**0.297**	**-0.023**	**0.074**	**0.051**
Differences in Gini coeffs between NWX and NWX+SSW							
A. Non-Hispanic White	**0.160**	**0.174**	**0.156**	**0.171**	**-0.005**	**0.016**	**0.011**
B. African-American	**0.243**	**0.381**	**0.324**	**0.473**	**0.080**	**0.149**	**0.229**
C. Hispanic	**0.327**	**0.359**	**0.287**	**0.394**	**-0.040**	**0.107**	**0.066**

Note: author's computations from the 1989, 2001, 2007, and 2016 SCF.
Retirement Wealth RW = PW + SSW
Augmented Wealth AW = NWX + PW + SSW

Appendix Table 1. Average Annual Nominal Rates of Return By Asset Type and Period, 1983-2016

	Average nominal rates of return by period (percentage)						
Description	**1983-2013**	**1983-1989**	**1989-2001**	**2001-2007**	**2007-2010**	**2010-2013**	**2013-2016**
Residential real estate	**3.51**	**4.02**	**4.49**	**5.84**	**-7.22**	**4.59**	**6.84**
Business + non-home real estate	**4.53**	**3.94**	**4.10**	**9.75**	**-5.83**	**7.38**	**6.13**
Liquid assets	**3.98**	**6.70**	**4.69**	**3.11**	**1.28**	**0.12**	**0.12**
Financial assets (including stocks)	**8.63**	**13.32**	**11.17**	**2.34**	**-1.33**	**11.63**	**8.58**
Pension accounts	**7.52**	**11.19**	**9.68**	**2.99**	**-0.20**	**8.26**	**6.54**
Mortgage debt	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Non-mortgage debt	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Inflation (CPI-U average)	**2.88**	**3.72**	**3.02**	**2.66**	**1.71**	**2.23**	**1.00**

Notes:

Real Rate of Return = (1 + nominal rate) / (1 + ΔCPI) -1

Owner-Occupied Housing: The source for years 1989 to 2007 is Table 935 of the *2009 Statistical Abstract,* US Bureau of the Census, available at [http://www.census.gov/compendia/statab/].For years after 2007, the source is: National Association of Realtors, "Median Sales Price of Existing Single-Family Homes for Metropolitan Areas," available at: http://www.realtor.org/. The figures are based on median prices of existing houses for metropolitan areas only.

Business and Non-Home Real Estate: Holding gains (taken from the Financial Accounts of the United States (FFA), Table R.100, divided by equity in noncorporate business (taken from the FFA, Table B.100), available at: http://www.federalreserve.gov/releases/Z1/20140605.

Liquid assets: The weighted average of the rates of return on checking deposits and cash, time and saving deposits, and life insurance reserves. The weights are the proportion of these assets in their combined total (calculated from the FFA, Table B.100). The assumptions regarding the rates of return are: zero for checking deposits, the rate of return on a 1-month CD (taken from the table "H.15 Selected Interest Rates" published by the Federal Reserve and available at: http://www.federalreserve.gov/releases/h15/data.htm) for time and saving deposits, and, one plus

the inflation rate for life insurance reserves.

Financial assets: The weighted average of the rates of return on open market paper, Treasury securities, municipal securities, corporate and foreign bonds, corporate equities, and mutual fund shares. The weights are the proportion of these assets in total financial assets held by the household sector (calculated from the FFA, Table B.100). The assumption regarding the rate of return on open market paper is that it equals the rate of return on 1-month Finance paper (taken from the table H.15 "Selected Interest Rates" published by the Federal Reserve and available at: http://www.federalreserve.gov/releases/h15/data.htm). The data for the rates of return on other assets are taken from the *Economic Report of the President 2017*, Table B-25, available at https://www.govinfo.gov/content/pkg/ERP-2017/pdf/ERP-2017-table25.pdf

The assumptions regarding Treasury securities, municipal securities, corporate and foreign bonds, and corporate equities are, respectively, average of Treasury security yields, high-grade municipal bond yield, average of corporate bond yields, and annual percent change in the S&P 500 index. Mutual fund shares are assumed to earn a rate of return equal to the weighted average of the rates of return on open market paper, Treasury securities, municipal securities, corporate and foreign bonds, and corporate equities. The weights are the proportions of these assets in the total financial assets of mutual funds (calculated from the FFA, Table L.123).

Stock prices: Table B-96 of the *Economic Report of the President, 2013*, available at available at http://www.gpoaccess.gov/eop/tables13.html, with updates to 2016 from: http://www.fedprimerate.com/s-and-p-500-history.htm

Pension (DC) Accounts: Weighted average of returns on stocks, bonds, and money market funds, where the weights are based on the average portfolio composition of DC accounts over the period (for the 1983-89 period period, the weights are based on 1989 data only).

CPI-U: from the *Economic Report of the President 2017*, Table B-10, available at: https://www.govinfo.gov/content/pkg/ERP-2017/pdf/ERP-2017-table10.pdf

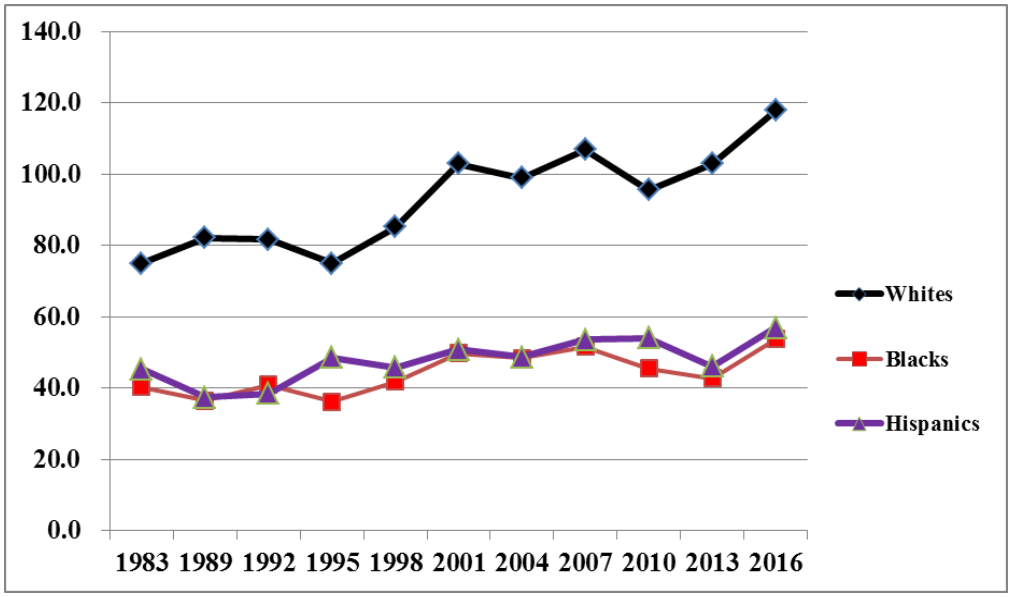

Figure 1a. Mean Income by Race and Ethnicity, 1983-2016 (1000s, 2016$)

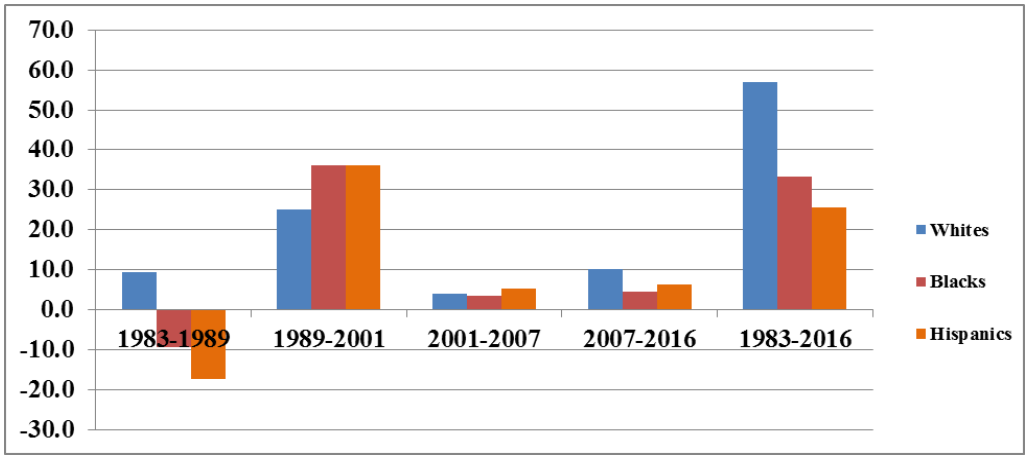

Figure 1b. Percentage Change in Mean Income (2016$) by Race and Ethnicity, 1983-2016

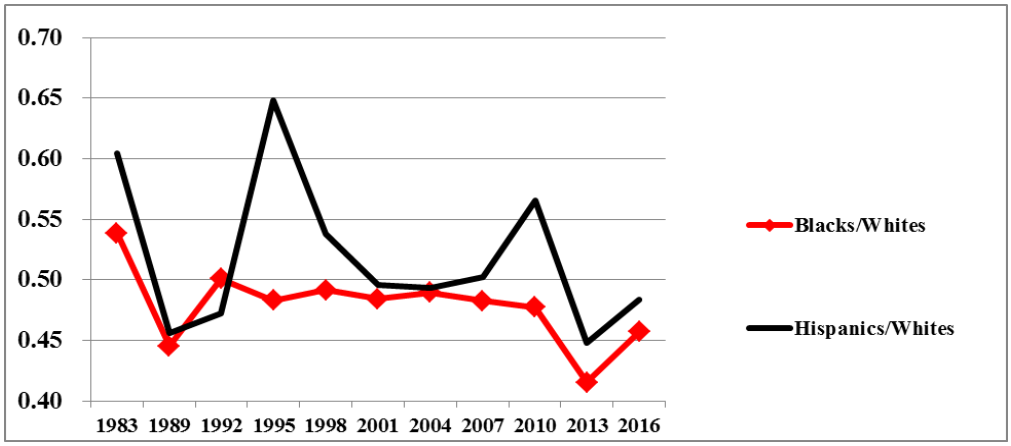

Figure 1c. Ratio of Mean Income by Race and Ethnicity, 1983-2016

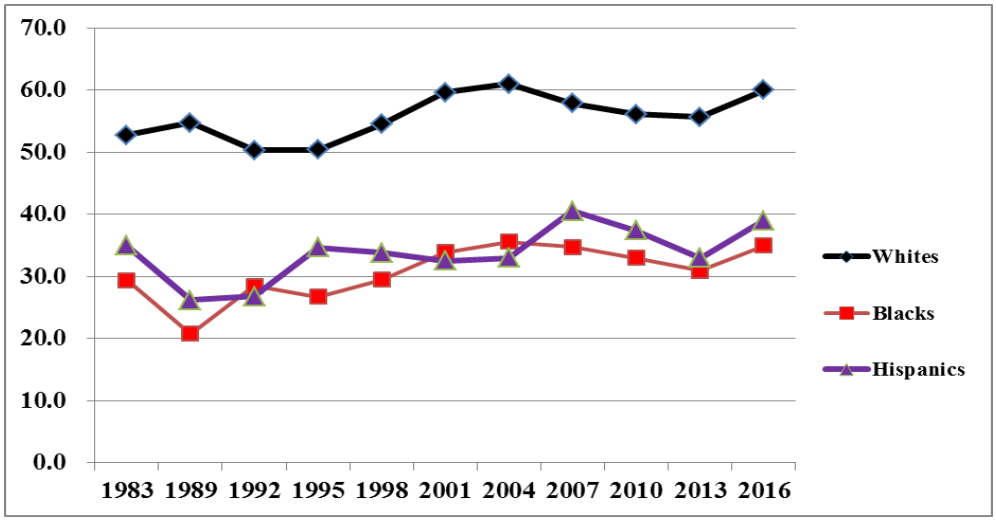

Figure 2a. Median Income by Race and Ethnicity, 1983-2016 (1000s, 2016$)

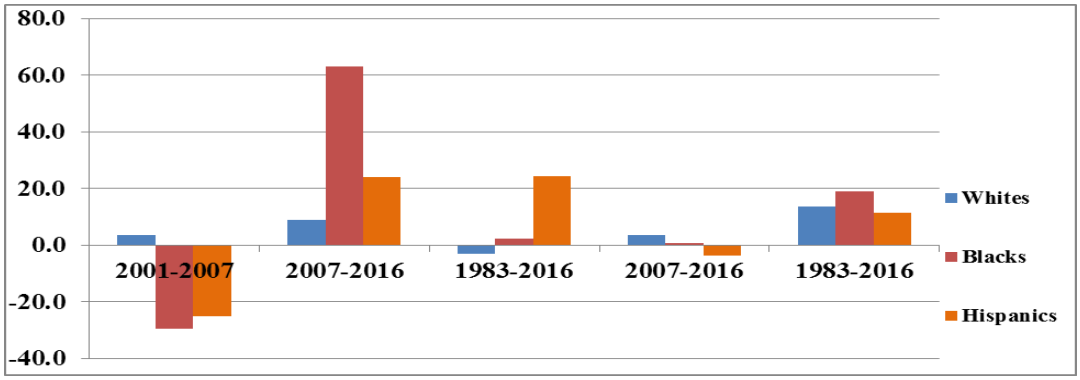

Figure 2b. Percentage Change in Median Income (2016$) by Race and Ethnicity, 1983-2016

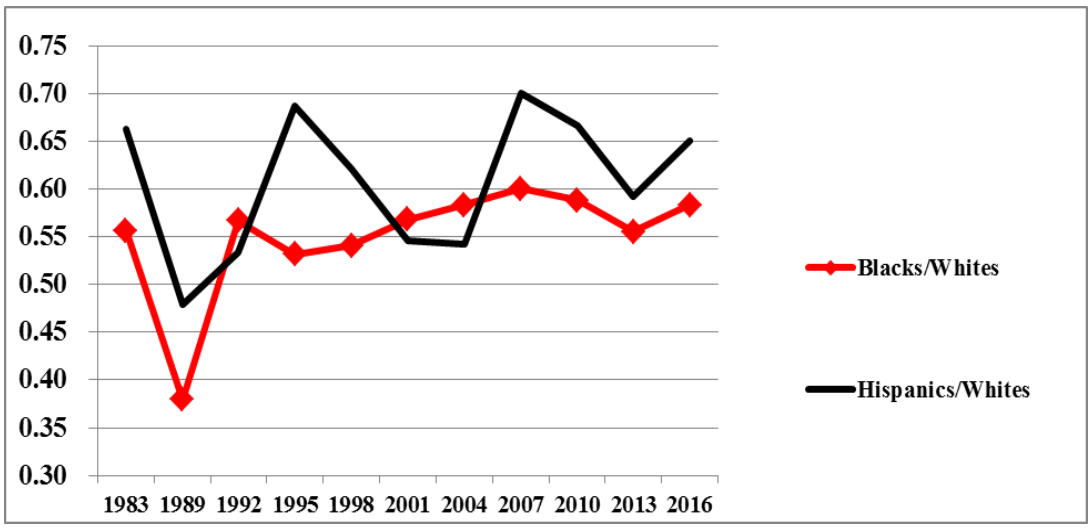

Figure 2c. Ratio of Median Income by Race and Ethnicity, 1983-2016

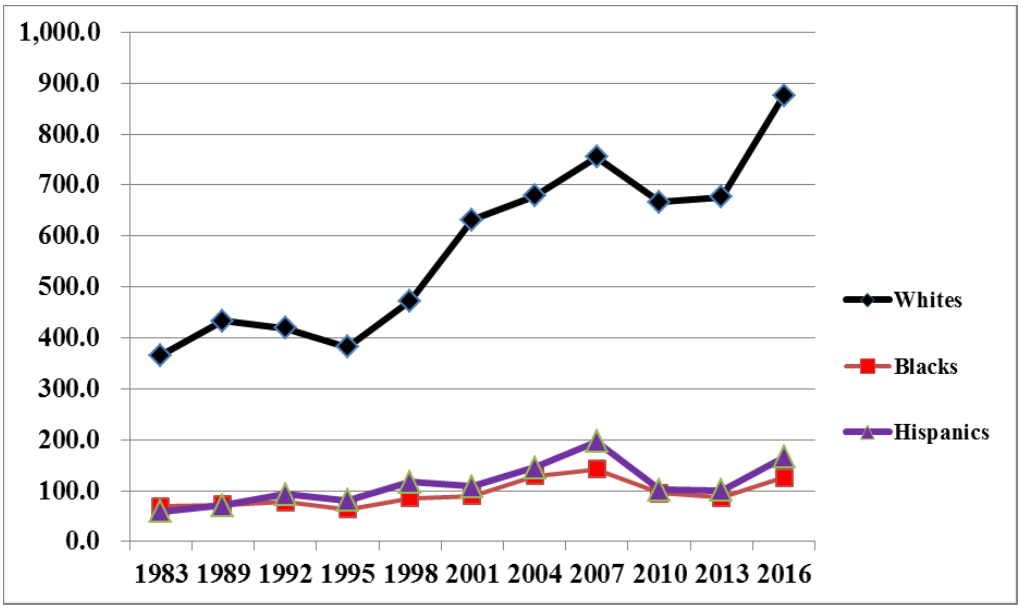

Figure 3a. Mean Net Worth by Race and Ethnicity, 1983-2016 (1000s, 2016$)

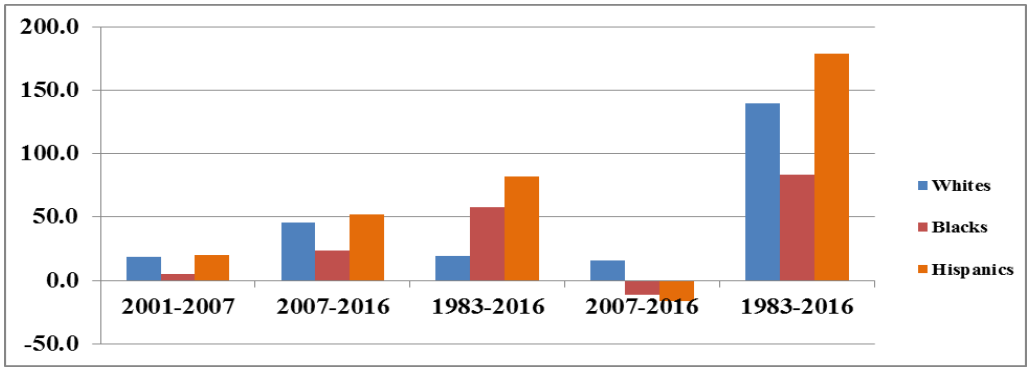

Figure 3b. Percentage Change in Mean Net Worth (2016$) by Race and Ethnicity, 1983-2016

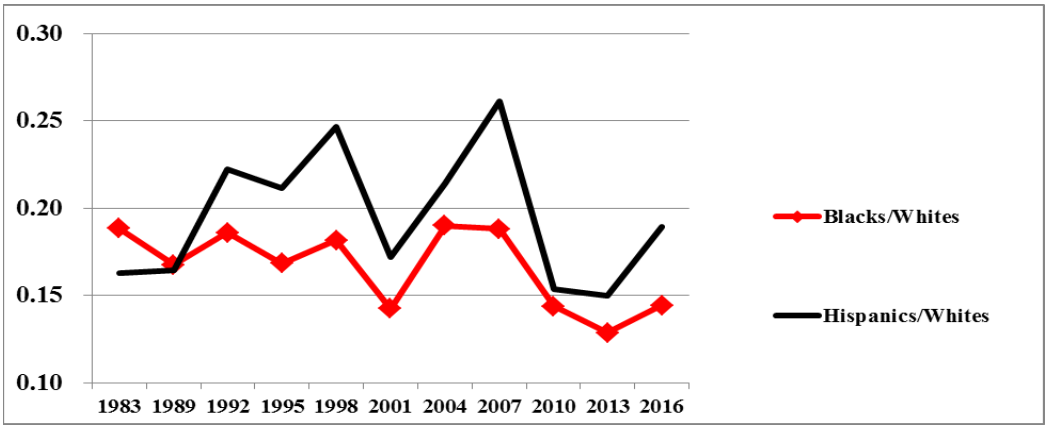

Figure 3c. Ratio of Mean Net Worth by Race and Ethnicity, 1983-2016

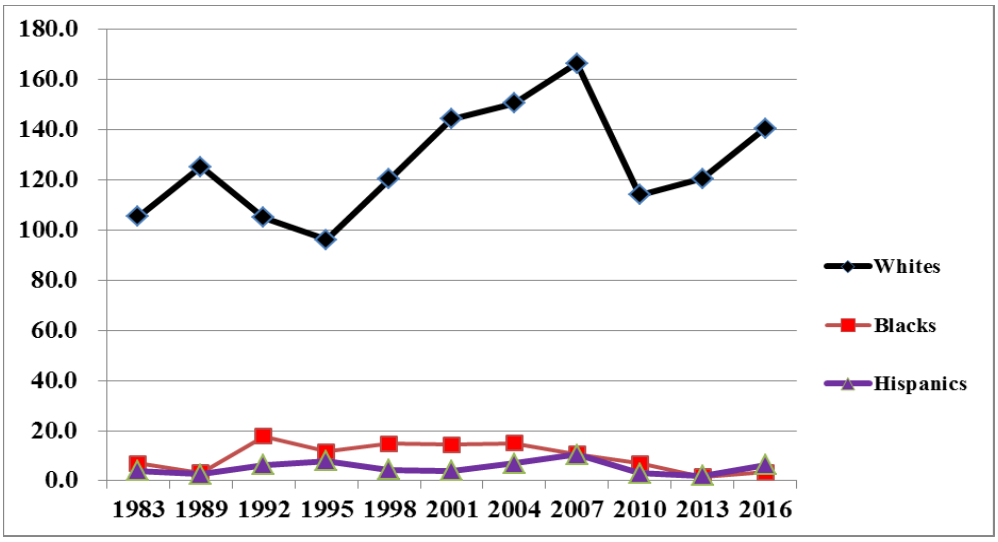

Figure 4a. Median Net Worth by Race and Ethnicity, 1983-2016 (1000s, 2016$)

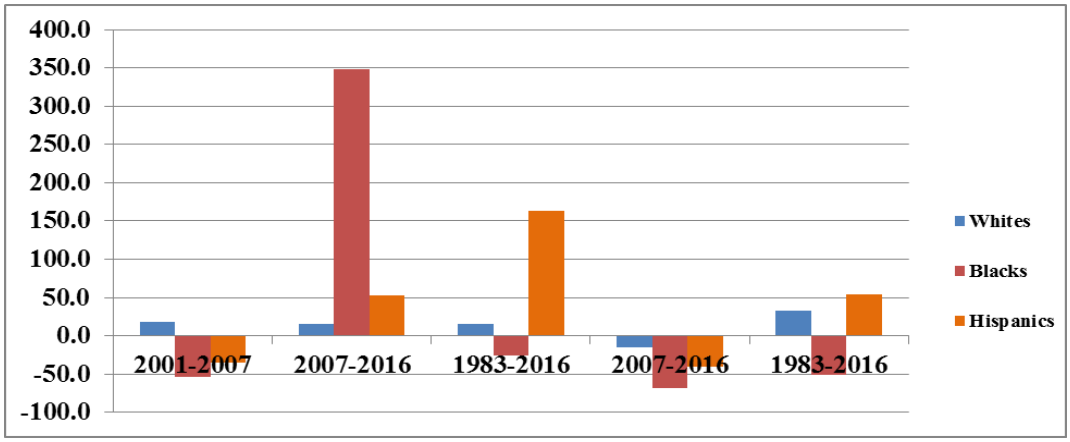

Figure 4b. Percentage Change in Median Net Worth (2016$) by Race and Ethnicity, 1983-2016

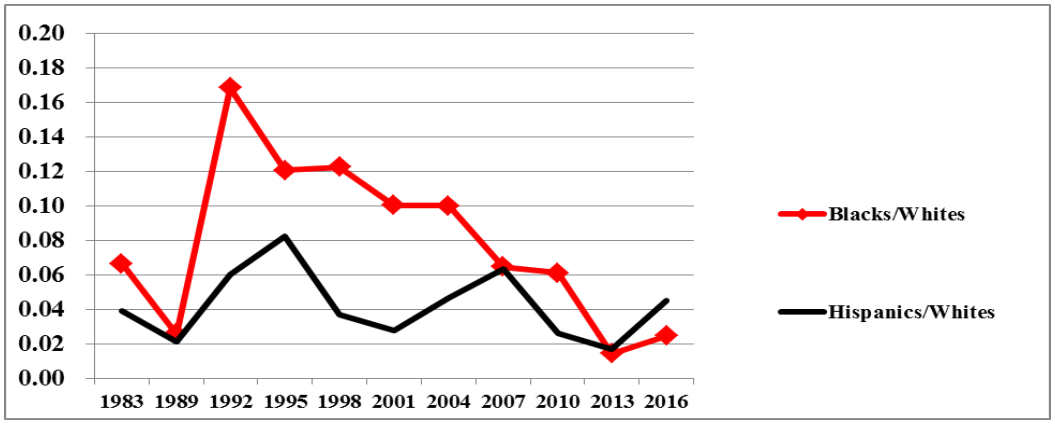

Figure 4c. Ratio of Median Net Worth by Race and Ethnicity, 1983-2016

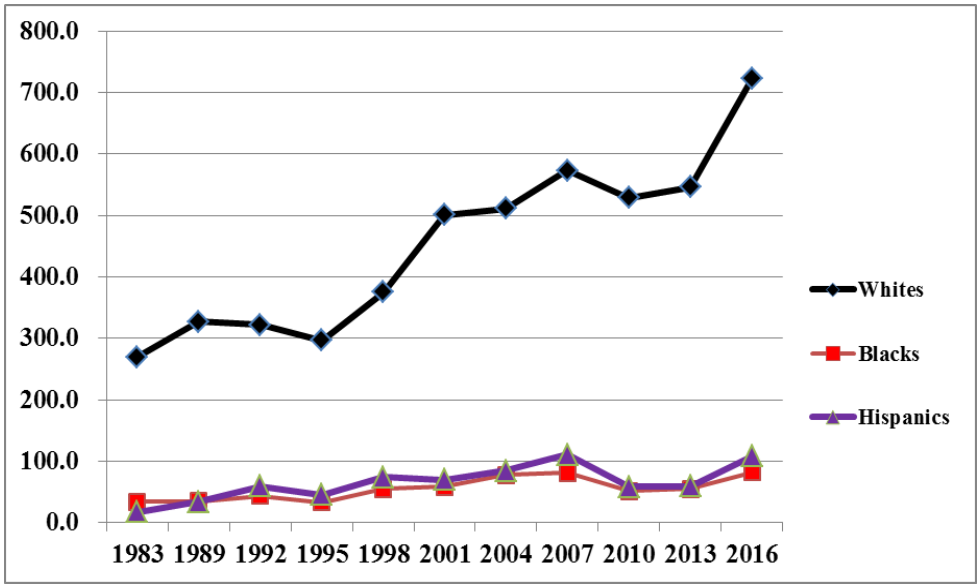

Figure 5a. Mean Financial Resources by Race and Ethnicity, 1983-2016 (1000s, 2016$)

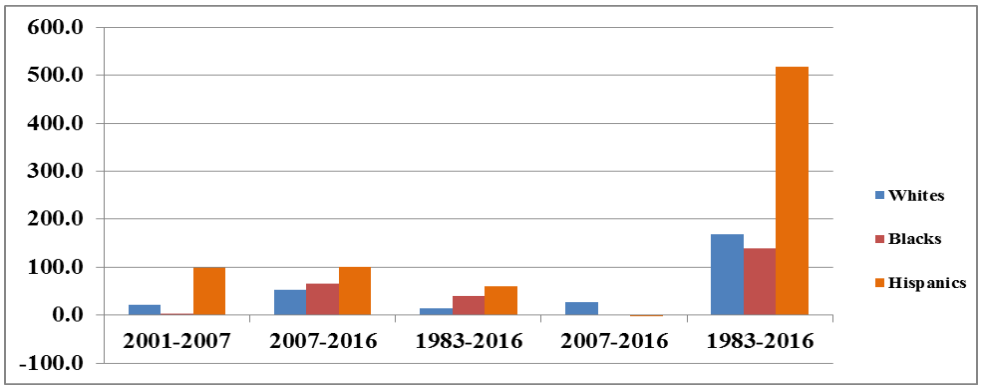

Figure 5b. Percentage Change in Mean Financial Resources (2016$) by Race and Ethnicity, 1983-2016

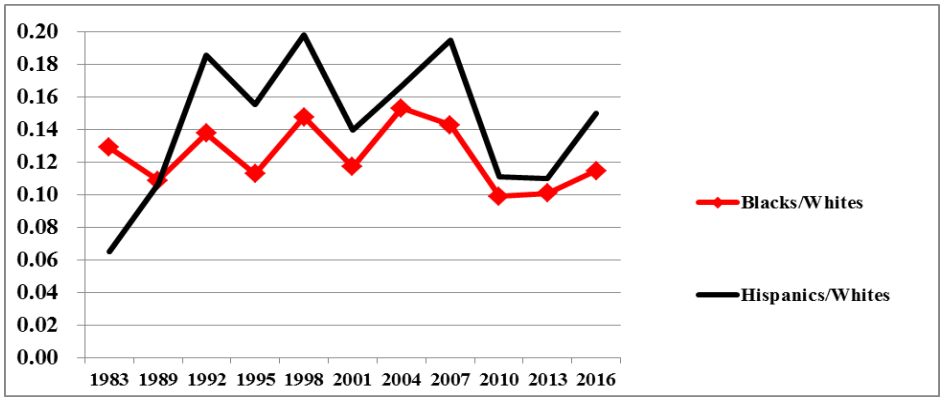

Figure 5c. Ratio of Mean Financial Resources by Race and Ethnicity, 1983-2016

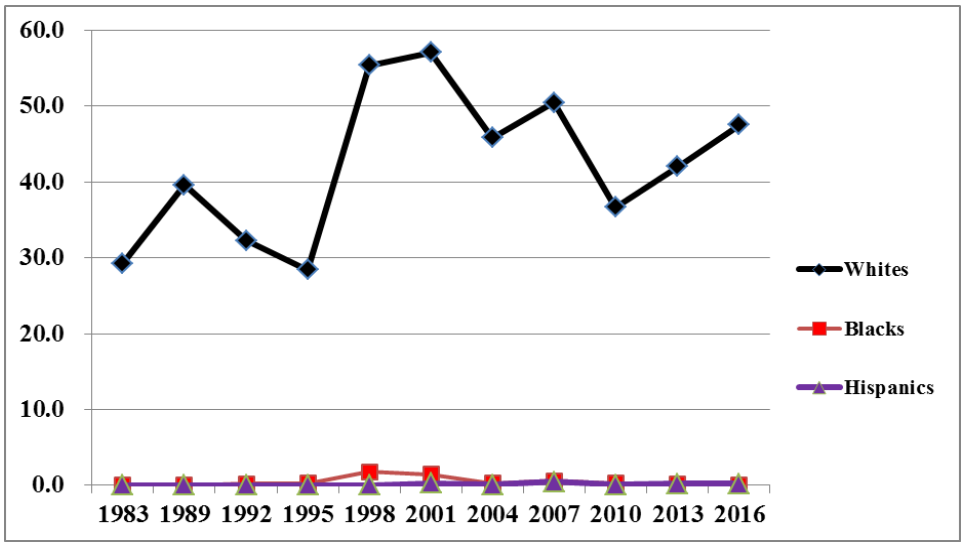

Figure 6. Median Financial Resources by Race and Ethnicity, 1983-2016 (1000s, 2016$)

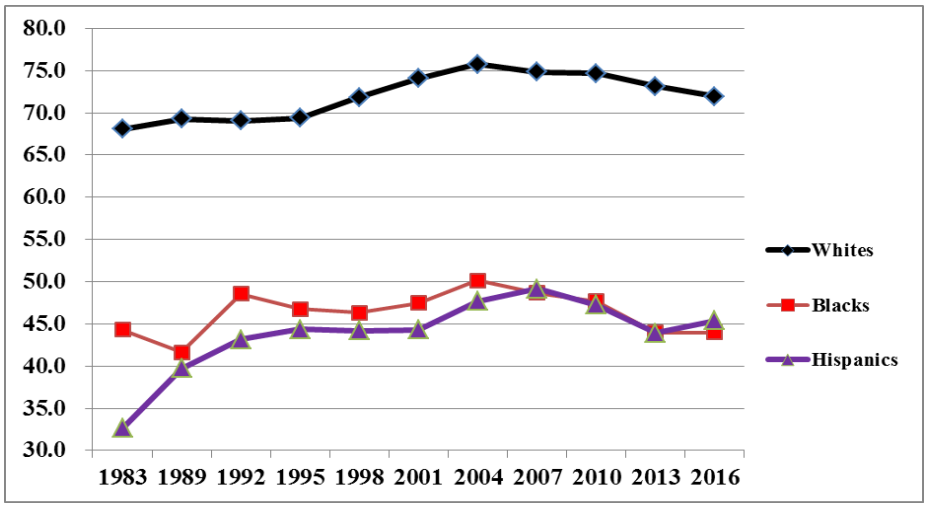

Figure 7a. Homeownership Rate by Race and Ethnicity, 1983-2016 (percentage)

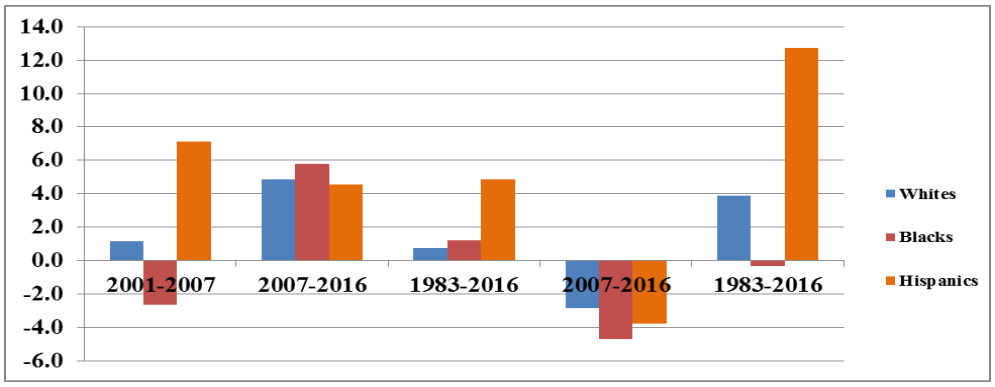

Figure 7b. Change in Homeownership Rate by Race & Ethnicity, 1983-2016 (percentage points)

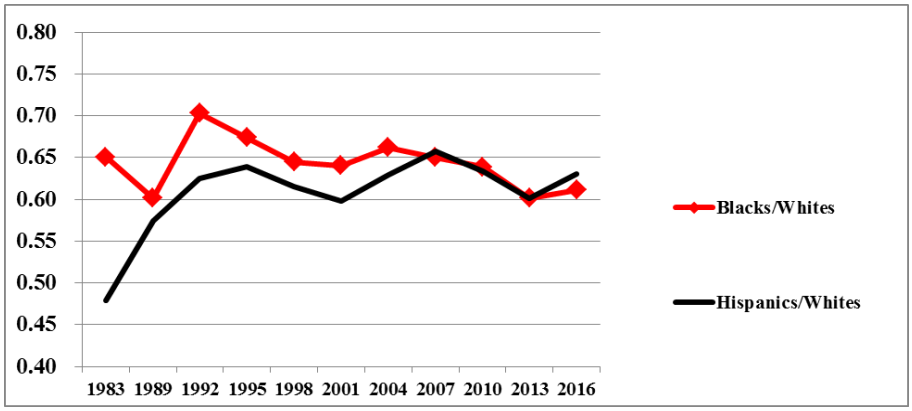

Figure 7c. Ratio of Homeownership Rates by Race and Ethnicity, 1983-2016

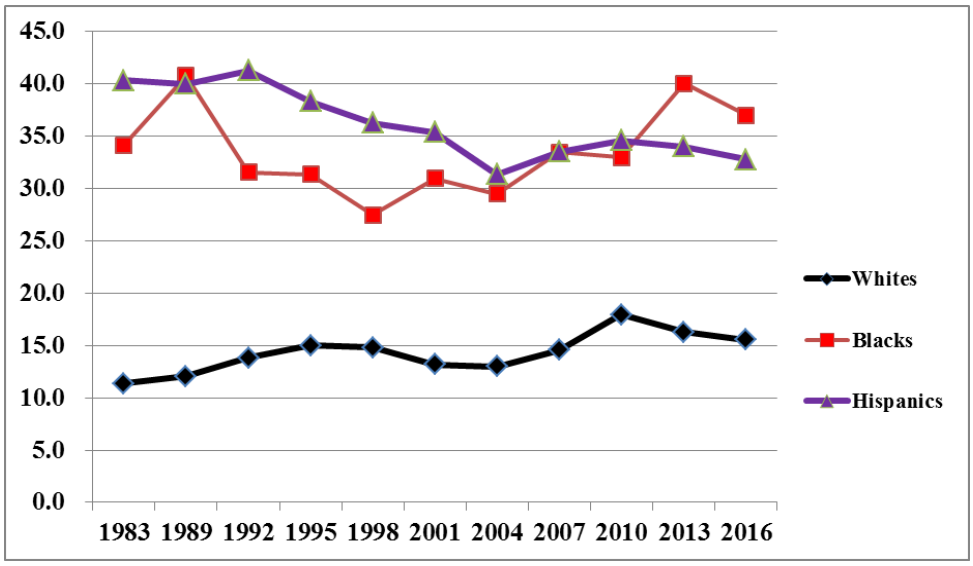

Figure 8a. Percentage of Households with Zero or Negative Net Worth by Race and Ethnicity, 1983-2016

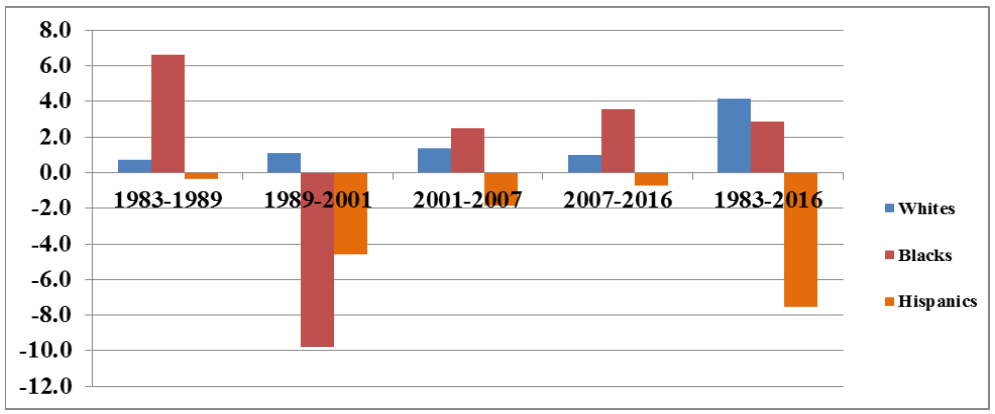

Figure 8b. Change in Share with Non-Positive Wealth by Race and Ethnicity, 1983-2016 (Percentage points)

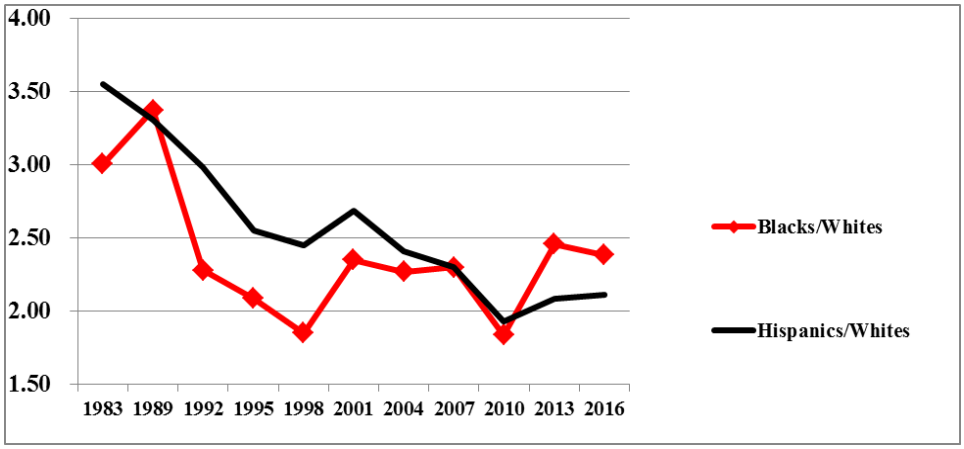

Figure 8c. Ratio of Percentage Shares with Non-Positive Wealth by Race and Ethnicity, 1983-2016

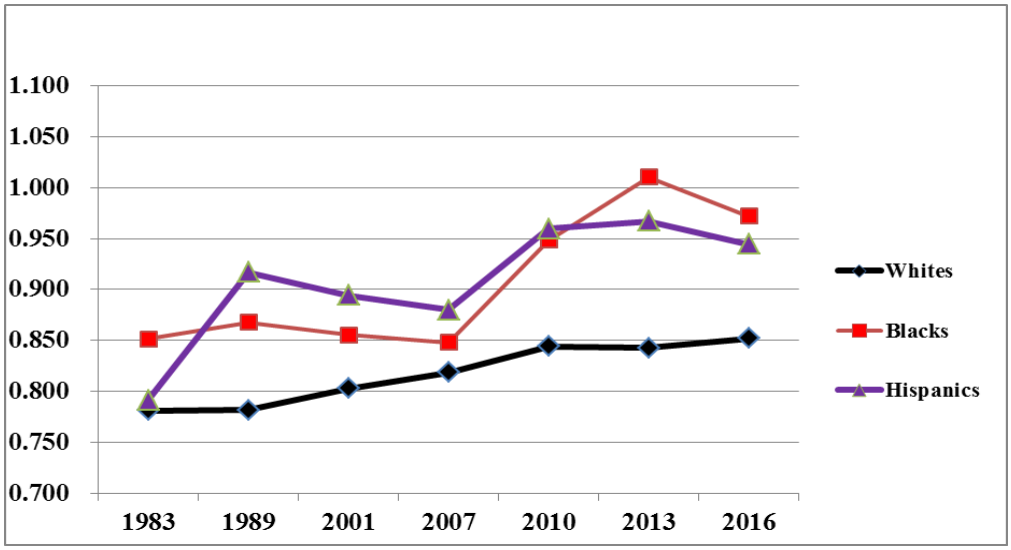

Figure 9a. Gini Coefficients for Net Worth by Race and Ethnicity, 1983-2016

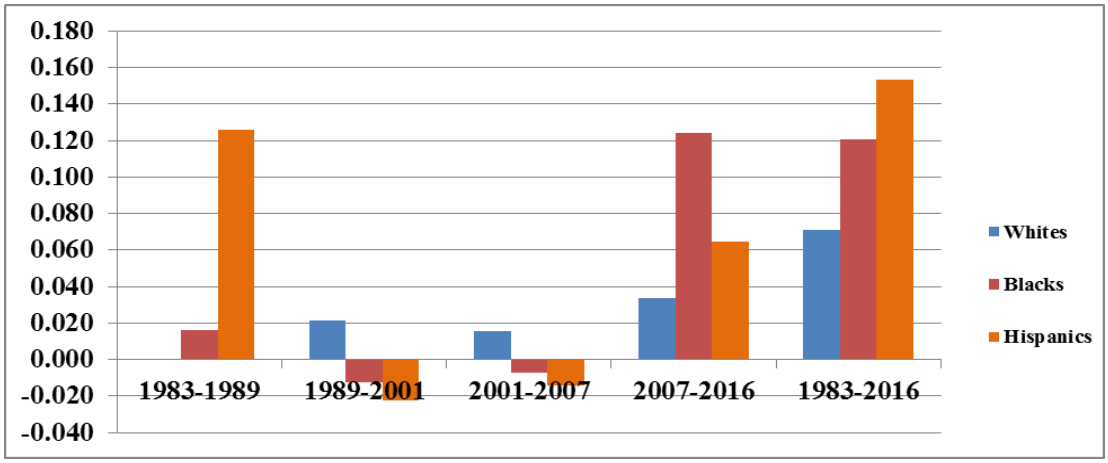

Figure 9b. Change in the Gini Coefficient for Net Worth by Race and Ethnicity, 1983-2016