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To cite this article: Thomas Masterson, Ajit Zacharias, Fernando Rios-Avila & Edward N. Wolff (2019) The Great Recession and Racial Inequality: Evidence from Measures of Economic Well-Being, *Journal of Economic Issues*, 53:4, 1048-1069. DOI: 10.1080/00213624.2019.1664240

To link to this article: <https://doi.org/10.1080/00213624.2019.1664240>



Published online: 06 Dec 2019.



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***The Great Recession and Racial Inequality:
Evidence from Measures of Economic Well-Being***

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Abstract: The Great Recession had a tremendous impact on low-income Americans, in particular Black and Latino Americans. The losses in terms of employment and earnings are matched only by the losses in terms of real wealth. In many ways, however, these losses are merely a continuation of trends that have been unfolding for more than two decades. We examine the changes in overall economic well-being and inequality, as well as changes in racial economic inequality during and since the Great Recession. We find that the Levy Institute Measure of Economic Well-Being inequality between White and Black households decreased during the Great Recession but since 2010, racial inequality in terms of LIMEW has increased. We find that changes in base income, taxes, and income from non-home wealth during the Great Recession produced declines in overall inequality, while only taxes reduced between-group racial inequality.

Keywords: racial inequality, great recession, economic well-being

JEL Classification Codes: D31, D63, J15

Economic disparities between racial groups in the United States have in some ways undergone profound transformations over the last half-century, while in other ways things remain the same. The Great Recession and especially the housing bubble, the collapse of which precipitated the financial crisis and recession, had decidedly unequal effects on different racial groups. In this article we trace racial economic inequality since before the official beginning of the Great Recession (measured as usual in terms of economic growth). This period includes the election of the first Black President of the United States, the enactment of a very large fiscal stimulus aimed at reversing the downturn in employment, a fiscal retrenchment following the midterm elections in 2010, and the beginning of a slow recovery in employment.

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Unlike the previous two recessions, the Great Recession was long, lasting one and a half years, and deep, with real gross domestic product per capita falling by 5.5 percent. Recovery has been slow, as well. It took over four years to recover the level achieved in the fourth quarter of 2007. Four years after both the 1990 and 2000 recessions, the real GDP per capita had grown by more than 8 percent (U.S. Bureau of Economic Analysis 2015). Real GDP per capita is not necessarily the best indicator of the trend in household economic well-being. Changes in employment are much more important for individual households than overall economic growth.

The headline unemployment rate only recovered to its pre-recession level in late 2016. In December 2007, U.S. unemployment stood at 4.7 percent. It peaked in October of 2009 at 10 percent, declined only slightly to 9.5 percent by the official end of the recession (June 2009) and has since dropped to 4.0 percent in June 2018 (U.S. Bureau of Labor Statistics 2018a). Labor force participation too changed little between the official beginning and end of the recession (66 percent in November 2007 and 65.7 in June 2009). However, the trend in the participation rate since the official end of recession delivers a contrasting picture to that suggested by the trend in the unemployment rate: the participation rate fell drastically to reach a level of 62.9 percent by the end of 2013, where it has remained since (U.S. Bureau of Labor Statistics 2018b). Recent analysis suggests that much of this decline may be structural, with much of that coming from the aging of the population (Aaronson et al. 2014). Whatever the reason for the decline in participation, the U.S. employment rate, which had been 63 percent in November 2007, was 58.2 percent by the summer of 2011, since when it has been slowly recovering, reaching 60.4 percent in June of 2018 (U.S. Bureau of Labor Statistics 2018c). To the extent that labor income is an important determinant of household economic well-being, this decline in employment will have a negative impact. Of course, if we include race, the employment picture becomes more complicated. There is a consistent gap between the employment-population ratio of Black individuals and everyone else. The size of the gap is cyclical, rising during and shortly after recessions and eventually falling again, but never disappears, remaining at or above 5 percent for most of the last two decades (U.S. Bureau of Labor Statistics 2016).

Gross money income (MI) is the official measure of household economic well-being in the United States. But because it omits other sources of income such as non-cash transfers (which have become increasingly important over time) and because it is a pre-tax income measure (thus ignoring the distributional impact of tax policy), MI does not adequately reflect households' command over, or access to, the products and services available in a market economy over a given period of time. A broader measure is needed.

The Levy Institute Measure of Economic Well-Being (LIMEW) is just such a measure (see Table 1 for a comparison between the LIMEW and Extended Income, a more comprehensive measure created by the Census Bureau). In addition to including taxes and non-cash transfers, we treat wealth as an economic resource, rather than using property income and realized capital gains reported in the survey. We annuitize a household's non-home net worth and assign an imputed rent to home value. We refer to the annuitized value of non-home assets minus the annuitized value of all debt other than mortgage debt as income from non-home wealth, and the difference between imputed rent and the annuitized value of mortgage debt as income from home wealth.

LIMEW also includes the value of publicly provided services and household production. Thus, LIMEW is a much more comprehensive measure of household economic well-being than the official measures.

Table 1. Comparison of LIMEW and Extended Income (EI)

LIMEW	Extended Income (EI)
Money income (MI)	Money income (MI)
Less: Property income and Government cash transfers	Less: Property income and Government cash transfers
Equals: Base money income	Equals: Base money income
Plus: Income from wealth	Plus: Income from wealth
Annuity from nonhome wealth	Property income and realized capital gains (losses)
Imputed rent on owner-occupied housing	Imputed return on home equity
Less: Taxes	Less: Taxes
Income taxes ¹	Income taxes
Payroll taxes ¹	Payroll taxes
Property taxes ¹	Property taxes
Plus: Cash transfers ¹	Plus: Cash transfers
Plus: Noncash transfers ^{1,2}	Plus: Noncash transfers
Plus: Public consumption	
Plus: Household production	
Equals: LIMEW	Equals: EI

Note: (1) Aligned with the NIPA estimates. (2) The government-cost approach is used. (3) For detailed information on the creation of LIMEW components estimates.

Other researchers have also heeded the Canberra Group’s (2011) call for more comprehensive measures of household economic well-being. Such efforts include the estimation of incomes net of taxes and transfers (Larrimore, Burkhauser, and Armour 2015; Larrimore et al. 2016; Bitler, Hoynes, and Kuka 2017), including near-cash in kind transfers. In addition, some authors address the under-reporting of property income by imputing rents, dividends, and interest to net worth (Smeeding and Thompson 2011), while others include accrued, as opposed to realized, capital gains (Larrimore et al. 2016) in their income measures. With few exceptions (Bitler, Hoynes, and Kuka 2017), these authors focus on overall income inequality or poverty, not on racial economic inequality. Those studies that focus on top taxable incomes using tax records (Piketty and Saez 2013) do not have the option, since tax forms lack demographic information. Where possible we compare our overall measures with theirs below. We also include, when appropriate, comparisons to Extended Income (EI), the broadest of the income measures that the Census Bureau used to publish. EI is net of income, payroll, and property taxes; it also includes imputed values of in-kind government transfers, employer contributions for health insurance, realized capital gains, and return to home equity (DeNavas-Walt, Cleveland, and Webster, Jr. 2003).

Racial economic inequality has generated a wide range of research in economics, sociology, and other social sciences. Much of the literature on racial economic inequality focuses on disparities in labor market outcomes (Altonji and Blank 1999). The bulk of the early literature studying economic disparities between races focused on earnings and income and took a critical stand on the question of human capital differences as the primary source for racial disparity (Wright 1978; Smith and Welch 1979; Darity, Jr. 1982; Kaufman 1983).

This thread in the study of racial economic inequality ultimately addresses inequalities in household income. While money income is important, the LIMEW, as a more comprehensive measure of household economic well-being, is better-suited to examining the relative impact of money income, wealth, government policy, and household production on racial economic inequality, as well as the impact of changes in these components over time.

Some early attention was paid to wealth inequality (Parcel 1982; Brimmer 1988; Blau and Graham 1990; Wolff 1992). *Black Wealth/White Wealth* (Oliver and Shapiro 1995) focuses on wealth disparities, while outlining the root causes of wealth inequality in racist policies and institutions. A more recent edition (Oliver and Shapiro 2005) makes the case that wealth inequality had not diminished in the previous decades' flowering of financial wealth. However clear it may be that this wealth disparity is a disadvantage, the magnitude of this disadvantage in comparison to that deriving from disparities in money income and other sources of household economic well-being remains unclear. While there is broad agreement that income from property is an inadequate estimate of this impact (Canberra Group 2011), how to better capture wealth's impact on inequality remains disputed. Some advocate incorporating capital gains, either realized (Piketty and Saez 2013) or accrued (Larrimore et al. 2016), although in the context of tracking trends in top incomes. We argue that a measure of economic well-being that incorporates the magnitude of wealth directly as an annuity, such as the LIMEW, gives us a better picture of the impact of racial wealth inequality on overall racial economic inequality. In terms of measuring wealth disparity by race category, the Survey of Consumer Finances (SCF) used in the construction of the LIMEW dataset does have limitations, including the over-sampling of White households implicit in the over-sampling of wealthy households and consequent under-sampling of non-white households, as well as only collecting race information for the reference person (Leigh 2006). This is an important caveat for the analysis here of racial wealth inequality and its contribution to the inequality of well-being.

Less effort has been expended in examining the impact of fiscal policy on racial inequality in household economic welfare. The largest components of government transfers are Social Security, Medicare, and Medicaid, most of which affect the elderly. As far as Social Security is concerned, as originally created in the 1930s, it did not cover agricultural workers or domestic servants, which left out many African American and Latino workers until reforms included all workers other than agricultural workers. In addition, greater rates of working "under the table" for African American and Latino/a workers means that earnings inequalities translate to even greater inequalities in Social Security income in retirement (Hogan, Kim, and Perrucci 1997). Although Medicare is universally available for the elderly, this does not necessarily imply inequality reduction. The quantity of care for non-whites appears to be lower than for Whites (Gornick et al. 1996). The quality of care for non-whites under Medicare Managed Care programs appears to be worse than that for Whites (Schneider, Zaslavsky, and Epstein 2002). Medicaid is no worse than private insurance in terms of racial equity, but this is faint praise: racial inequality in access to health care is endemic (Hall 1998; Lillie-Blanton et al. 2009). In terms of income support programs for low-income households, the impact of the Earned Income Tax Credit has been studied, and although it has been shown to reduce poverty at least for African American women (Ajilore 2008), its impact on racial inequality is less clear. Marianne Bitler, Hilary Hoynes and Elira Kuka (2017) analyze all of these transfers in their study of the impacts of transfers on child poverty during the Great Recession, which does address race by showing the variation in the

impact of the unemployment rate on poverty by race. They find that a given unemployment rate produces higher poverty rates in Black and Hispanic households, but that net taxes and transfers attenuate the overall impact of unemployment rates on poverty. Jeff Larrimore, Richard Burkhauser, and Philip Armour (2015) analyze the impact of taxes and cash and in-kind transfers (excluding Medicare and Medicaid) on incomes during the Great Recession but focus on overall changes in the income distribution. The LIMEW is net of taxes and includes both cash and in-kind transfers (including Medicaid and Medicare) as well as the impact of public spending that impacts household welfare but does not appear in surveys, such as spending on infrastructure and education. The largest component of what we call public consumption (i.e., publicly provided services) is education. Spending on education is thought to be unequal along racial lines. For example, in urban areas, segregation leads to unequal spending on education (La Ferrara and Mele 2006). While all of these studies are important in illuminating pieces of the racial inequality puzzle, LIMEW brings all of these components together into a comprehensive measure that we can then use to determine their differential impacts on racial inequality at several points over the last fifty years, as well as on the change in racial inequality over time.

In previous work (Wolff, Zacharias, and Masterson 2012), we outlined broad trends in economic well-being between 1959 and 2007. In this article, we examine trends in differences in economic well-being in the United States by race and focus on the period between 2007 and 2013, with emphasis on changes during and since the Great Recession. Due to data limitations, we analyze four crude racial categories: non-Hispanic Whites, non-Hispanic Blacks, Hispanic, and Others.

The method of statistical matching (Kum and Masterson 2010) used to assemble the LIMEW data set is sensitive to the representativeness of the source data sets. So, for example, the 2007 LIMEW data set comprises information from the 2008 March supplement to the Current Population Survey (CPS) and the 2007 SCF. Neither data set contains sufficient numbers of records to use more detailed race and ethnicity categories (such as Native American and Pacific Islanders) in the matching process, so that only the four racial categories above were used. As a result, the LIMEW data sets for 2007, 2010, and 2013 can only claim to accurately represent the distribution of economic well-being among Whites, Blacks, Hispanics, and Others.

The remainder of the article is organized as follows. The next section details trends in the distribution of wealth overall and by race between 1983 and 2013, using SCF data. The following section traces trends in economic well-being and its components using LIMEW and household income. The fourth section analyzes trends in inequality by source of income/well-being and by racial categories. A final section summarizes findings.

Race and Wealth

Although most of this article focuses on the impact of the Great Recession on racial inequality using broader measures of economic well-being, wealth is worth considering first for two reasons. First, the last two economic downturns in the United States have been the direct result of the bursting of asset bubbles, first in 2000 with the bursting of the high-tech stock market bubble and second in 2007 with the bursting of the housing bubble and the ensuing financial collapse. These recessions thus had important implications for the distribution of wealth. Secondly, the distribution of wealth has been more on the minds of

many economists since the publication of Thomas Piketty's *Capital in the Twenty-First Century*. The discussion of the book even made the mainstream media for a short while. As Piketty documents, the distribution of wealth has grown more concentrated everywhere since the 1970s and nowhere more so than in the United States (Piketty 2014). Therefore, we begin with an examination of overall trends in the distribution of wealth over the last three decades and then move on to examine the changes in the racial distribution of wealth.

To begin with the evolution of the concentration of wealth¹ in the United States, Table 2 below traces the evolution of the distribution of wealth since 1983 using data from the Survey of Consumer Finances.² As we can see, there has been a (mostly) slow increase of the top decile's share. The share of the total household net worth held by the top decile of households was 69 percent in the 1980s and began increasing in the mid-1990s. It stood at 73 percent in 2007 and jumped to 77 percent in the aftermath of the Great Recession, with the largest increase occurring between 2007 and 2010. During that period the ninetieth to the ninety-ninth percentile gained more but between 2010 and 2013 it was the top centile that gained the most. By 2013, the top one percent held just under 37 percent of total net worth.

Table 2. Shares of Net Worth by Net Worth Quantiles, 1983–2013

	Bottom 50%	50th to 90th Percentile	90th to 99th Percentile	Top 1%	Top 10%
1983	2.6%	28.8%	35.9%	32.7%	68.6%
1989	1.8%	29.0%	38.0%	31.2%	69.1%
1992	2.1%	28.8%	37.7%	31.4%	69.1%
1995	1.9%	27.0%	34.0%	37.1%	71.1%
2001	1.7%	26.6%	38.2%	33.4%	71.7%
2004	1.5%	27.1%	36.8%	34.6%	71.4%
2007	1.5%	25.3%	38.3%	34.8%	73.1%
2010	0.0%	23.5%	41.3%	35.2%	76.5%
2013	-0.1%	22.9%	40.3%	36.9%	77.2%

The bottom 90 percent of households have borne the brunt of the increased concentration of wealth in the United States. The share of the bottom 50 percent of households was between one and three percent of the total up until 2007. After the Great Recession, their share is zero (in fact, in 2013, it is slightly negative). The share of the fiftieth to the ninetieth percentile, Piketty's "Middle Class," had decreased from 29 percent in the 1980s to about 25 percent in 2007. The Great Recession reduced their share to just under 23 percent by 2013. So, the increase in the share of the top decile had come mostly from the middle up to the Great Recession, but afterwards it was drawn from both the middle and the bottom.

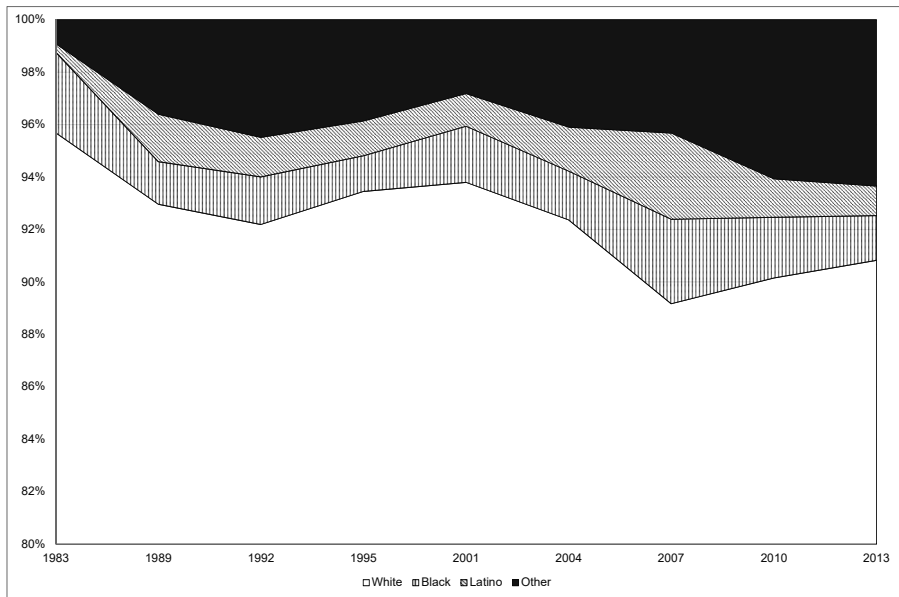
To tie this analysis to the question of racial inequality we can first observe that the top ten percent of households in terms of net worth is almost exclusively White. Figure 1 shows

¹ Our definition of wealth consists of homes, equity in real estate and (noncorporate) business, liquid assets, financial assets, retirement assets (defined contribution pension plans), mortgage debt, and all other debt (mainly consumer debt).

² The 1983 survey also over-sampled the wealthiest households, though the sample design was different than in later years.

the distribution of households in the top ten percent of households by race.³ White-headed households make up no less than 89 percent of the top ten percent in any of the survey years. As we can see, Black and Latino households make up very small portions of the top ten percent, between one and four percent, while the share of others, primarily Asian-headed households has risen to more than six percent. Over the same period, the share of households headed by Whites in the overall population dropped from 82 percent to 70 percent. If we look at the top one percent, the picture does get more unequal in terms of representation: in 2013, White-headed households made up 94.5 percent of the top one percent. This pattern is also reflected in the pattern of racial inequality in terms of net worth.

Figure 1. Race of Households in the Top 10 Percent of Wealth Distribution, 1983–2013



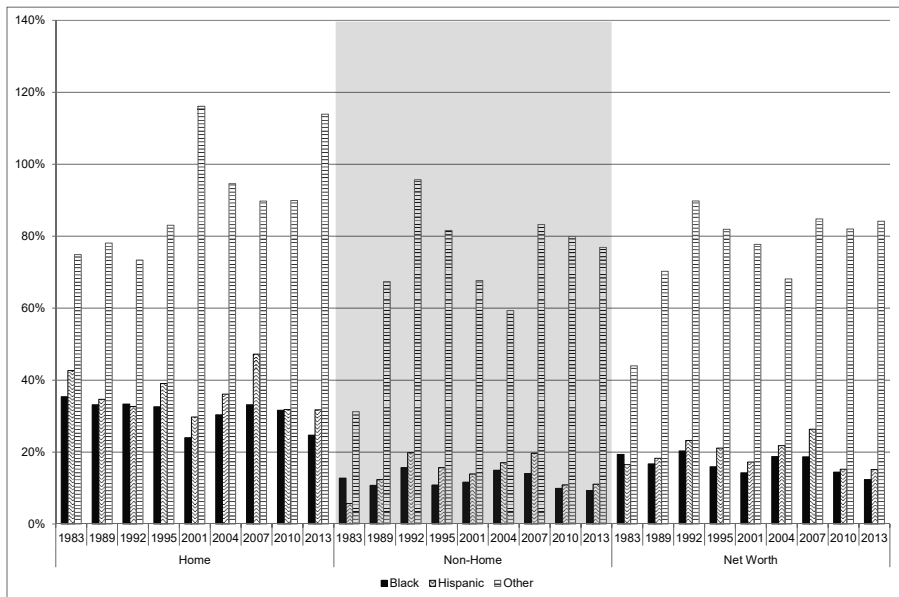
Looking at mean household net worth by race over the last three decades, we see no improvement in the relative position of Black and Latino households compared to White households (Figure 2).⁴ If anything, we see a slight deterioration. While Latino households had improved their net worth relative to White households from 16 percent in 1989 to

³ The racial categories employed here and throughout the article refer to the race of the household reference person. The reference person is identified differently in the Federal Reserve's Survey of Consumer Finances (SCF) used for the analysis of wealth in this section and the Bureau of Labor Statistics' Annual Social and Economic Supplement (ASEC) used as the basis for the LIMEW estimates in the later sections of the article. In the SCF, the reference person is the household head, "taken to be the single core individual in a PEU without a core couple; in a PEU with a central couple, the head is taken to be either the male in a mixed-sex couple or the older individual in the case of a same-sex couple (Federal Reserve Board 2014)." In the ASEC, the reference person is the householder, defined as "the person (or one of the people) in whose name the housing unit is owned or rented (maintained) or, if there is no such person, any adult member, excluding roomers, boarders, or paid employees. If the house is owned or rented jointly by a married couple, the householder may be either the husband or the wife (U. S. Census Bureau 2015)." In the process of matching the two surveys for the creation of the LIMEW data set, we take these differences into account.

⁴ If we look at the ratio of median net worth of non-white to White households, we see that Black households' median net worth was at one or two percent of White median net worth for every year of the SCF. In 2013, however that ratio stood at only 0.2 percent, the lowest measured by this survey. Median Hispanic net worth as a percentage of White median net worth has usually been even lower than Black net worth, but not by much. The median net worth of "Other" households as a share of White median net worth has fluctuated quite a bit: less than ten percent in 2001, it climbed to 24 percent in 2004 and fell to 10.3 percent in 2013.

26 percent in 2007, in the aftermath of the Great Recession, mean Latino net worth has dropped to 15 percent that of Whites. For Black households, 1992 was the peak year when their average net worth was at 20 percent that of the White households. The ratio fell steadily throughout the 1990s reaching 14 percent in 2001. By 2007, the ratio had recovered to nearly 19 percent, but the Great Recession pushed it back down to 12.4 percent by 2013. So, in 2013 White households had, on the average, \$8 in net worth for every dollar Black households had on the average. The reason the gap widened between 2007 and 2013 is that despite a 12 percent drop in average net worth among White households, average Black net worth shrank even more, by 42 percent. When we divide net worth into home and non-home wealth, we see similar dynamics, with the notable difference between the two being that home wealth ratios (between 20 and 40 percent for most years) are larger than those for non-home wealth (always less than 20 percent for Black and Latino households). The picture for other households, predominantly Asian, has been more encouraging. Their ratio of average net worth to White households grew to 90 percent by the end of the 1980s, decreased steadily to under 70 percent by 2004 and then has varied between 82 percent and 85 percent. Of course, there is a great deal of diversity within the “Other” category.

Figure 2. Ratio of Mean Home Wealth, Non-home Wealth and Net Worth to White Households by Race, 1983–2013



Overall, racial wealth inequality since the 1980s has increased, when Black and Hispanic households are compared to White households (or to Other households, for that matter). We will see the importance of this in terms of its impact on overall household economic well-being when we analyze trends in racial inequality with the LIMESW in the following sections. First, we will compare trends in racial inequality of LIMESW to that of MI, and to that of other measures where available, then move on to look in more detail at the changes in LIMESW inequality by race.

LIMEW, Extended Income, and Money Income

Turning now to the impacts of the Great Recession on racial inequality in household economic well-being, we first look at the overall trends in household economic well-being between 2007 and 2013.⁵ Table 3 provides median values for LIMEW, EI, and MI. Of course, by construction, LIMEW is larger than both EI and MI. LIMEW also has a different trajectory than either EI or MI over this period (and earlier periods as well). LIMEW actually rises slightly during the Great Recession (by 0.4 percent) while EI rises sharply (6.2 percent) and MI falls sharply (by 6.3 percent). Between 2010 and 2013, LIMEW fell three percent, while MI's decline slowed to 1.5 percent and EI rose by 2.2 percent. This gives an overall decline of -1.7 percent for LIMEW and -7.7 percent for MI, and a growth of 8.5 percent in EI between 2007 and 2013.⁶ Alternative estimates of income over the Great Recession show large declines in the 2007 to 2010 period. Larrimore, Burkhauser, and Armour (2015) report a 4.1 percent decline in the median of their post-tax and transfer income, compared to a 10.3 percent drop in market income. In their study of top incomes, Larrimore et al. (2016) show that including taxes and transfers (here inclusive of Medicaid and Medicare, as well as the value of employer-provided health insurance) in a comprehensive income measure reduces the share of the top one percent by five percentage points relative to taxable income and exhibits a modestly decreasing share between 2007 and 2010. When they include accrued capital gains, business gains and housing gains, their measured share of the top one percent of incomes spikes by about eight percentage points in 2008, then drops nearly ten percentage points in 2009 before recovering to its original level of about 14 percent in 2010. For household income, the explanation for the large initial and continuing decline is simple: the bulk of MI is earnings (labor income) and earnings tend to fall during recessions. In addition, real wages have been stagnant, reducing the growth during recoveries. The growth in capital gains explains the increase in EI between 2007 and 2013. To see the reasons for the different trend in LIMEW, we decompose the changes by components of LIMEW below.

Table 3. Median Economic Well-Being, 2007 to 2013 (2016 US\$)

	2007	2010	2013
Measures			
LIMEW	99,448	100,727	97,729
EI	56,651	60,169	61,473
MI	56,178	52,632	51,859

In Table 4, the changes in the mean value of LIMEW for the middle quintile are broken down into the contributions of each component. We use the mean of the middle quintile since the median cannot be decomposed in this way. The mean LIMEW of the middle quintile is within one third of one percent of the median in each of our benchmark years. Comparing the changes in the contributions of the four major components (base income, income from wealth, net government transfers, and the value of household production) to the overall trends in Table 3, we see that the contribution of base income (mostly earnings)

⁵ Benchmark estimates of LIMEW for the United States have been prepared for the years 1959, 1972, 1982, 1989, 1992, 1995, 2000, 2004, 2007, 2010, and 2013. We use the years 2007, 2010, and 2013 here to give a sense of the impact of the Great Recession

⁶ These trends are evident in the equivalence-scale adjusted measures as well.

tracks the trend in MI. The drop in the contribution of base income between 2007 and 2010 is even larger than the decline in MI. The growth in the middle quintile's LIMEW during the Great Recession is entirely due to the growth in net government expenditures (row four of the table, or the sum of rows five to seven). The increase in transfers alone more than offsets the drop in base income, though increases in public consumption and decreases in taxes also contribute to LIMEW growth at the middle of the distribution. A reduction in hours devoted to household production leads to a one percent decrease in LIMEW, while income from wealth declines by one half of one percent.

With the turn to austerity of both the Obama administration and Congress after 2010, the impact of net government transfers on the LIMEW of the middle quintile swings more than eight percentage points to the negative. Transfers are essentially unchanged between 2010 and 2013, but both decreases in public consumption and increases in taxes contribute to a nearly three percentage point drop in LIMEW. The only significant contribution to an increase in LIMEW was the imputed rent on owned homes (income from home wealth), which added 0.7 percentage points. Base income continued to decline, though less rapidly (it dropped by \$2,600 between 2007 and 2010, but just by \$1,000 between 2010 and 2013). The changes in the second period are for the most part dwarfed by those of the first period, as we see in the last column. Most of the decline in base income and the value of household production happens in the first period, as does all of the overall increase in net transfers.

Table 4. Contribution of Components to Percentage Change in Mean LIMEW of the Middle Quintile

	2007–2010	2010–2013	2007–2013
Base Income	–2.6	–0.9	–3.4
Income from Wealth	–0.5	0.6	0.1
Income from Home Wealth	0.5	0.7	1.6
Income from Non-home Wealth	–1.0	–0.1	–0.9
Net Government Transfers	5.4	–2.9	2.8
Transfers	3.1	–0.1	3.7
Public Consumption	1.0	–1.7	–0.6
Taxes	1.2	–1.2	0.0
Value of Household Production	–0.9	0.0	–0.8
LIMEW	1.4	–3.3	–1.9

Note: indented items are sub-components of the preceding component of income.

Let us now begin to examine patterns of change in economic well-being by race by considering first the estimates of median LIMEW, EI, and MI in Table 5, below. With one exception, the racial ranking of median values is the same in every year for each measure: Other, White, Hispanic, and Black, from highest to lowest. In 2013, White households actually had a slightly higher median EI than Other households. In terms of LIMEW, Hispanic households move closer to White and Other households between 2007 and 2010, while Black households fall further behind (from 75.5 to 73.6 percent of median White LIMEW). Other households increased their advantage over White households, from 6.2 percent higher median LIMEW in 2007 to 7.6 percent higher in 2010.

Between 2010 and 2013, Black and Other households' median LIMEW changed in proportion to White households, while Hispanic households dropped to 89.2 percent of that of White households from 91.6 percent. Every group is better off in 2010 than in 2007 except Black households, who lost \$600 (0.7 percent). White households' median LIMEW grew less (1.8 percent) than that of Hispanic and Other households (3.1 percent each). All groups gained ground in terms of median EI between 2007 and 2010, but Black households had the smallest gain (\$600), while Hispanic households had the largest (\$4,400). While all groups lost ground in terms of MI during the Great Recession, Black households suffered the worst decline (over ten percent) while the other three groups lost around six percent each.

The period since the end of the Great Recession was characterized by smaller movements in MI, as seen above, but in contrast to the gains in LIMEW made by most households during the Great Recession, the period since has been characterized by even larger losses in median LIMEW. In this period, however, Black households lost the least ground (just under three percent), while Other and White households lost 3.1 and 3.2 percent respectively. Hispanic households lost the most in both absolute (\$5,500) and relative (5.7 percent) terms. The reason for the lower loss among Black households is hinted at by the changes in MI over the same period: only Black households saw an increase in MI (although only 0.9 percent or \$300). White, Hispanic, and Other households all lost some ground (0.2 percent, 1.1 percent, and 0.6 percent, respectively). In terms of median EI, Black, White, and Hispanic households gained ground (2.5, 0.8, and 2.6 percent, respectively), while Other households lost (0.9 percent). Looking at the changes in median MI for the whole period, we see no group is better off in 2013 than in 2007. The median White household lost six percent, Hispanic and Other households just above seven percent, and Black households over nine percent. All groups saw increases in median EI, but while White and Hispanic households each gained more than \$5,000, Other households gained just \$2,200, and Black households only \$1,000. Overall changes in LIMEW were more modest, and surprisingly, the median Other household was just as well off in 2013 as in 2007. The same cannot be said for the median White, Black, or Hispanic households, who were down \$1,500, \$2,800, and \$2,700, respectively.

Table 5. Median LIMEW, EI and MI by Race, 2007–2013 (US\$ 2013)

		White	Black	Hispanic	Other
2007	LIMEW	103,717	78,272	93,839	110,179
	EI	61,416	41,073	46,399	63,549
	MI	61,796	38,100	43,215	64,043
2010	LIMEW	105,604	77,715	96,704	113,610
	EI	65,150	41,710	50,801	66,335
	MI	58,224	34,187	40,529	59,859
2013	LIMEW	102,263	75,500	91,187	110,122
	EI	66,809	42,037	52,137	65,736
	MI	58,118	34,500	40,100	59,500

Table 6 gives the mean values of the components of LIMEW for the middle LIMEW quintile of White, Black, Hispanic, Other, and all households, respectively.⁷ We can see that all groups lost substantially in terms of base income during the Great Recession, although Black households lost the greatest amount, both in absolute (\$3,300 compared to between \$2,100 and \$2,600) and relative (9.1 percent, compared to between 3.5 and 5.1 percent) terms. Income from home wealth is the smallest component of LIMEW for Other households in all years and for White households until 2013, when it is outstripped by income from non-home wealth, the smallest component for Black and Hispanic households in all years. The changes over time are relatively small but for all households, income from home wealth actually increased. Although the values of homes decreased, mortgage debt increased slightly (by 15 percent and 1.5 percent, respectively, for the median homeowner), and the rates of homeownership dropped (especially between 2010 and 2013), the total amount of imputed rent increased by 13.6 percent in real terms between 2007 and 2013.⁸ This reflects the fact that rents were rising in real terms and so the housing services provided by homeownership were increasing as well. The combination of these factors over the period results in an increased estimate of income from home wealth for all households. The contribution of income from home wealth to LIMEW growth was generally small, ranging from 0.2 percent for Hispanic households to 1.4 percent for White and Other households. Changes in income from non-home wealth, on the other hand, contributed to decreases in LIMEW for all groups. Other households were least affected with a 0.6 percent decrease in LIMEW as a result of loss of income from non-home wealth, while Hispanic households lost 0.7 percent, Black households lost 0.9 percent, and White households lost 1.1 percent. So despite the headline-grabbing nature of the financial crisis, its direct impact on household economic well-being was fairly modest compared to the direct impact of losses in earnings reflected in base income.⁹ Between 2007 and 2013, White households in the middle LIMEW quintile gained \$1,500 in income from home wealth, but lost \$1,100 in income from non-home wealth, while Black households gained \$400 in home wealth but lost \$700 in non-home wealth. While Hispanic households gained \$200 in income from home wealth and lost \$700 in income from non-home wealth, Other households gained \$1,600 in home wealth and lost \$600 in non-home wealth, making Other households the clear leader in changes in income from wealth overall between 2007 and 2013. So, the housing crisis did not have a dominant impact on households' economic well-being during the Great Recession.

Turning to the government sector, we see that the largest contribution to average LIMEW growth between 2007 and 2010 comes from transfers. Hispanic households saw the largest increase (\$4,400), while Black households gained the least (\$2,400). In fact, only for Black households was the increase in transfers insufficient to cover the drop in base income. Although only Black households saw increased transfers in the 2010 to 2013 period, the additional loss in base income during those years was larger. Although all household groups in the middle LIMEW quintile were at a higher level of transfers in 2013 than 2007, only for Hispanic households did this gain exceed the loss in base income over the period. Black households, who suffered the largest drop in base income saw only the third largest

⁷ The quintiles used for Table 6, Figure 3, and Figure 4 are calculated by race and year, while the overall numbers give the average for the four middle quintiles by race for the estimate year.

⁸ Based on NIPA Table 7.12, imputed rent for the U.S. was \$1,156.1 billion in 2007, \$1,228.7 billion in 2010, and \$1,316.5 billion in 2013 (in \$US 2016) a real increase of 6.2 percent between 2007 and 2010, and 7.1 percent between 2010 and 2013, or 13.9 percent for the whole period.

⁹ While overall mean non-home wealth declined by 16 percent, average income from non-home wealth fell much less, by only 3.6 percent.

increase in transfers. Public consumption and taxes added between another 1.4 (for White households) and 2.6 (for Black households) percent to overall LIMEW growth. Because taxes fell, on average, for all groups, the contribution of taxes to LIMEW growth was positive. The highest contribution was for Blacks (1.8 percentage points). The groups, Others and White, experienced comparable help from the tax cuts (a little under one percentage point) while Hispanics had the lowest boost (0.6 percentage points). The combined impetus of transfers and taxes to LIMEW growth fell short of the setback from earnings decline only for Blacks, while for all others it overwhelmed the setback.

Table 6. Components of Mean Middle Quintile LIMEW by Race, 2007–2013

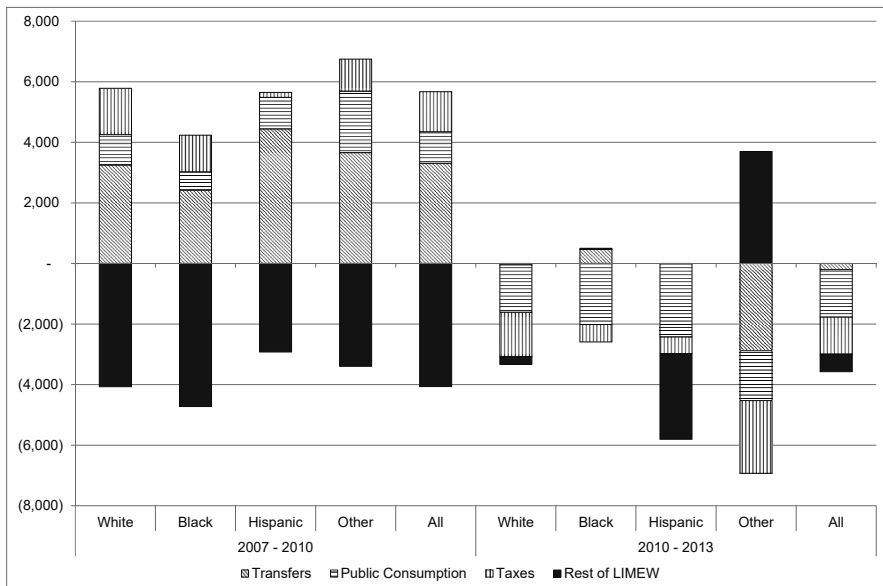
	Base Income	Home Wealth	Non-home Wealth	Transfers	Public Consumption	Taxes	Value of Household Production	LIMEW
2007								
White	55,590	5,436	7,650	15,785	10,552	(15,304)	24,398	104,106
Black	36,162	2,078	1,789	17,227	12,772	(8,704)	17,156	78,480
Hispanic	44,729	3,062	1,424	12,951	19,435	(8,498)	20,972	94,076
Other	59,543	4,400	4,231	13,602	15,125	(15,045)	28,686	110,543
All	52,223	4,701	6,038	15,512	12,092	(13,714)	23,373	100,225
2010								
White	52,959	6,101	6,534	19,039	11,553	(13,774)	23,412	105,823
Black	32,861	2,223	1,270	19,640	13,387	(7,495)	16,108	77,996
Hispanic	42,436	3,267	1,127	17,398	20,472	(8,333)	20,436	96,802
Other	57,447	4,864	2,734	17,261	17,156	(13,987)	28,417	113,893
All	49,539	5,225	5,041	18,820	13,133	(12,388)	22,464	101,835
2013								
White	52,062	6,917	6,553	18,992	9,986	(15,236)	23,215	102,489
Black	31,971	2,496	1,049	20,102	11,372	(8,071)	16,985	75,905
Hispanic	40,928	3,229	773	17,390	18,054	(8,887)	19,511	90,997
Other	58,425	5,989	3,612	14,378	15,511	(16,386)	29,137	110,666
All	48,563	5,832	4,929	18,614	11,567	(13,607)	22,362	98,260

While public services (e.g., highways) are not substitutable for commodities, it is interesting to note that even adding in the contribution of public consumption, the positive contribution of net government expenditures was not enough to offset the negative contribution of base income for Blacks. The sum of the contributions from net government expenditures and base income to the change in economic well-being during the Great Recession was negative 0.2 percentage points for Blacks while for other groups it was positive: around one percentage point to the benefit of White and Other households and three percentage points for Hispanic households. The value of household production had mixed influences on the trajectory of average LIMEW by race during the Great Recession.

White and Black households in the middle LIMEW quintile saw large reductions in the value of household production (\$1,000), while Hispanic and Other households experienced smaller decreases (\$500 and \$300, respectively). During the later period, Black and Other households saw reversals, as the value of household production increased (by \$900 and \$700, respectively), while White and Hispanic households experienced further declines (\$200 and \$900, respectively). To sum up then, earnings, the major component of base income, had the largest impact on all groups, and though the largest decreases were during the Great Recession, losses continued afterwards, reflecting the stagnation of earnings below the top ten percent of the income scale (see Piketty and Saez 2013). Net government expenditures had the largest positive impact on the LIMEW of median households for all groups but Others between 2007 and 2010, but the shift in fiscal policy after 2010 undermined any recovery in other components of LIMEW.

The public sector, mostly absent from MI (except for cash transfers), was by far the most important factor in stabilizing LIMEW for each racial group during the Great Recession, but between 2010 and 2013 it was a drag on LIMEW growth for the middle LIMEW quintile (see Figure 3). Transfers, the largest contributor to overall LIMEW growth and for all groups between 2007 and 2010, was down overall between 2010 and 2013. During the Great Recession, Hispanic households saw their transfers increase the most (\$4,400), followed by Other (\$3,700), White (\$3,300), and Black (\$2,400) households. While between 2010 and 2013, transfers remained stable for White and Hispanic households, they increased for Black households (\$500) and dropped sharply for Other households (\$2,900). Other households gained most from public consumption between 2007 and 2010 (\$2,000), followed by Hispanic and White (\$1,000), and Black (\$600) households, but all households saw decreases in public consumption between 2010 and 2013, from \$1,600 for White and

Figure 3. Changes in Components of Net Government Expenditures and Rest of LIMEW for the Middle Quintile by Race, 2007–2013



Other households to \$2,000 for Black and \$2,400 for Hispanic households. Taxes dropped most for middle quintile White households (\$2,100) during the Great Recession, followed by White (\$1,700), Other (\$1,700), and Hispanic (\$1,200) households. Of course, the fact that households paid lower taxes is partly an indication of lower household incomes, but during the 2010 to 2013 period when base income was still falling for all but Other households, taxes increased for all middle LIMEW quintile households.

Overall, net government expenditures were the only thing preventing most households from experiencing LIMEW decreases during the Great Recession. Middle LIMEW quintile Black households' \$4,200 increase was not enough to overcome their losses in the rest of LIMEW (chiefly base income). For all other groups, the increase in net government expenditures more than offset their losses in the other components of LIMEW during the Great Recession (by \$1,700, \$2,700 and \$3,400 for White, Hispanic, and Other households, respectively). For Black households the increase in net government expenditures was \$500 lower than the drop in the rest of LIMEW. Between 2010 and 2013, the contraction in net government expenditures roughly equaled the drop in LIMEW for White and Black households, while for Hispanic households it accounted for half of their \$5,800 decrease, while the \$6,900 drop for Other households was responsible for their \$3,200 decline in LIMEW.

We move on now to look at the impact of the Great Recession on racial economic inequality, by components of LIMEW as well as overall.

Inequality

Overall income inequality has increased over the last two decades, especially during the 1990s. However, at least part of the measured inequality increase during the 1990s is due to a change in the method the BLS uses to top-code incomes in the Current Population Survey in the early 1990s.¹⁰ It is likely that the reporting changes had a smaller impact on the inequality of LIMEW primarily because those at the top of the LIMEW distribution are there by virtue of their massive wealth holdings rather than earnings. So, despite the relative underestimation of inequality prior to 1994, there is still evidence of a trend of increasing inequality since the 1980s. However, inequality in both MI and LIMEW (as measured by the Gini ratio) remained stable between 2000 and the beginning of the Great Recession (Wolff, Zacharias, and Masterson 2012).

Turning to inequality by race (Table 7), we can first observe that in 2007, LIMEW inequality was the highest among White households (0.430). Inequality among Other households was the next highest (0.397) while inequality was notably lower among Black (0.357) and lowest among Hispanic households (0.333). Inequality decreased among White and Hispanic households, dropping to 0.423 and 0.325, respectively. Inequality among Black and Other households were essentially unchanged. Between 2010 and 2013, inequality increased among all groups except Others. The largest rises were for White and Hispanic

¹⁰ Changes in survey design and raising the thresholds for reported earnings introduced in 1994 are estimated to raise the measured inequality in money income. One estimate is that these changes accounted for half of the increase in the inequality in household money income between 1992 and 1993 or about one Gini point (Ryscavage 1995). In addition, top-coding of property income items such as dividends also underwent changes (Burkhauser et al. 2011).

households, which each saw 1.4 Gini point increases. The result was a slight increase in the level of inequality within most groups between 2007 and 2013.

Table 7. LIMEW Inequality by Race, 2007–2013 (Gini)

	2007	2010	2013
White	0.430	0.423	0.437
Black	0.357	0.356	0.362
Hispanic	0.333	0.325	0.339
Other	0.397	0.399	0.395
Total	0.417	0.411	0.422

Decomposition analysis suggests that the decrease in inequality among Whites during the Great Recession primarily reflects the decrease in the contribution of base income and taxes to LIMEW inequality (see Table 8), as well as that of income from non-home wealth. Uniquely among White households, inequality in income from non-home wealth contributes as much to LIMEW inequality as inequality in base income. This is due mainly to the higher share of income from non-home wealth in LIMEW among Whites during this period (around 21 percent throughout the period of this study) and to its somewhat higher concentration coefficient.¹¹ By contrast, income from non-home wealth contributed 3 and 3.6 Gini points to LIMEW inequality among Black and Hispanic households in 2007, and its contribution shrunk for those groups during the Great Recession. It accounted for a 3 Gini point reduction in LIMEW inequality among Other households, who, at 10.4 Gini points contribution in 2007, were between White households and Black and Hispanic households. The reduction in the contribution of income from non-home wealth to LIMEW inequality among Black, Hispanic, and Other households was mainly due to reductions in its share in LIMEW. The impact of income from home wealth on within-group inequality was to increase inequality among White and Other households during the Great Recession and decrease it among Hispanic households. Since the end of the recession, income from home wealth has increased inequality in all three groups. Among Hispanic households, the shifts have been due almost entirely to changes in the concentration coefficient, rather than the share of income from home wealth, while the effects have been more balanced among White and Other households. As increases in transfers balanced decreases in base income during the Great Recession, so too does the impact of transfers counteract the decrease in LIMEW inequality due to base income. We would expect the increase in the share of LIMEW to have this effect, as well as an increase in the concentration of transfers (in the lower end of the LIMEW distribution). Other households are an exception to this rule, as the concentration of transfers among Other households decreased between 2007 and 2010. The decrease in the impact of taxes on LIMEW inequality is due to the increase of concentration of taxes among all groups. Between 2010 and 2013, the impact of taxes flipped, with the concentrations now decreasing among all groups, though by smaller amounts. The positive contribution of household production to changes in LIMEW inequality between 2007 and 2010 is due to the concentration of the value of household production, and its subsequent decline in impact on LIMEW inequality is due to a corresponding decline in concentration.

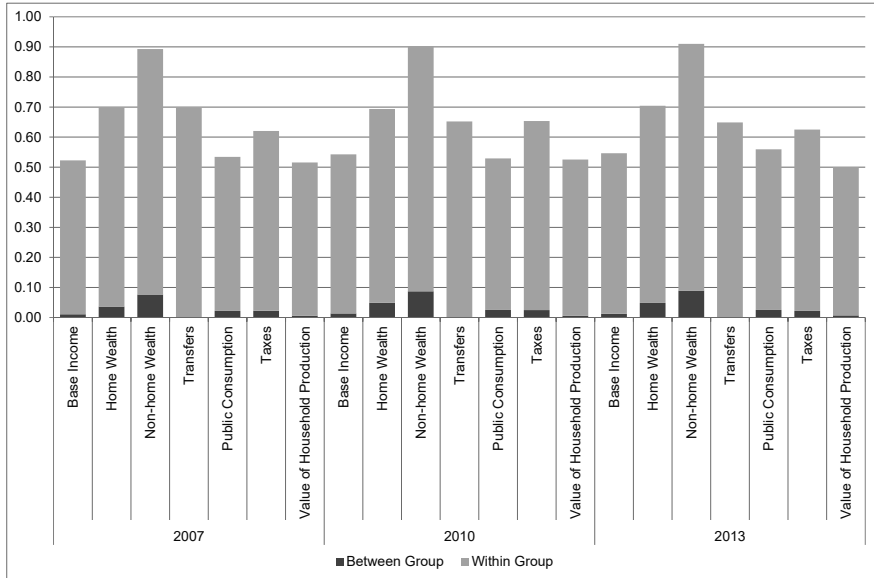
¹¹ The concentration coefficient of income from non-home wealth for Whites increased from 0.77 in 2007 to 0.81 in 2013.

Table 8. Decomposition of Changes in LIMEW Inequality by Race and Source, 2007–2013

	White	Black	Hispanic	Other	All
2007–2010					
Base Income	–0.7	–1.5	–0.8	–0.4	–0.7
Income from Home Wealth	0.5	–0.1	–0.5	0.6	0.4
Income from Nonhome Wealth	–0.4	–0.6	–1.3	–0.6	–0.5
Government Transfers	0.5	1.4	1.0	0.1	0.6
Public Consumption	0.1	0.5	0.3	–0.1	0.1
Taxes	–0.7	–0.4	–0.5	–0.5	–0.6
Value of Household Production	0.0	0.7	0.9	1.1	0.2
Total	–0.7	–0.1	–0.8	0.2	–0.6
2010–2013					
Base Income	0.1	1.2	0.5	1.1	0.3
Income from Home Wealth	0.5	0.1	0.5	1.0	0.5
Income from Nonhome Wealth	0.9	0.2	1.0	–2.4	0.5
Government Transfers	0.2	0.4	0.1	0.6	0.2
Public Consumption	–0.1	–0.2	–0.1	–0.1	–0.1
Taxes	0.8	–0.2	0.1	0.3	0.6
Value of Household Production	–0.9	–0.9	–0.6	–0.8	–0.8
Total	1.4	0.7	1.4	–0.4	1.1

We use the analysis of Gini (ANOI) technique proposed by Frick et al. (2006) to decompose changes in racial inequality by LIMEW component (see also Yitzhaki 1994). The ANOI decomposes the Gini coefficient by groups into intragroup and between-group components and the effect of overlapping on both components. Intragroup inequality is the weighted average of the Gini coefficient of each subgroup. Between-group inequality (the between-group Gini assuming perfect stratification minus the overlapping component) is a small component of overall LIMEW inequality.¹² Figure 4 shows the decomposition of the Gini coefficient for the components of LIMEW by racial categories. Between-group inequality is small for all of the components of LIMEW, with one notable exception: the between-group component of inequality of income from non-home wealth was 8.5 percent in 2007 and rose to 9.8 percent in 2013. Over the same period the within-group component of inequality of income from non-home wealth remained stable at or just below 82 Gini points. Of course, this is also the component with the highest level of inequality, growing to 91 Gini points by 2013. Inequality of income from home wealth is the next largest in terms of the share of between-group inequality to the overall level of inequality. Like the between-group component of inequality of income from non-home wealth, it grew most during the great recession (from 5.2 to 7 percent of the total, or from 3.6 to 4.9 Gini points).

¹² In 2013, the between-group component of the Gini coefficient accounted for 3.1 percent of total LIMEW inequality.

Figure 4. Decomposition of Inequality of Components of LIMEW by Race, 2007–2013

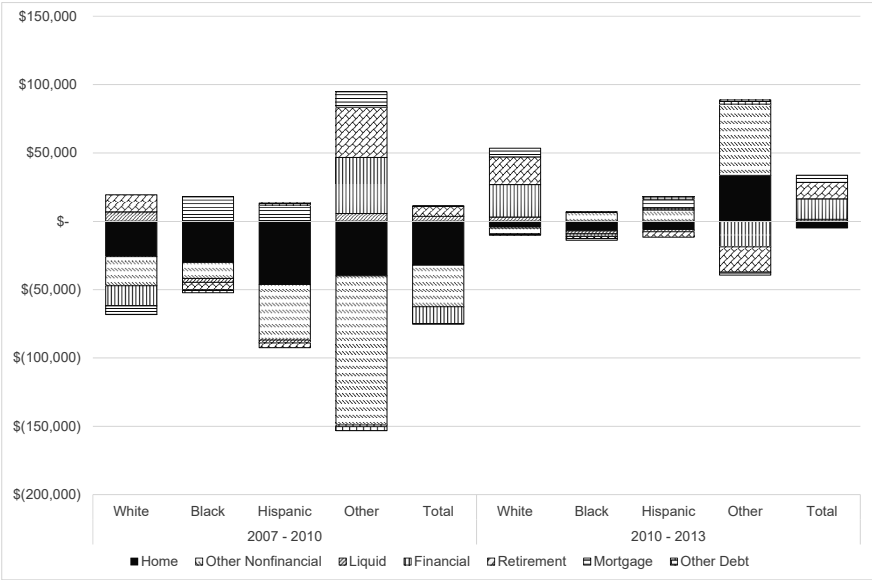
The overall inequality of base income grew over the whole period, though the largest jump (two Gini points) was during the Great Recession. However, the growth in inequality of base income was due to within-group inequality growth, rather than between-group inequality. The between-group component of the inequality of transfers is almost zero in all three years, and the within-group component dropped precipitously (by 4.6 Gini points) during the Great Recession. The between-group components of public consumption and tax inequality are relatively large. The latter's between-group component is about 3.5 percent of the total in all three years, while the former's grew from 4.1 percent to 4.7 percent during the Great Recession, dropping slightly (to 4.4 percent) thereafter. The value of household production is the most equally distributed component of LIMEW and, next to transfers, has the smallest between-group component. So, in terms of racial economic inequality, the largest impact of the Great Recession was through the increase in the racial inequality of wealth, and there had been little to no change by 2013.

To deepen our understanding of the changes in wealth that drive the changes in inequality of income from wealth, we turn again to the Survey of Consumer Finances (Figure 5). There is an obvious contrast between the Great Recession and the period between 2010 and 2013. During the Great Recession, all racial groups lost significantly in terms of average net worth. Hispanic households were the hardest hit in both absolute (dropping \$79,000 in net worth) and relative (–47 percent) terms. Black households had the second largest relative loss in net worth (–29 percent).

The most consistent change across racial groups was the drop in average home value, ranging from \$25,900 among White households to \$46,200 among Hispanic households. These losses were partly compensated by drops in outstanding mortgage debt, with the exception of White households. Losses in other non-financial assets (which includes closely held businesses and other real estate) were concentrated among Other and Hispanic households (\$109,100 and \$40,600, respectively). For Other households, these losses were partly offset by increases in retirement and financial assets (\$36,700 and \$41,100, respectively),

suggesting they were able to cash out closing businesses and convert the proceeds into investment portfolios. Hispanic households did not have the same success, explaining their larger drop in net worth, despite smaller losses in other nonfinancial assets.

Figure 5. Changes in Components of Mean Net Worth by Race Groups, 2007–2013



The period following the Great Recession is a clear contrast in that the magnitude of changes between 2010 and 2013 are much smaller than during the Great Recession, and that for most racial groups there is an improvement in average net worth. The one exception is for Black households, who lost an additional \$7,100 (8.3 percent) between 2010 and 2013. This is entirely due to a further decline in average home values for Black households: the changes in other asset and debt categories balanced out. In contrast, Other households saw the largest turnaround in the 2010 to 2013 period, increasing their average net worth by \$49,400 (10.1 percent). Their portfolios shifted back towards primary homes and other nonfinancial assets (which grew by \$33,600 and \$52,100, respectively) and away from retirement and financial assets, which both declined by about \$18,500. White households also saw large overall gains in net worth (\$43,300 or 7.3 percent), which was entirely due to growth in financial and retirement assets (\$23,700 and \$23,000, respectively). Hispanic households enjoyed a more modest rebound in their net worth (\$6,000 or 6.6 percent). Though their average home value and retirement assets fell (by \$6,000 and \$4,000 respectively) their other nonfinancial assets grew by \$8,300 while their mortgage and other debts both declined (by \$6,400 and \$1,600, respectively). In short, wealth inequality, especially between White and Black households, grew during the Great Recession and afterwards.

Racial inequality and overall inequality were slightly reduced by the Great Recession. The turn towards fiscal austerity after the 2010 midterm elections and the slow pace of recovery in employment produced increasing inequality in the period since the end of the recession. The reduction in transfers and the increase in wealth inequality have exacerbated racial inequality in economic well-being since the end of the Great Recession. It remains to be seen whether the economy, as it approaches full employment, will continue to generate increasing inequality.

Conclusions

The Great Recession, though officially lasting a year and a half, in many ways was still very much with us in 2013. Employment rates have not fully recovered to their pre-recession levels, though much of this may be due to the aging of the population. Earnings have certainly not recovered, remaining at below their 2000 level. Home ownership rates dropped off even more sharply after 2010. As we have demonstrated, all of these trends have been experienced quite differently by different racial sub-groups in the United States.

In terms of wealth, Black and Hispanic households remain far behind White households, with average net worth amounting to 12 and 15 percent, respectively, of the average net worth of White households in 2013. The ratio of median Black and Hispanic household net worth to White households is just below two percent. This is down from 6.6 and 5.2 percent in 2007, respectively.

Black households' mean home equity is a quarter that of White households' and Hispanic households' is one third. Black and Hispanic households' home ownership rates are below 50 percent. In terms of employment rate, Black adults remain far behind every other group. These trends have clear implications for household economic well-being, measured either by MI or LIMEW.

While all groups lost ground during the Great Recession in terms of MI, only Black households lost in terms of LIMEW, while each of the other groups gained two to three thousand dollars. Unfortunately, this is not an aberration caused by the Great Recession but a continuation of a decades-long trend. In the 1990s, this trend was mainly the result of the increase in White households' income from non-home wealth. During the Great Recession the increased gap between White and Black households was due to the greater loss of base income for Black households than for any other group. Only slightly greater increases in transfers for Black households relative to other racial groups kept the gap from increasing even further by 2010. The period between 2010 and 2013 saw only a slight decrease in the gap between White and Black households, while Hispanic households fell even further behind.

Measured racial inequality remains very much a function of within-group inequality, as opposed to between-group inequality. Inequality remains highest among White households, driven by the increase in the concentration of wealth since the 1980s among the White households at the top of LIMEW distribution. The between-group component of inequality in income from wealth increased by 1.3 Gini points or 1.7 percentage points between 2007 and 2013 and it features the largest between-group inequality of any component of LIMEW, but in 2013 the overall Gini coefficient for income from non-home wealth stood at 91. The destruction and recovery of net worth during and after the Great Recession has driven the increase, with White households losing less and recovering more quickly than Black and Hispanic households. The implication is that racial economic inequality remains very much a function of the intersection of race and class in the United States.

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