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Recent Trends in the Material Well Being of the Working Class in America

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Abstract: I examine trends in the material well-being of working-class households using data from the Current Population Survey in the two decades surrounding the Great Recession. Average earnings, homeownership, and insurance coverage all fell, while absolute poverty and food insecurity accelerated leading up to the Great Recession. After-tax incomes were stagnant for much of the distribution across and within skill groups. On the contrary, the economic hemorrhaging either abated or reversed in the decade after the Great Recession, especially for the least skilled and for households headed by a Hispanic person. This includes robust earnings growth resulting in falling lower-tail earnings inequality, absolute poverty, and food insecurity, coupled with increased insurance coverage and a modest rebound in after-tax incomes. As many of these recent advances likely stalled with the onset of the Covid-19 Pandemic, I discuss various policy options.

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The U.S. economy over the past two decades has been characterized by declining employment rates across gender and skill level, tepid income growth for much of the income distribution coupled with rising upper-tail inequality, and stalled upward mobility (Autor 2014; Abraham and Kearney 2020; Chetty et al. 2017; Saez and Zucman 2020; Shambaugh and Strain 2021). Not all the news is bad, even for some households in the middle, and there is countervailing evidence challenging some of these claims (Auten and Splinter 2019; Strain 2020). However, most evidence points toward income growth in the last twenty years that falls short compared to preceding decades, and while the tax and transfer system undoes some of the rising inequality, it is increasingly skewed toward families with children (Blundell et al. 2018; Rose 2020; Wimer et al. 2020). Despite these economic headwinds, the last two decades have been relatively quiet in terms of major social policy changes compared to the landmark tax and welfare reforms of the 1980s and 1990s. There was a robust response by Congress to expand the safety net during the Great Recession of 2007-2009, which mitigated much of the growth in pre-tax poverty and inequality (Burtless and Gordon 2011; Moffitt 2013; Larrimore, Burkhauser, and Armour 2015), but with the notable exception of the Patient Protection and Affordable Care Act of 2010 (ACA) that expanded health coverage to more vulnerable populations, there was little in the way of social-policy legislation.

While many papers have been written on these trends, and for select subpopulations, one group for whom little has been documented is the working class. The working-class family eking out a hardscrabble existence from the farm or the factory features prominently in American lore (Turkel 1974). The major transformation of work away from physical labor in recent decades has shifted that narrative toward new economy service jobs such as the home health aide, the retail-sales clerk, or the call-center operator, but the result is the same in that these families are

depicted as living one paycheck away from eviction and for whom the 'American Dream' remains elusive (Ehrenreich 2001; Shipler 2005). This emphasis on the most disadvantaged workers is crucial, especially for our understanding of the effects of the social safety net, but it overlooks the semi-skilled laborer who likewise may identify as working class, but whose economic status is more closely aligned to the middle class with potentially divergent financial destinies. This raises important questions such as have the level, composition, and growth of income changed for different groups of working-class households? What about rates of homeownership, the bellweather of the American Dream? What has happened to health insurance coverage among the working class, as well as risks of food insecurity? The aim of this paper is to begin to address these questions by documenting trends in the material well-being of working-class households in the first two decades of the 21st century.

The next section describes the data used in the analyses, including a discussion of the choice of classifying the working class as households whose head or spouse has less than a four-year college degree. I then provide detailed trends in the composition, distribution, and growth of incomes, both across all working-class households as well as separately by education attainment, and for some outcomes, by race and ethnicity. I focus on changes in labor and nonlabor income, including receipts from food assistance programs, along with tax payments inclusive of refundable tax credits. Cumulative growth in earnings and after-tax and transfer incomes is documented across the entire distribution over the whole sample period and separately by peak-to-peak business cycles before and after the Great Recession. This is then followed by alternative measures of well being, including homeownership, health insurance coverage by source (employer provided, publicly provided, and private purchase), and food insecurity as officially

defined by the U.S. Department of Agriculture (Coleman-Jensen et al. 2020). The last section concludes with a discussion of policy options to improve the well being of the working class.

Defining the Working Class

The data for the analysis comes from two supplements of the Current Population (CPS), the Annual Social and Economic Supplement (ASEC) and the Food Security Supplement (FSS), for the calendar years 2000-2019. This sample period spans the 2001 recession, the Great Recession of 2007-2009, and the subsequent economic expansion that was the longest on record. The ASEC, which is collected by the U.S. Census Bureau as a supplement to the monthly CPS labor-force survey, consists of about 90,000 households in a typical year and serves as the official source of income and poverty statistics (Semega et al. 2020). Data from the ASEC are used here to examine trends in the composition and growth of income before and after-taxes, homeownership, and health insurance coverage. The FSS is collected in December of each year by the Census Bureau on behalf of the U.S. Department of Agriculture, consisting of about 50,000 households (Coleman-Jensen et al. 2020). The FSS contains detailed information on food security and other food-related outcomes such as spending and participation in federal and non-federal food assistance programs, and for this project the FSS data are used to provide trends in food insecurity.

A challenge foreshadowed in the Introduction is that there is no generally accepted definition of working class. This is not unlike that confronting research on the middle class more generally, where middle is defined alternatively by "cash," meaning some income range like the 30^{th}-70^{th} percentiles, "credentials," such as a limited set of occupations or education levels, or "culture," as defined by aspirations, norms, and values (Reeves, Guyot, and Krause 2018). Using an income range is the most prevalent way to delineate the middle class, but given the paucity of

research on the working class, there is even less consensus on what a comparable income range would entail.

Instead, I adopt the credentials approach, focusing on households whose head, spouse, or primary individual has at most some college education but no college degree (Draut 2018; Powell 2018). The advantage of using restricted education attainment is that it covers most occupations associated with the working class and it is a better proxy for household permanent income than is current income (Attanasio et al. 1991). A potential shortcoming is that by not using an explicit income cutoff, it does not rule out some potentially high-income earners. However, as will become apparent in the results below, the vast majority of working-class households are of modest means and limited material well being. In addition to limiting by education, the working-class household must have non-zero labor-market earnings, whether those earnings are of the head or some other member of the household. Moreover, to focus on household adults whose formal schooling is most likely completed, but also before retirement decisions, the age of the head, spouse, or primary individual must be at least 25 and no more than 54. Within the sample of prime-age working households with less than a college education, I also examine heterogeneity in outcomes by level of education, and for some outcomes, by race (white or Black) or Hispanic ethnicity (of any race). The online Supplemental Appendix provides further details on sample selection and variable construction, along with summary statistics.

Composition, Distribution, and Growth of Incomes

I begin by documenting the level, composition, distribution, and growth of after-tax and transfer incomes of working-class households over the last twenty years. After-tax income is constructed as the sum of labor income and nonlabor income, less net tax payments inclusive of refundable tax credits. Labor income includes earnings from all jobs and all household members. Because

the measure includes net self-employment income, it is possible for earnings to be negative. Nonlabor income includes the major forms of means-tested cash assistance such as Temporary Assistance for Needy Families (TANF) and Supplemental Security Income (SSI), social insurance such as Social Security, Unemployment Insurance (UI) and Disability Insurance (DI), and private pension and interest incomes, and is inclusive of near-cash food assistance from the Supplemental Nutrition Assistance Program (SNAP). Tax payments include federal, state, and payroll (employee share of Social Security and Medicare) liabilities. Taxes are inclusive of refundable federal and state credits from the Earned Income Tax Credit (EITC) and Child Tax Credit (CTC), and thus may be negative. To account for differences in household size and composition, I equivalize each category using the modified OECD scale as described in the Appendix. Incomes are placed in real terms using the Personal Consumption Expenditure Deflator with 2012 base year.

[Figure 1 here]

Figure 1 depicts the average level and composition of inflation-adjusted after-tax incomes among the working class overall, and by the maximum education attainment of the household head, spouse, or primary individual. For the first fifteen years of the sample period, average equivalized real after-tax incomes were roughly constant at just under $30,000 per year, but starting in 2015 average after-tax incomes started to grow, albeit modestly. This came from a combination of higher earnings and tax cuts as nonlabor income was stable at a low level. Earnings bottomed out in 2012, but then increased by 15 percent to just under $35,000 in 2019. Average tax payments increased along with earnings after 2012, but then fell about $500 after the 2017 tax cut, giving an additional lift to net incomes. These same basic patterns hold across the skill distribution as demonstrated in the other three panels of Figure 1. The bright spot in the

figure is the robust 30 percent increase in average earnings after 2010 from just over $16,000 to $21,000 among households headed by a high school dropout. The tax relief from the EITC and CTC are clearly in evidence for the less skilled, but the credits are not generous enough to wipe out all tax liability for the typical low-skilled working-class household as positive tax payments average about $2,000 per year for this group. The semi-skilled group of some college households actually suffered the largest earnings loss from the Great Recession, falling $5,000 in equivalized real dollars from 2000 to 2012, and by 2019 still had not made up all of that loss.

[Figure 2 here]

Figure 2 offers a closer look at the link between earnings and after-tax incomes in the 2000 and 2019 tax years. The figure plots a local polynomial regression of equivalized after-tax incomes on equivalized earnings, along with a 95 percent confidence interval in the shaded area, zeroing in on the left tail of the distribution with equivalized earnings and incomes under $30,000 in real 2012 dollars.[1] The figure includes a 45-degree line, and thus after-tax incomes above the 45-degree line reflect refundable credits, while those values below imply positive tax liability that outweighs any credits. In 2000, after-tax incomes lie above the 45-degree line for households with earnings under $20,000, and in 2019 this increases to about $23,000. The rightward shift reflects both changes in earnings among the least skilled along with the expansions of the EITC and CTC in 2009 as part of the American Recovery and Reinvestment Act. At each level of equivalized earnings to the left of the breakeven point, after-tax incomes are higher as one moves up the skill distribution, reflecting differences in earnings, nonlabor

[1] The local polynomial regression is based on a 3rd-order polynomial of an Epanechnikov kernel using a bandwidth of $2,000 equivalized income. The regression is unweighted. I restrict the sample to earnings and after-tax incomes greater than $0 and less than or equal to $30,000. The restriction to non-zero earnings implies I drop those with self-employment losses, which eases presentation.

incomes, and family composition. The less skilled somewhat narrowed that gap with households with high school or some college by 2019 with the strong earnings growth as discussed below.

I move beyond average incomes to explore changes in various metrics of the distribution of income among the working class. Figure 3 presents trends in absolute and relative poverty and near-poverty rates. The absolute poverty rate is defined as the fraction of households with incomes below the household-size specific Orshansky threshold used in official Census poverty statistics, while the near poverty rate is the fraction of households with incomes below two-times the poverty line. As described in the Appendix, the relative poverty line is set at 60 percent of the median equivalized after-tax and transfer income, which is standard in several OECD nations (Joyce and Ziliak 2020), and the corresponding poverty (near-poverty) rates are defined as the share of households below the relative poverty line (twice the line). Poverty rates are depicted both before taxes and after taxes, where before-tax income includes all labor and nonlabor income inclusive of SNAP.

[Figure 3 here]

The left panel of Figure 3 shows the absolute poverty rates among all working-class households. The share of households with before-tax incomes below the federal poverty line increased 41 percent from 8.3 percent in 2000 to 11.7 percent in 2013 in the wake of the Great Recession, only to fall all the way back to 8.5 percent by 2019. Over that same period, after-tax poverty rates increased a more modest 18 percent from 7.4 percent to 8.7 percent, and then fell dramatically to 5.8 percent by 2019.[2] A different story emerges when looking at the share of

[2] As documented in Rothbaum and Bee (2020) there was a large increase in nonresponse to the March 2020 CPS, which was fielded just as the country was entering lockdown in response to the Covid-19 pandemic. They estimate that this rise in nonresponse attenuated poverty estimates for calendar year 2020. This increase in nonresponse continues a long trend in the CPS ASEC that has been shown to bias estimates of poverty and inequality downward (Hokayem, Bollinger,

households with incomes below twice the poverty line. In every year, after-tax near poverty rates exceeded before-tax near poverty rates by at least 5 percentage points, and both measures remained higher in 2019 than in 2000. The reversal of after-tax and before-tax poverty rates when we double the threshold stems from the fact that many households no longer qualify for the EITC or SNAP, or only qualify for a small credit or benefit, and thus sizable tax liabilities result in higher after-tax poverty among the near poor. The role of refundable credits is underscored further when comparing the increase in poverty rates among the near poor to the poor from 2000 to 2013—after-tax near poverty rates increased 24 percent, or 6 percentage points more than after-tax rates below the poverty line.

The right panel of Figure 3 shows trends in relative poverty rates before and after taxes. There are two notable differences compared to the absolute poverty rates. First, the relative rates are constant with no business-cycle sensitivity over the Great Recession, much like we saw for average incomes in Figure 1. This is due largely to the fact that the relative poverty line falls during the recession and thus the sensitivity shows up in the threshold rather than the rate (see Appendix Figure 1). Second, there is no difference in before- and after-tax relative poverty rates, and a much more attenuated difference in these rates at twice the relative poverty line. The latter likely results from the fact that the equivalized relative poverty line lies below the average absolute poverty line, and thus we are still capturing some of the redistributive effect of the EITC and CTC in the after-tax measure of near relative poverty.

[Figure 4 here]

and Ziliak, 2015; Bollinger et al., 2019). The after-tax poverty rate for working class families in 2018, which was measured before the sharp rise in nonresponse in 2020, was 6.9 percent and still lower than at the start of the sample period.

Figure 4 repeats the analysis, except now disaggregated by the race or ethnicity of the household head. The top row depicts absolute poverty and near-poverty rates for white, Black, and Hispanic households, while the bottom row presents relative rates. The figure shows that in a typical year leading up to and through the Great Recession, the before- and after-tax poverty rate among Black and Hispanic households is three times higher than among white households, and rates of near poverty are twice as high. However, poverty rates among white households increased faster than Black and Hispanic households over that same period. After 2013, however, poverty rates among Hispanic households fell rapidly such that by 2019 Hispanic poverty rates were several percentage points lower than among Black households. The bottom panel of Figure 4 shows that relative poverty rates of white and Black households were fairly stable over the whole period, whereas relative poverty has been on the decline among Hispanic households since the peak of the Great Recession, and indeed by 2019 the after-tax relative poverty rate among Hispanics was actually lower than among white households (4.0 versus 4.7 percent), suggesting substantial gains against poverty among the Hispanic working class.

[Figures 5 and 6 here]

Figures 5 and 6 offer an alternative view of the income distribution by showing trends in upper-tail and lower-tail earnings and after-tax income inequality overall (Figure 5) and by race (Figure 6). The measure of upper-tail inequality is the ratio of the 90th to 50th percentiles and the measure of lower-tail inequality is the ratio of the 50th to the 10th percentile. In Figure 5, we see a strong redistributive role for the tax and transfer system at the lower tail of the distribution, with the 50-10 after-tax income ratio at least one-third lower than the 50-10 earnings ratio in a typical year. The comparable percent reduction at the upper tail is about half that. The tax system is effective at mitigating inequality at both upper and lower tails, but the cash and near-cash

assistance programs also play a role at the lower tail. With the exception of the years surrounding the Great Recession, both the 10th and 90th percentiles gained relative to the median between the start and end of the sample period, consistent with the 'hollowing out' of the middle in the labor force overall (Autor, Katz, and Kearney 2008). Figure 6 shows that 50-10 earnings inequality among Black households is considerably higher and noisier than among white and Hispanic households, which stems from greater variability at the 10th percentile. However, the tax and transfer system creates near parity among white and Black working class households at 50-10 after-tax income inequality, with Hispanics slightly lower than both other groups. In addition, there is little racial or ethnic difference in 90-50 after-tax inequality.

[Figure 7 here]

Figure 7 provides a more comprehensive look at the trends underlying incomes and inequality depicted in Figures 1 and 4 by showing the growth in earnings and after-tax incomes across the entire income distribution for all working-class households and within each skill group.[3] Each panel shows growth over the whole sample period, and to capture the effects of the business cycle, from the peak-to-peak years 2000-2007 and 2007-2019. The first row shows that among all working-class households earnings growth from 2000-2019 was strongest in the lowest percentiles, but from the 15th to 75th percentiles earnings growth was effectively zero, and then only modest thereafter (and actually falling in the upper few percentiles). Growth in after-tax incomes was stronger across the distribution, taking a slight U-shape with growth highest in the tails. The middle and far right panels in the first row show that there is little difference in

[3] The figure reports estimates of the growth incidence curve, defined as $g_t(p) = 100\% * (\frac{y_t(p)}{y_{t-1}(p)} - 1)$, where $y_t(p)$ is income at the pth percentile in time t, and $y_{t-1}(p)$ is income at the same percentile in time $t - 1$ (Ravallion and Chen 2003). I trim the 1st and 100th percentiles for presentation purposes as these tend to be outliers that distort the figures.

earnings and after-tax income growth across the peaks of the business cycles. The Great Recession clearly had a deleterious effect on labor incomes for the working class in the bottom of the earnings distribution, but they recovered those losses the ensuing decade. After-tax income showed more stability, highlighting the automatic stabilizing role of the tax and transfer system (Kniesner and Ziliak 2002a,b; Blundell, Pistaferri, and Preston 2008).

The next three rows of Figure 7 depict earnings and after-tax income growth by education attainment. Among the least skilled, earnings grew very rapidly for the bottom 15 percentiles, and then a modest rate of 10 percent for most percentiles thereafter. The slow growth above the 15th percentile was due to labor-market weakness leading up to and in the years immediately after the Great Recession, and then a very strong recovery after 2014. After-tax incomes for the less skilled clocked in at about 20 percent over most of the distribution from 2000-2019, with stronger performance in the top 10 percent. With the exception of the bottom 10 percent, growth in after-tax income was positive in both subperiods and thus the total effect is additive. The next two rows with high school graduates and those with some college show slower growth in earnings across the distribution, and the same holds for after-tax incomes below the 90th percentile, with growth in the top 10 percentiles among the higher skilled groups was comparable to the less skilled. This tepid growth helps explain the stagnant average incomes depicted in Figure 1. Appendix Figure 2 explores whether the earnings growth patterns in Figure 7 are driven by changes in hourly wages.[4] Wage growth over much of the distribution is stronger

[4] Average hourly earnings are computed by taking the ratio of equivalized household annual earnings by equivalized annual household hours of work. Thus, the wage reflects the average contribution of the equivalized adult and not of the household head. Appendix Figure 2 shows growth across the wage distribution, and not the earnings distribution as in Figure 7 of the main text. Graphing the average wage against the earnings percentile results in a much more noisy series, even after smoothing by taking a 5-percentile point moving average.

than earnings growth, except for the lower and upper tails, suggesting that the weaker earnings growth in the middle of the distribution comes from downward adjustments in annual hours worked.

Based on the standard measures of liquidity—earnings and after-tax incomes—the last two decades have been marked by steep increases in poverty and earnings inequality, followed by an even stronger retrenchment because of strong earnings growth in the lower tail, especially after 2014. Households headed by a Hispanic person have been particular beneficiaries of the robust growth in the last half decade before the onset of the Covid-19 pandemic. In the next section, I expand the analysis beyond income to examine additional measures of well being.

Material Well Being of the Working Class

Owning a home is a major source of wealth for American families, accounting for at least one-half of net worth for the average household, and even more for those in the lower half of the income distribution (Bhutta et al. 2020). Figure 8 presents trends on whether the household owns their home. The figure shows that 60 percent of working-class households owned their homes in 2000, about 7 percentage points lower than the overall U.S. average (U.S. Census Bureau 2021). This share plummeted after 2004, falling 13 percentage points by 2014, before recovering slightly to 49 percent in 2019.[5] This is in contrast to the 64.5 percent homeownership rate among all households in the nation, suggesting that the working class disproportionately lost ground over this period in terms of access to housing wealth. Figure 8 indicates that this decline in ownership cut across all skill groups of the working class, but was particularly pronounced among those households with high school or some college.

[5] The homeownership rate in the overall economy also peaked in 2004 at 69 percent (U.S. Census Bureau 2021, Table 4SA).

[Figures 8 and 9 here]

A longstanding concern affecting upward mobility of Black families compared to white families is the gap in wealth across races (Blau and Graham 1990; Altonji and Doraszelski 2005; Aliprantis, Carroll, and Young 2019; Addo and Darity 2021). Figure 9 explores homeownership rates by race and ethnicity. The figure shows that there is a yawning racial gap in homeownership—in 2000 only 39 percent of Black working class households owned their homes compared to 69 percent of white working-class households. By 2019 this massive gap in homeownership actually widened, with Black homeownership rates plummeting to 28 percent compared to 60 percent among white households. Hispanic households, on the contrary, demonstrated greater resilience over the last two decades in terms of homeownership. In particular, the strong recovery after 2014 lifted rates to levels on par with those in 2000, and as a consequence there was convergence between white and Hispanic household homeownership, leaving Black households further behind.

The financial crisis at the heart of the Great Recession hit the housing sector particularly hard, but the brunt of the crisis was borne by semi-and less-skilled households that has not rebounded, pointing to widening of wealth inequality (Saez and Zucman 2020; Pew Research Center 2020). Black households were particularly susceptible to these deleveraging trends (Dynan 2012; Wolff 2017). A recent analysis by Choi et al. (2019) examined homeownership rates across metropolitan areas, finding that 80 percent of the Black-white racial gap in homeownership can be explained by three factors—income shortfalls, lower rates of marriage, and lower credit scores—among Black households compared to white households. While suggestive, these three factors are all inter-related, and further research at the household level is needed to unpack the underlying persistent racial gaps in homeownership.

[Figure 10 here]

The United States is unique among developed countries in the OECD in not providing universal access to health insurance, historically relying instead on employer-provided health-care coverage among the non-aged (Field and Shapiro 1993). Health insurance per se does not guarantee access to quality care, or any care, but implicitly provides protection against financial losses and thus frees up the household budget for other valued uses.[6] Figure 10 presents trends in health insurance coverage by source of coverage—employer, public, or private-purchase—along with trends in any coverage. It is possible for households to have more than one source of coverage, and thus the percentages of employer, public, and private sum to more than 100 percent.

Figure 10 shows that among all working-class households, coverage from any health insurance was relatively stable between 85-88 percent from 2000-2013, but that was because declines in employer coverage were offset by increases in public insurance. In 2000, 77 percent of households had employer-provided coverage, but this fell to 62 percent in 2013. Over that same period, public health insurance nearly doubled from 18 percent to 33 percent, making up for much of the loss of employer coverage. The ACA was passed in 2010 and implemented in 2014, which among other provisions expanded coverage to adult children up to age 26, subsidized purchases of private coverage, and at state option expanded Medicaid to non-disabled

[6] A widely cited statistic is that roughly two-thirds of all personal bankruptcies in the U.S. emanate from excess medical expenses (Himmelstein et al. 2009), though a recent study questioned this result, suggesting it is less than 10 percent (Dobkin et al. 2018). In a rejoinder, Himmelstein et al. (2019) present additional evidence supporting their original two-thirds estimate, further suggesting that underinsurance is more of a cause of bankruptcy than lack of insurance. Personal bankruptcy is an extreme outcome, and whether medical expenses are a leading cause or not, health insurance mitigates against financial loss, though many policies are limited in their coverage, thus leaving some families vulnerable.

non-elderly adults. As a consequence, public coverage expanded another 3-4 percentage points, private coverage increased from around 6 percent to 9 percent (after initially doubling to 12 percent), and because there was a rebound in employer coverage as well, overall insurance coverage reached 91 percent by 2019. These same patterns held across all three skill groups of working-class households. The loss of employment insurance was especially acute among the lower skilled, falling nearly 20 percentage points for both the high school and less than high school groups, but public coverage grew 20-25 percentage points. When coupled with higher private coverage, rates of health insurance among high-school dropout households increased from 73 percent to 83 percent between 2000 and 2019, a clear result of the ACA expansions. Appendix Figure 3, which depicts insurance coverage rates by race and ethnicity, shows that Black and Hispanic households gained from the ACA more than white households, and thus nearly closing the racial gap in insurance coverage.

The final metric of household well being I consider is food insecurity, which is a household-level economic and social condition of limited access to food. The reasons for food insecurity extend well beyond poverty to also include low assets, low human capital, low physical and mental functioning, among others (Gundersen, Kreider, and Pepper 2011). Food insecurity is associated with numerous negative health outcomes across the age gradient, and as such is one of the leading public-health threats in the United States (Gundersen and Ziliak 2015). Since 1995 the USDA has sponsored the FSS, fielding the supplement in December of each year starting in 2001. The measure consists of 18 questions for households with children and a subset of 10 of these for households without children, with each condition owing to financial constraints. I adopt the official USDA designation of food insecurity as a household responding

in the affirmative to at least three of the questions, and to keep interview month constant, I start the series in 2001 instead of 2000 as in the ASEC figures.

[Figure 11 here]

Figure 11 depicts the trends in food insecurity among all working-class households, and by education attainment. Household food insecurity averaged just over 18 percent from 2001-2007, but then leapt over one-third with the onset of the Great Recession so that 1 in 4 working class households were food insecure. This condition remained elevated for several years before falling back in 2015 and nearly reaching pre-recession levels by 2019. The figure shows that there is a strong gradient of food insecurity risk across education levels, with rates among high school dropouts double those among households with some college. However, all households experienced the food security shock associated with the Great Recession. Interestingly, the least skilled started recovering from that shock before the two higher-skilled groups, and were the only category to have food insecurity rates in 2019 lower than in 2001, albeit at the high level of 30 percent. Appendix Figure 4 shows rates of food insecurity by race and ethnicity. There it is seen that food insecurity among Black and Hispanic households was nearly double that of white households in the early 2000s, and while all race and ethnic groups had substantial increases with the Great Recession, the recovery was earlier and swifter among minority households. This is especially pronounced among Hispanic households such that by 2019 their food insecurity rates had nearly converged with white households.

Discussion

The two decades leading up to the global Covid-19 pandemic of 2020 were a mixed bag for the working class in America. In the first half through the Great Recession, average earnings, homeownership, and insurance coverage all fell, while absolute poverty and food insecurity

accelerated. After-tax incomes were stagnant for much of the distribution overall and within skill groups. On the contrary, the economic hemorrhaging either abated or reversed in the decade after the Great Recession, especially for the least skilled. This includes robust earnings growth resulting in falling lower-tail earnings inequality, absolute poverty, and food insecurity, coupled with increased insurance coverage and a modest rebound in after-tax incomes. The notable exception is the decline in homeownership has persisted.

The gains made by the working class in recent years likely came to a screeching halt with the onset of the coronavirus pandemic as the working class has been hit disproportionately hard by current health crisis. The economic lockdown allowed households with flexible employment arrangements to work from home, but this excluded a large share of the working class who are more likely to work in the service economy, resulting in a massive surge in unemployment and food hardships (Barrero, Bloom, and Davis 2020; Bitler, Hoynes, and Schanzenbach 2020; Moffitt and Ziliak 2020; Ziliak 2020). Congress responded to the pandemic with an extensive array of spending programs including direct payments to individuals, extended Unemployment Insurance that also covered self-employed and gig-economy workers for the first time, and grants and loans to companies both large and small. Although official income statistics from the ASEC will not be released until fall 2021, simulation models suggest that the expanded UI left many workers whole in the first months of the crisis and prevented widespread poverty (Ganong, Noel, and Vavra 2020; Parolin and Wimer 2020). As many of these programs expired in July 2020, and were not renewed until late December, the extent that the well being of the working class deteriorated with the pandemic, and its potential long-term consequences, is still unknown.

What is known is the Great Recession and Covid-19 pandemic exposed cracks in the U.S. social safety net that leave working class households particularly vulnerable. With the historic

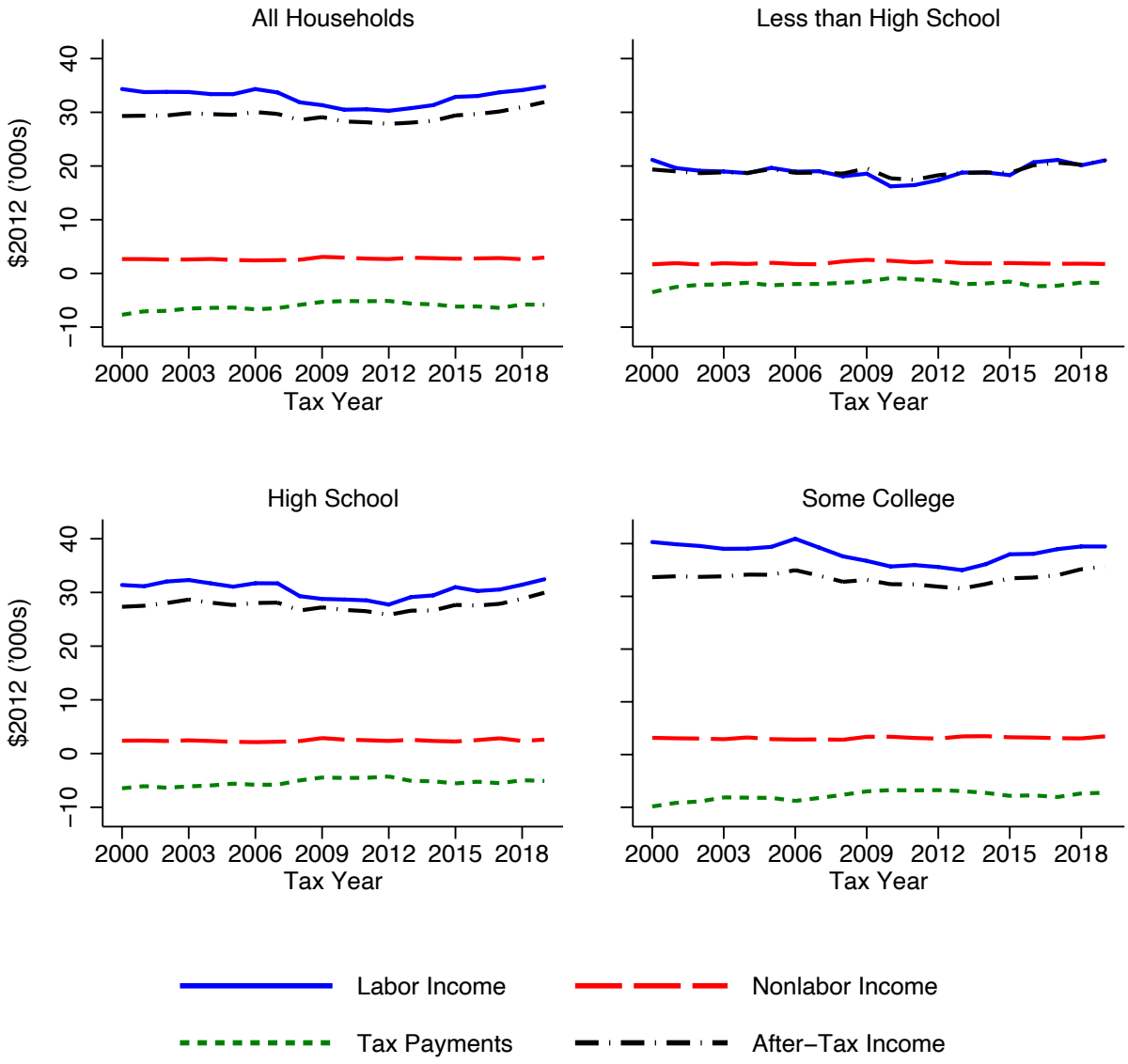
reliance on employer-provided health insurance, working households displaced during economic downturns face the double jeopardy of lost insurance coverage. This exposure is especially acute when the source of the furlough is a health-related crisis, layered on top of other secular health crises such as the opioid epidemic (Case and Deaton 2015; Currie and Schwandt 2021). The ACA was a clear policy advance for low-income households, but as documented here, a large share of the least-advantaged households still remain uncovered. This suggests reforms aimed at expanding coverage under the ACA, such as a public option to buy in to Medicaid or Medicare, or a more progressive move toward a universal single payer insurance plan akin to most OECD nations would be a step forward to reduce financial and health exposure of working-class households.

Self-employed and gig-economy workers are generally not eligible for unemployment insurance, nor are many part-time and seasonal workers. The current experience with the Pandemic Unemployment Insurance Program points to an important role that access to UI plays for this large and growing share of the working class during economic downturns. Future reforms of UI should include some form of permanent eligibility for this cornerstone automatic stabilizer. The surge in food insecurity during the Great Recession was partially mitigated by a temporary increase in SNAP benefits, and this is likely occurring in real time during the Covid crisis with the top up of SNAP available through the end of 2020. However, the maximum SNAP benefit has always been too low, set at the lowest of the four USDA food plans, and given the persistence of food insecurity, reforms that increase SNAP maximums would go some way toward improving the food security status of households (Ziliak 2016).

Finally, the Great Recession set in motion a large retrenchment from homeownership among the working class that only slightly recovered by the end of the recent economic

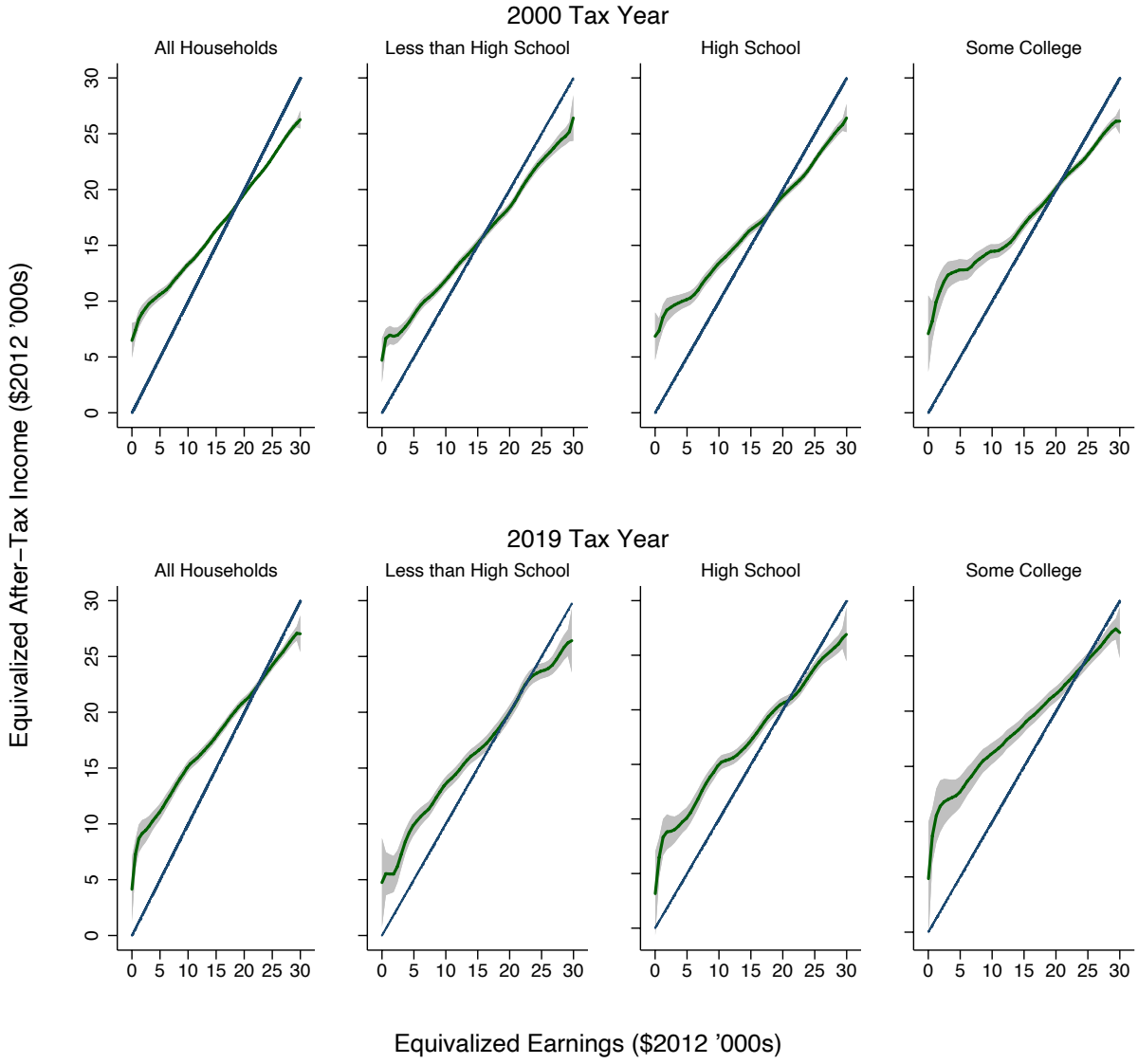
expansion. As the bedrock of household wealth, the decline in homeownership points toward widening wealth inequality, and because home equity is frequently used as a source of credit for other family investments such as children's education, falling homeownership may also reduce access to higher education in coming years. This decline was particularly acute among Black working-class households, resulting in a widening racial wealth gap and likely reduced upward mobility in coming years. The lesson of the widespread financial ruin from housing during the Great Recession is that subprime lending programs must be eschewed in favor of lending programs with modest downpayment requirements, and potentially backstopped by repayment plans tied to household incomes much like we see with federally backed student loans.

Figure 1. Components of After-Tax and Transfer Income



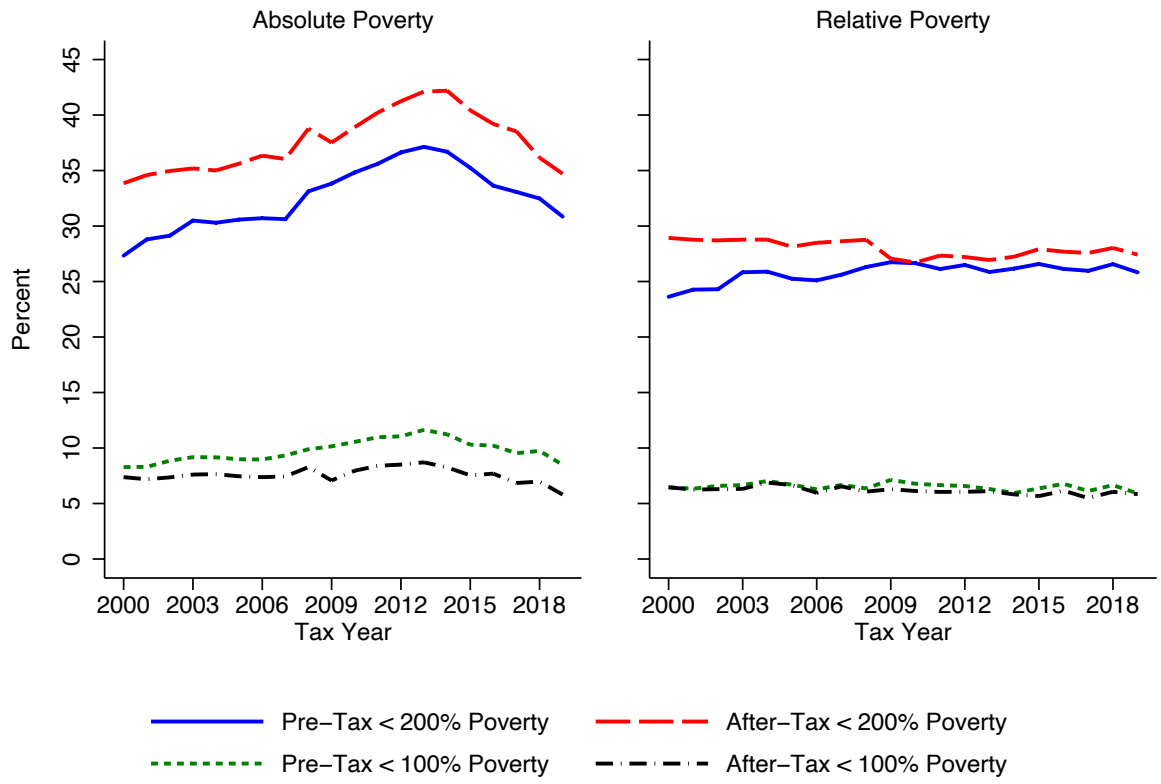
Source: Author's calculations of data from survey years 2001-2020 of the Current Population Survey Annual Social and Economic Supplement.

Figure 2. Relationship Between Earnings and After-Tax Income



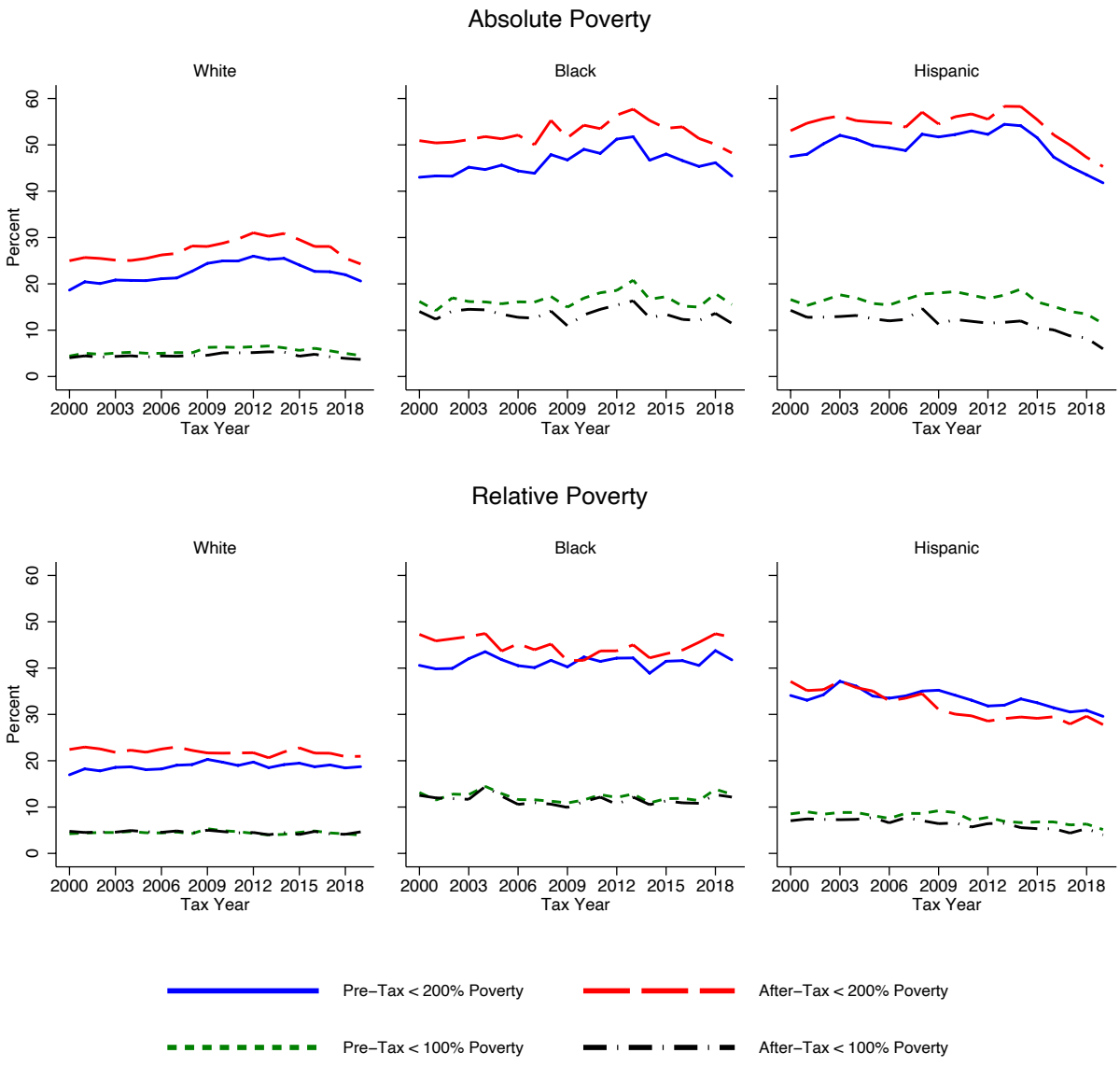
Source: Author's calculations of data from survey years 2001-2020 of the Current Population Survey Annual Social and Economic Supplement.

Figure 3. Trends in Absolute and Relative Poverty Rates Before and After Taxes



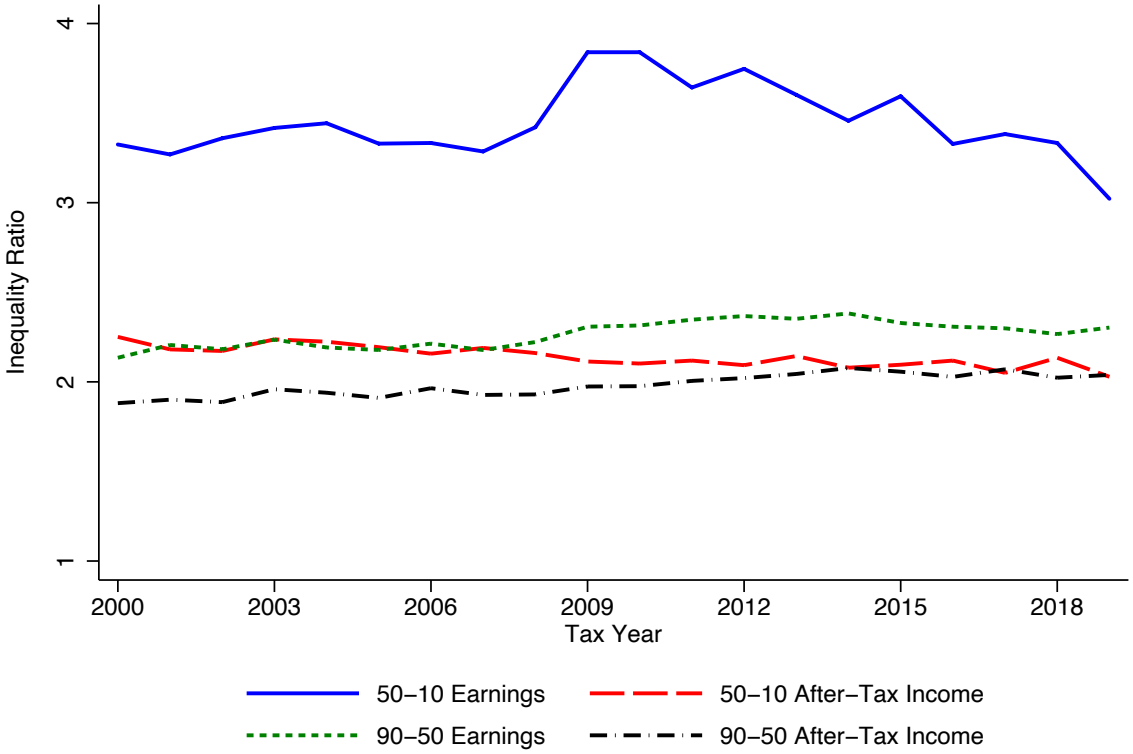
Source: Author's calculations of data from survey years 2001-2020 of the Current Population Survey Annual Social and Economic Supplement.

Figure 4. Trends in Absolute and Relative Poverty Rates by Race and Ethnicity



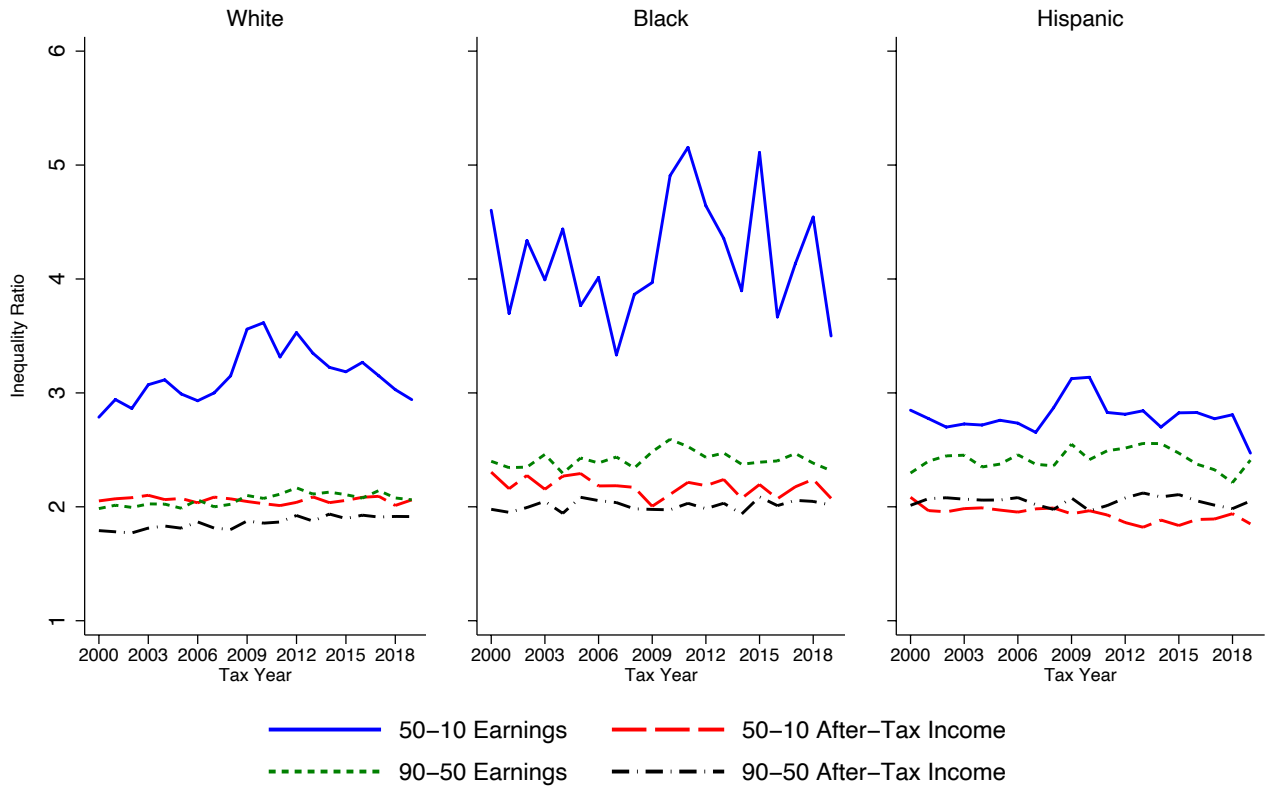
Source: Author's calculations of data from survey years 2001-2020 of the Current Population Survey Annual Social and Economic Supplement.

Figure 5. Trends in Earnings and After-Tax Income Inequality



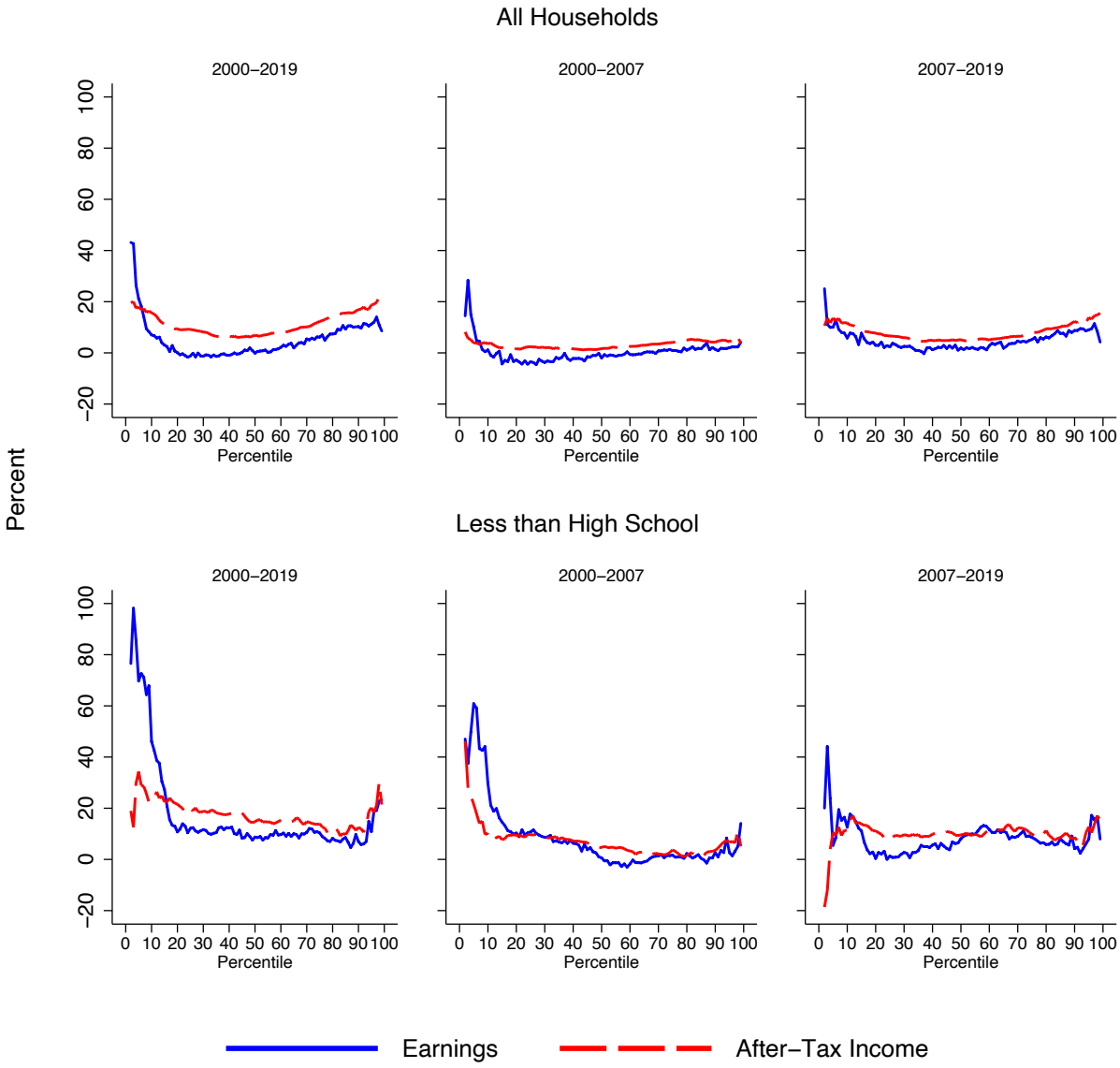
Source: Author's calculations of data from survey years 2001-2020 of the Current Population Survey Annual Social and Economic Supplement.

Figure 6. Trends in Earnings and After-Tax Income Inequality by Race and Ethnicity



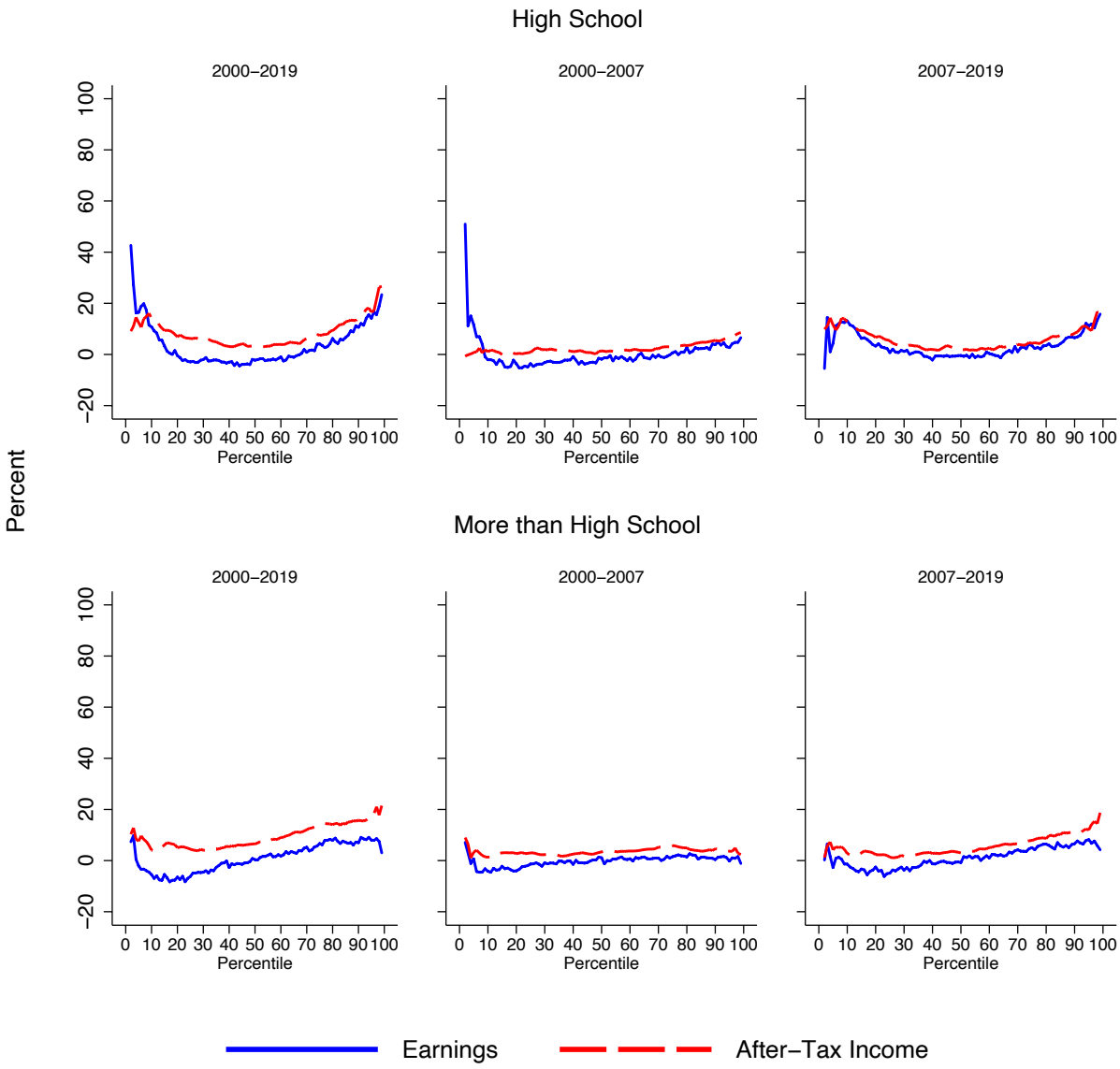
Source: Author's calculations of data from survey years 2001-2020 of the Current Population Survey Annual Social and Economic Supplement.

Figure 7. Earnings and After-Tax Income Growth Before and After the Great Recession



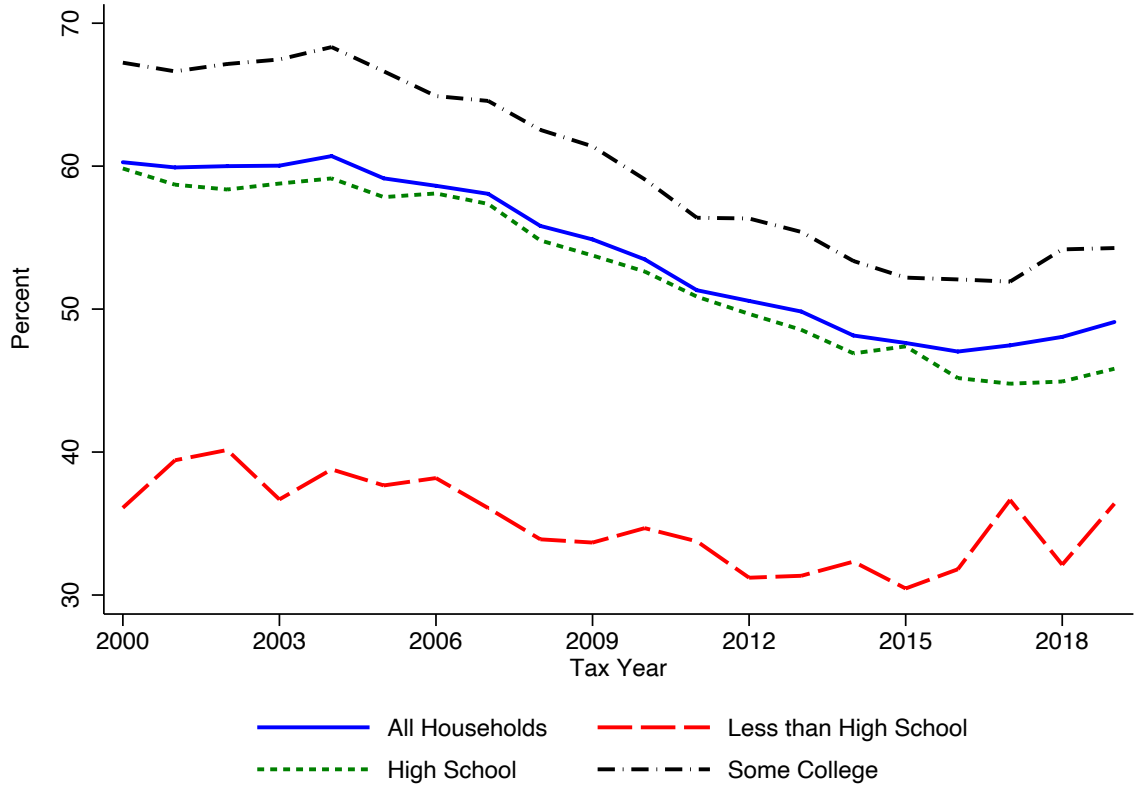
Source: Author's calculations of data from survey years 2001-2020 of the Current Population Survey Annual Social and Economic Supplement.

Figure 7 continued.



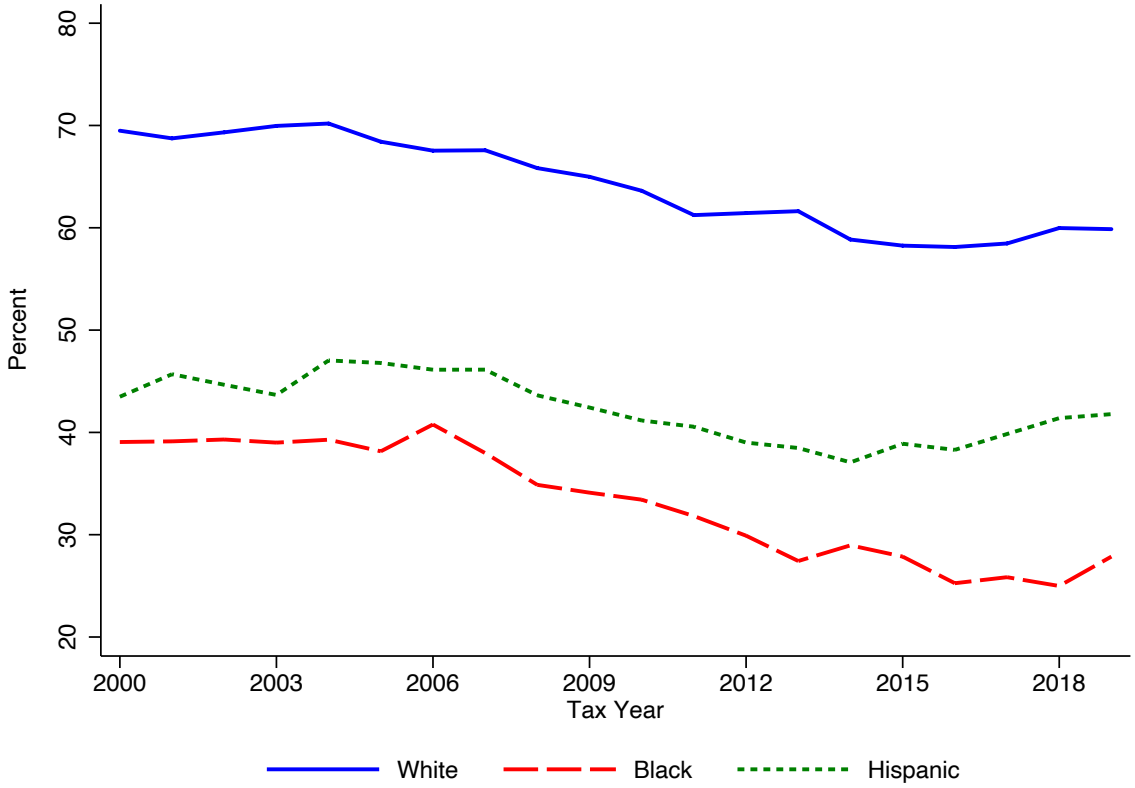
Source: Author's calculations of data from survey years 2001-2020 of the Current Population Survey Annual Social and Economic Supplement.

Figure 8. Trends in Homeownership



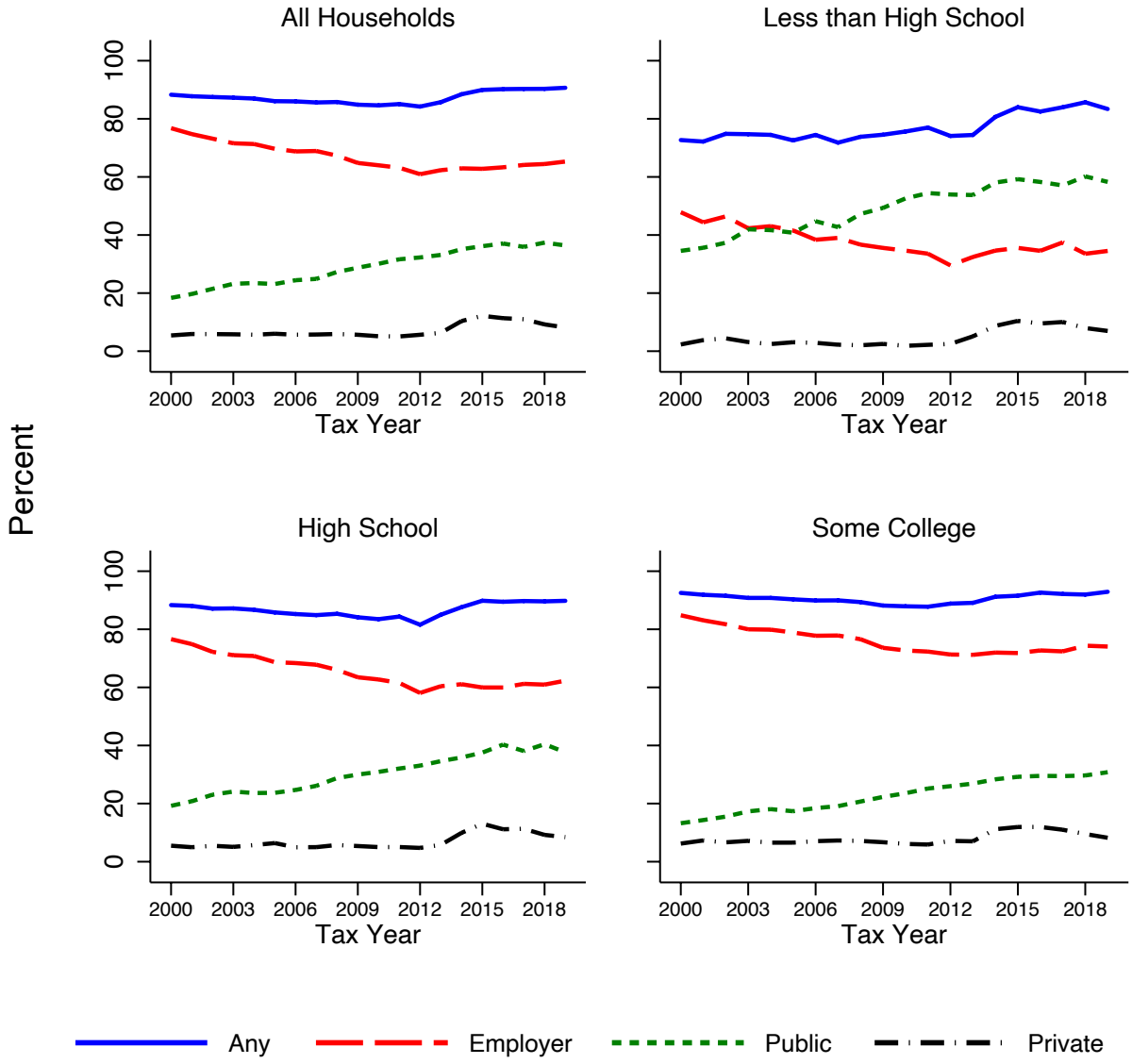
Source: Author's calculations of data from survey years 2001-2020 of the Current Population Survey Annual Social and Economic Supplement.

Figure 9. Trends in Homeownership by Race and Ethnicity



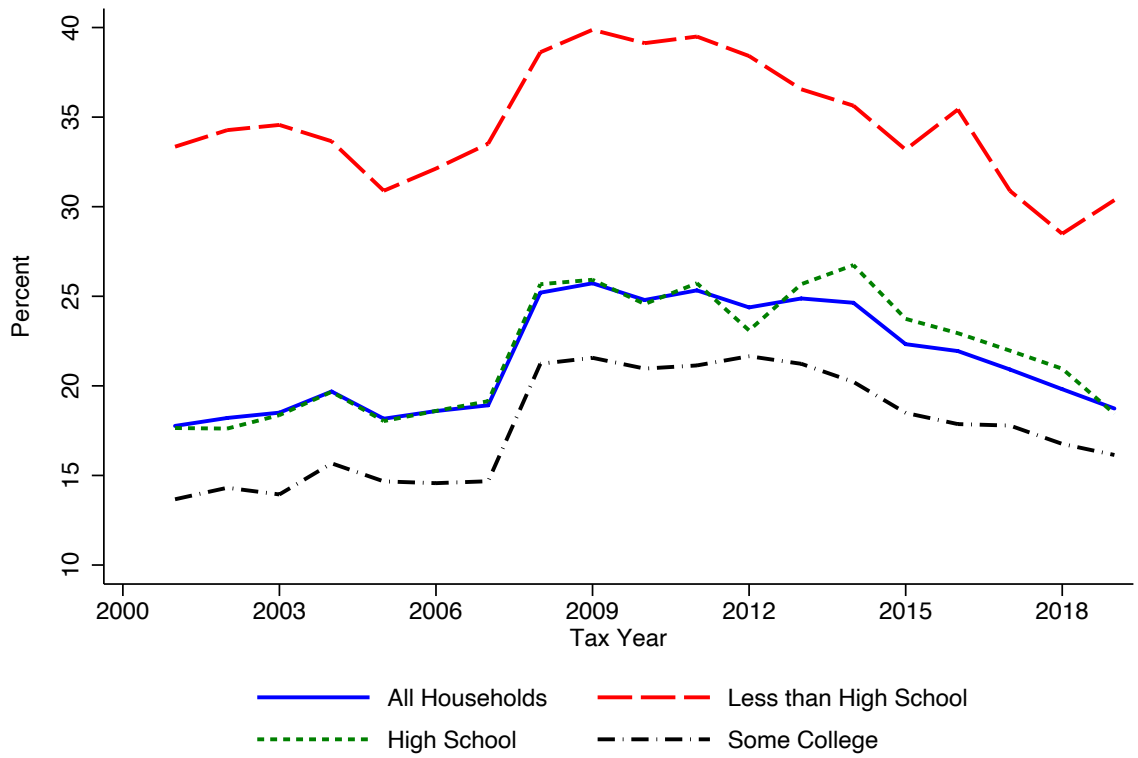
Source: Author's calculations of data from survey years 2001-2020 of the Current Population Survey Annual Social and Economic Supplement.

Figure 10. Trends in Health Insurance Coverage



Source: Author's calculations of data from survey years 2001-2020 of the Current Population Survey Annual Social and Economic Supplement.

Figure 11. Trends in Household Food Insecurity



Source: Author's calculations of data from survey years 2001-2019 of the Current Population Survey Food Security Supplement.

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[1]

SUPPLEMENTAL APPENDIX

Recent Trends in the Material Well Being of the Working Class in America

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"What has happened to the American Working Class since the Great Recession?"

DATA ON INCOME, HOMEOWNERSHIP, AND HEALTH INSURANCE

The data for the analysis on incomes, homeownership, and health insurance comes from the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS). The sample period is the 2001-2020 survey years (2000-2019 calendar years). The ASEC, which is collected by the U.S. Census Bureau as a supplement to the monthly CPS labor-force survey, serves as the official source of income and poverty statistics. It consists of about 90,000 households and roughly 200,000 individuals in a typical year. Separate weights are provided in the ASEC to make the sample nationally representative at the person, family, and household level. Because of the rotating survey design of the CPS, some of the ASEC and FSS households are interviewed in-person and others via telephone.

A.1 Outcomes

The focal outcomes from the ASEC are income before and after-taxes, homeownership, and health insurance coverage. The before-tax measure of income includes most forms of labor and nonlabor cash income, including food assistance from the Supplemental Nutrition Assistance Program (SNAP), but does not include capital gains or losses, or other in-kind transfers such as housing or medical. The after-tax measure of income subtracts federal, state, and payroll taxes, while adding back refundable federal and state Earned Income Tax Credits (EITC) and federal Child Tax Credits (CTC). Tax payments and credits are estimated using the National Bureau of Economic Research's TAXSIM program, found at https://taxsim.nber.org/taxsim32/. I use version 32 designed for the local computer, and code for constructing ASEC tax filing units can be found at https://sites.google.com/site/jamesziliak/Home/Research. Unless noted otherwise, earnings and income are converted to real terms using the personal consumption expenditure deflator with 2012 base year.

Homeownership is measured as an indicator variable equaling 1 if the household owns their home with or without a mortgage, and 0 if they are a renter or other tenant. Health insurance is asked separately in the ASEC by source, including whether the person has employer provided insurance, purchases private market health insurance, or receives publicly provided health insurance such as Medicaid. In each case, I create indicator variables equal to 1 if the person receives any of these forms of insurance, and 0 otherwise, noting that it is possible for a person to receive more than one form of health coverage.

A.2 Sample Selection

The focus of this paper is on working class households. The Census Bureau defines a household as all persons residing in the dwelling unit, regardless of relationship. This means the measures of before- and after-tax household incomes sum up the earnings and nonlabor income of all household members, and then appending SNAP benefits because these are reported on the survey at the household level. A household may contain multiple tax filing units, and thus tax units are first run through TAXSIM and then total tax liability for the household is aggregated. For homeownership, if any member of the household owns the home, then the household is assigned as homeowners. Likewise, if any member of the household has employer health insurance, private coverage, or public coverage, then this coverage is assigned to the household. The assumption of this assignment rule is that households pool resources and share amongst its members.

To restrict households to the working class, the household must have non-zero earnings, which means earnings can be negative with self-employment losses, and education attainment of the household head, spouse, or primary individual must be less than a college degree. Likewise, the age of the head, spouse, or primary individual must be at least 25 years old and no more than

54. This focuses attention on the adult population whose formal schooling is most likely completed, but also before retirement decisions.

The Census imputes missing earnings data in the ASEC using the so-called hot-deck procedure, whereby individuals with missing earnings get assigned the values from a randomly matched donor based on a set of observed demographic characteristics. Moreover, some households refuse to answer any, or enough, questions on the ASEC to be usable, and these households receive a complete imputed record from a donor using a similar hot-deck imputation procedure. As shown in Bollinger et al. (2019), earnings nonresponse in the ASEC is pervasive and has increased over time, with combined earnings nonresponse and supplement nonresponse over 40 percent in recent years. The 2020 ASEC, which was fielded just as the Covid-19 Pandemic was gripping the U.S., has substantially elevated rates on nonresponse (Rothbaum and Bee 2020). As a consequence, we drop any household that has imputed earnings or hours of work, or has the entire supplement imputed.

In order to make the remaining sample representative of the population of working class households, I reweight the sample by using an inverse probability weight. Specifically I estimate a saturated probit model of the probability of not being imputed as a function of number of children ages 13 and under, household size, age and its square, education, race, ethnicity, nativity, marital status, and interactions of age with education, race with education, and marital status with education. The probit is weighted using the ASEC household weight. The ASEC household weight was then divided by the fitted probability of nonimputation from the probit model. The latter step was conducted before dropping households with zero earnings, but otherwise was restricted to the working class as defined. Then, to likewise adjust for dropping households with 0 earnings, we estimate a probit model of nonzero earnings as a function of

those same demographics, in this case the weight is the household weight adjusted for nonimputation. That adjusted household weight is then divided by the fitted probability of nonzero household earnings. All estimates reported in the main paper use this household weight adjusted both for nonresponse and nonearnings.

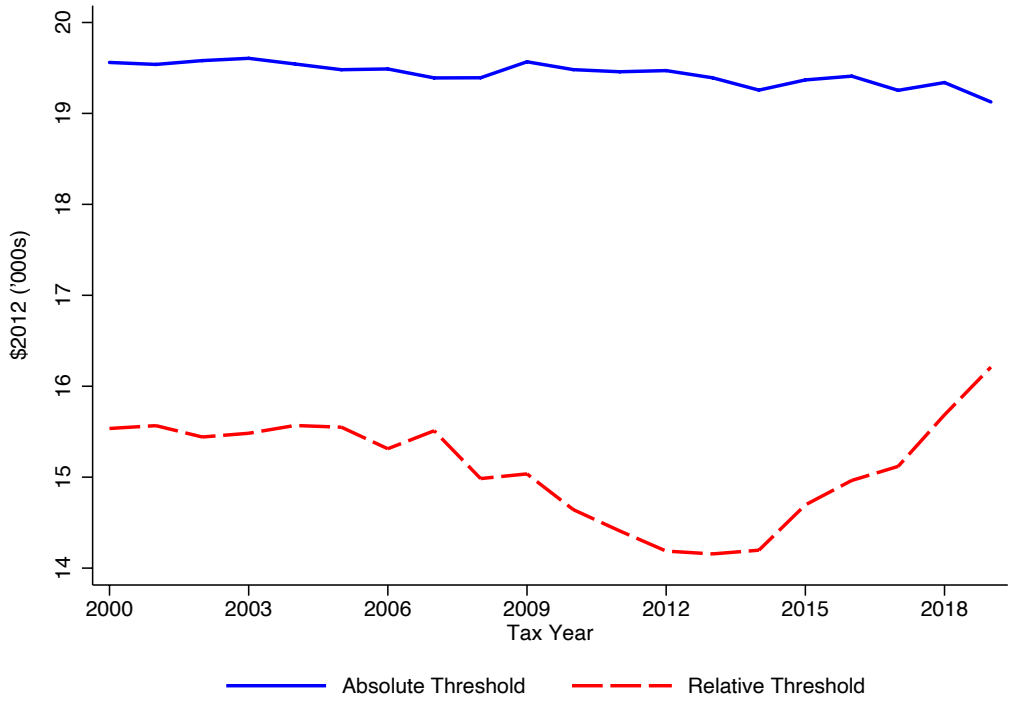
A.3 Equivalized Income and Relative Poverty

Households differ in composition by number of children and adults, and thus have differing needs when incomes are the same. To account for these differences and potential for economies to scale, I equivalize after-tax household income using the modified OECD scale as $y_{it}^{e} = y_{it}/\{1 + 0.5 * [(n_{adult} - 1) + n_{child\ 14+}] + 0.3 * n_{child\ 0-13}\}$, where y_{it} is after-tax household income, n_{adult} is the number of adults in the household, $n_{child\ 14+}$ gives the number of dependent children in the household ages 14-23, and $n_{child\ 0-13}$ is the number of children ages 0-13. Children ages 18-23 who are full-time students are eligible for inclusion in the tax unit's EITC calculation and thus I include them in the children ages 14 and older category.

Within the population of working class households, I also focus on those households who are near poor, defined as having incomes below two times the poverty line, both relative and absolute. The relative poverty line in each year is defined as 60 percent of the real median after-tax household income, which is the standard metric used in Great Britain and several other OECD countries (Joyce and Ziliak 2020). Appendix Figure 1 presents trends in the inflation-adjusted average absolute poverty threshold and the equivalized relative poverty line. The absolute poverty line is increased each year by the Consumer Price Index, not the PCE, and thus I inflation adjust the absolute threshold by the CPI. The figure shows that as expected the absolute line is essentially constant in real terms, averaging over $19,000 ($2012 CPI) each year. However, the equivalized relative poverty line fluctuates with the business cycle, notably during

the Great Recession. The line was about $15,500 from 2000-2007, then fell over $1,000 by 2012, before accelerating after 2014 and reaching over $16,000 by 2019. The last four years reflect much stronger income growth in the bottom half of the income distribution.

Appendix Figure 1. Trends in Average Absolute and Equivalized Relative Poverty Lines



Appendix Table 1 contains summary statistics on select variables separately for all 290,027 working class households, and by the maximum education attainment of the household head, spouse, or primary individual. The demographics reflect those of the household head.

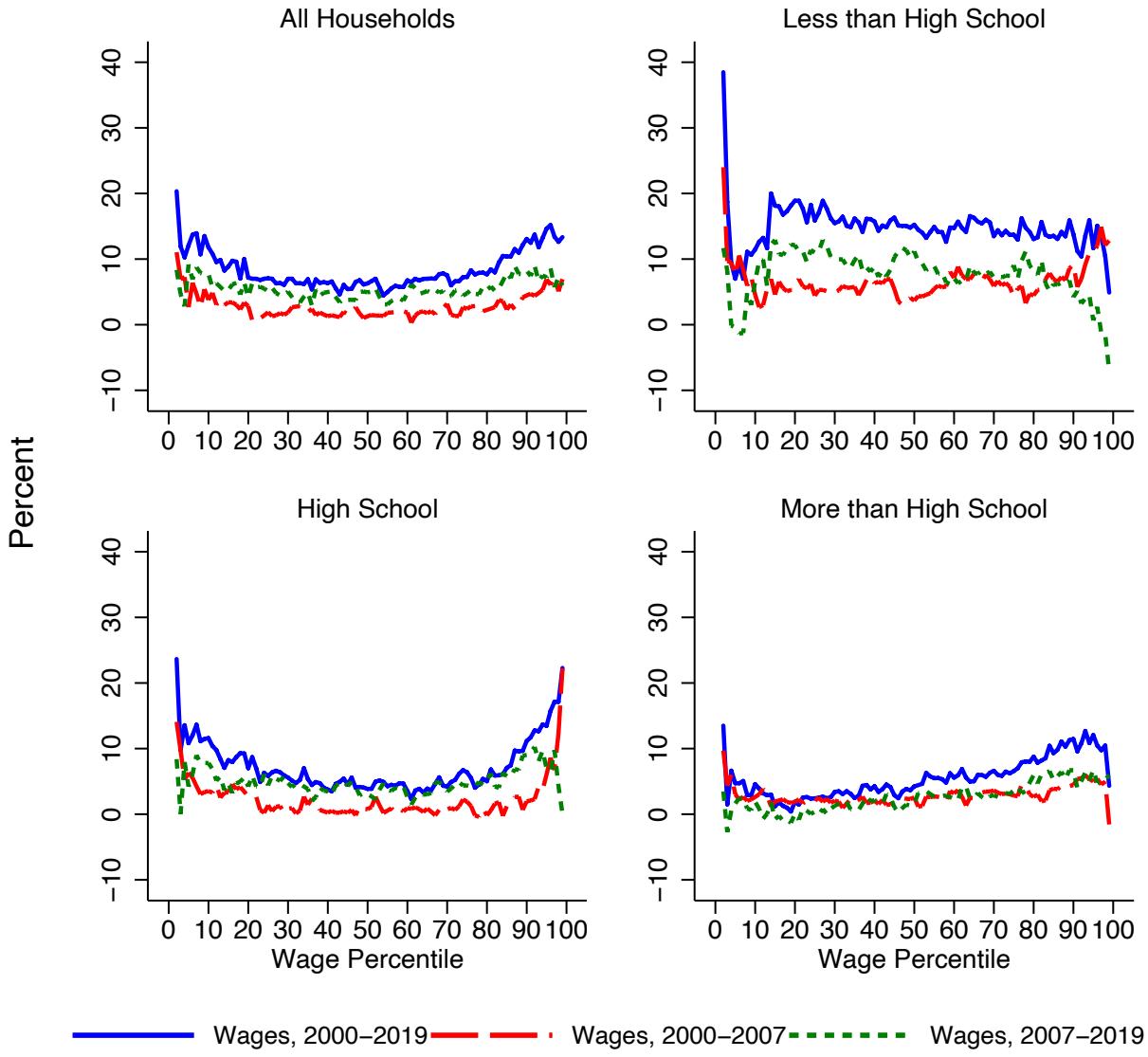
Appendix Table 1. Summary Statistics on Working Class Households in CPS ASEC

	All Households		Less Than High School		High School		More than High School	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Age	40.07	8.44	39.97	8.37	40.35	8.43	39.88	8.45
Female	0.48	0.50	0.49	0.50	0.46	0.50	0.49	0.50
Less than High School	0.16	0.36	1.00	0.00	0.05	0.22	0.02	0.13
High School	0.41	0.49	0.00	0.00	0.95	0.22	0.10	0.31
Some College	0.43	0.49	0.00	0.00	0.00	0.00	0.88	0.33
Married	0.46	0.50	0.38	0.49	0.43	0.49	0.50	0.50
Never Married	0.28	0.45	0.33	0.47	0.29	0.45	0.25	0.44
Widowed/Divorced/Separated	0.27	0.44	0.29	0.45	0.28	0.45	0.25	0.43
White	0.77	0.42	0.75	0.43	0.76	0.43	0.78	0.42
Black	0.17	0.38	0.18	0.39	0.19	0.39	0.16	0.37
Other Race	0.06	0.24	0.07	0.25	0.06	0.23	0.06	0.24
Hispanic	0.20	0.40	0.51	0.50	0.18	0.39	0.13	0.33
Native Born	0.83	0.38	0.53	0.50	0.84	0.37	0.90	0.30
Number of Kids <= Age 13	0.79	1.09	1.05	1.27	0.73	1.06	0.77	1.05
Household Size	2.97	1.62	3.40	1.91	2.89	1.60	2.92	1.54
Real Earnings	55.71	53.90	34.49	41.37	51.00	48.61	65.03	58.52
Real Other Income	4.88	11.39	3.76	7.35	4.33	10.21	5.60	12.98
Real Gross Income	60.59	55.42	38.25	41.58	55.33	49.71	70.64	60.36
Real Net Income	50.90	38.23	35.73	31.15	47.06	34.44	57.94	41.07
Real Equivalized Earnings	32.58	32.47	18.87	26.24	30.37	29.58	37.95	34.78
Real Equivalized Other Income	2.72	6.88	1.94	4.02	2.43	6.48	3.16	7.71
Real Equivalized Gross Income	35.31	33.33	20.81	26.26	32.80	30.26	41.11	35.80
Real Equivalized Net Income	29.18	22.04	18.88	17.79	27.41	19.87	33.30	23.55
Homeowner	0.54	0.50	0.35	0.48	0.53	0.50	0.60	0.49
Employer Health Insurance	0.67	0.47	0.38	0.49	0.66	0.48	0.76	0.43
Private Health Insurance	0.07	0.25	0.04	0.21	0.07	0.25	0.08	0.27
Public Health Insurance	0.29	0.45	0.49	0.50	0.30	0.46	0.23	0.42
Any Health Insurance	0.87	0.33	0.76	0.43	0.87	0.34	0.90	0.29
Observations	290,027		33,231		106,851		149,945	

Note: Author's calculations from 2001-2020 Current Population Survey Annual Social and Economic Supplement. Sample is households with maximum education of the head or spouse is less than a college degree. The demographics in the table reflect the household head. The head in the high school or more than high school category may have education less than the maximum.

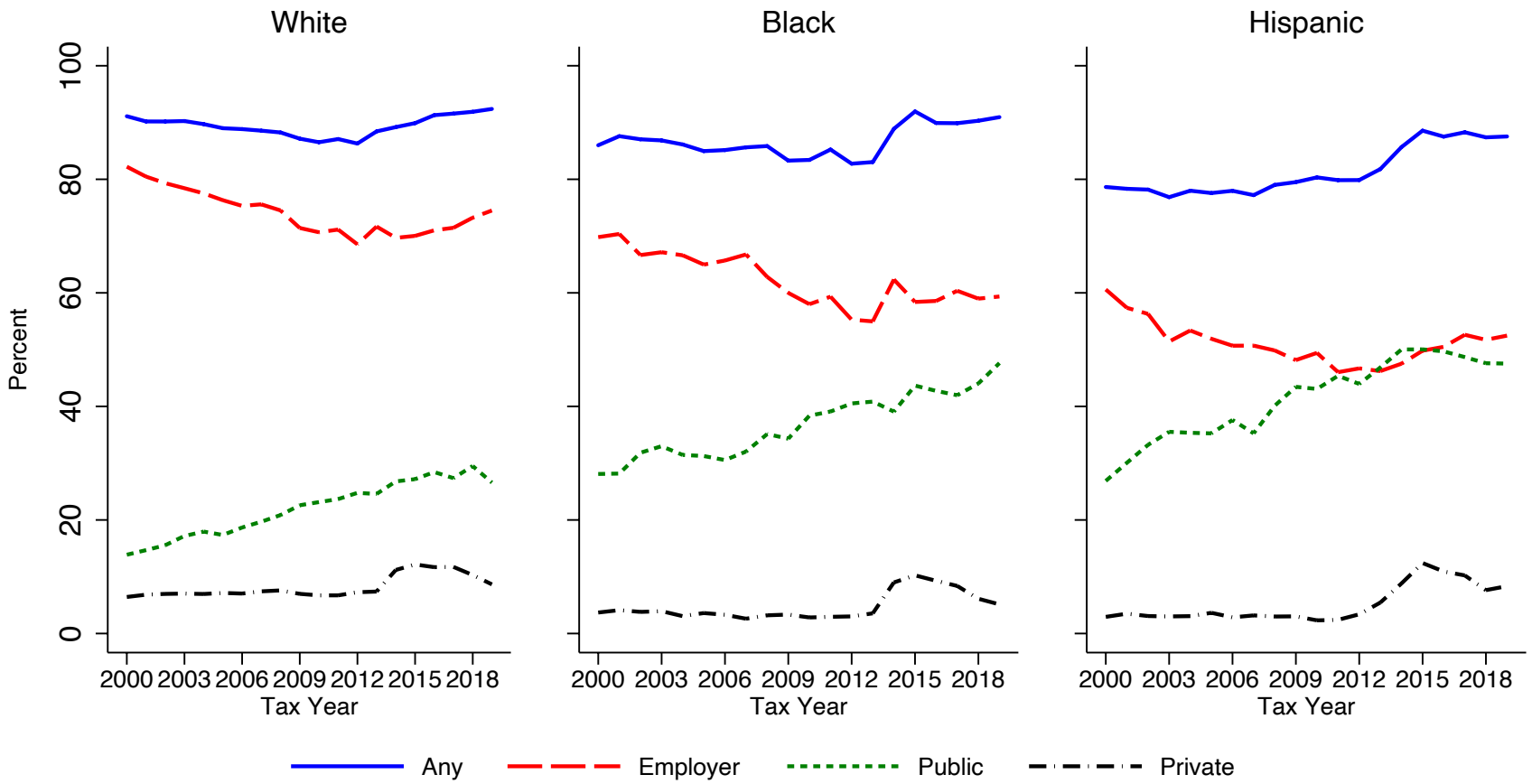
A.4 Additional Figures from the CPS ASEC

Appendix Figure 2. Average Hourly Earnings Before and After the Great Recession



Note: Average hourly earnings are computed by taking the ratio of equivalized annual household earnings to equivalized household annual hours of work

Appendix Figure 3. Health Insurance Coverage by Race and Ethnicity



DATA ON FOOD INSECURITY

The data for food insecurity comes from the Food Security Supplement (FSS) of the Current Population Survey for the 2001-2019 calendar years. The FSS is collected in December of each year by the Census Bureau on behalf of the U.S. Department of Agriculture, and consists of about 50,000 households in a typical year (Coleman-Jensen et al. 2020). The FSS contains detailed information on food security and other food-related outcomes such as spending and participation in federal and non-federal food assistance programs. FSS supplement weights are provided at both the individual and household level to make the sample nationally representative to estimate the total number of persons residing in food insecure households as well as the total number of food insecure households. Because of the rotating survey design of the CPS, like the ASEC, some of the FSS households are interviewed in-person and others via telephone.

Similar to the ASEC, I focus on working class households in the FSS. However, because earnings are not reported, only household income, I am not able to restrict the sample to those with earnings. Thus, working class for this sample consists of those households whose head or spouse has no college degree and whose age is between 25-54. Like the ASEC, I examine all working-class households, and separately by education attainment.

In the FSS, households respond to a series of 18 questions (10 questions if there are no children present), where each question is designed to capture some aspect of food insecurity or the frequency with which it manifests itself. Respondents are asked questions about their food security status in the last 30 days, as well as over the past 12 months. Following the standard approach used by the USDA, I focus on the questions referring to the past year and define food insecurity as three or more affirmative responses to the 18 (10) questions.

Appendix Figure 4. Household Food Insecurity by Race and Ethnicity