Wealth Inequality, Income Volatility, and Race

Bradley Hardy, American University
Jonathan Morduch, New York University
William Darity, Jr., Duke University
Darrick Hamilton, The Ohio State University

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ABSTRACT: We provide evidence from the PSID and the Federal Reserve's SHED data showing that wealth and income inequality vary together with economic insecurity, both by race and within income groups. The PSID shows that year-to-year income volatility has increased for black households. The SHED shows how economic insecurity stems from the combination of exposure to risk and the lack of sufficient means for coping. We show consistent positive correlations in the SHED between the propensity to experience transitory shocks and difficulty addressing them. These reinforcing inequalities are an understudied phenomenon with important implications for understanding racial inequalities, wealth-building, income stabilization, and financial policy.

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1. Introduction

Economic inequality is the outcome of processes that divide populations between rich and poor. Economic insecurity typically accompanies inequality, shaping the lived experience of those who, figuratively, wind up with the short end of the stick. Even amid improving macroeconomic conditions, many Americans harbor concerns about their overall financial outlook, report experiencing a recent economic shock, and express strong preferences for greater financial stability (Pew 2015). Families that appear stable in employment and income, nonetheless, may be economically vulnerable, especially in the absence of sufficient wealth to buffer adverse events. Conversely, some lower-income families may be more economically secure than higher-income counterparts, insofar as they face low exposure to economic shocks *and* can draw upon savings to meet unanticipated expenses. These differences correspond, in part, with group-based differences in well-being across race, place, and socioeconomic status. Accordingly, our understanding of racial economic inequality expands in important ways when we consider how wealth, income levels, and income volatility intersect both historically and contemporarily (e.g. Autor, Kearney, and Katz 2008; Darity et al. 2012; Hamilton and Darity 2010; Hardy 2017; Morduch and Schneider 2017). In this paper, we consider the role of race in explaining economic insecurity, beyond class and socio-economic status.

The Survey of Consumer Finances indicates that by 2016, the median net worth of white families was $171,000, roughly ten times the median for black families ($17,600).[1] Our study

[1] Data are from the Federal Reserve Survey of Consumer Finances (Bricker et al, 2017). White households are defined as "white non-Hispanic." Black households are defined as "Black or African-American non-Hispanic." Hispanic are defined as "Hispanic or Latino." The median income for Hispanic families was $20,700. Net worth is the difference between gross assets and liabilities. The racial wealth gap is 6.75 times when calculated by mean net worth rather than median. White families held $933.7 thousand of net worth on average, black families held $138.2 thousand on average, and Hispanic families held $191.2 thousand on average (Bricker et al 2017, Table 2). The definition of net worth does not include the value of defined-benefit pension plans or social security, in part because their value is hard to measure.

focuses on broader racial and ethnic differences in economic outcomes, reflected in the incidence of low wealth, low income, exposure to income volatility, and limited coping mechanisms. Using data from the Panel Study of Income Dynamics (PSID), we confirm that blacks, as a group, are more likely than whites to have low income and low wealth. The PSID's year-to-year longitudinal data on household incomes also shows high income volatility—and that the black-white income volatility gap appears to be driven primarily by gaps at the low and middle end of the income level distribution; higher income blacks and whites have relatively similar (low) volatility levels, but not similar wealth levels. Results from the Federal Reserve's Survey of Household Economics and Decisionmaking (SHED) also show the greater likelihood of low wealth, low income, and high income volatility among black households, together with self-reported challenges coping financially in such circumstances. In both the PSID and SHED, we also find that middle-income blacks face substantially higher levels of income volatility along with low levels of wealth to absorb this volatility and cope with unanticipated events.

These patterns show how the racial wealth gap, which is rooted in an iterative history of discrimination, is echoed by a racial gap in economic security.[2] The findings highlight that black families face an acute risk of exposure to insecurity, and they lend support to proposed interventions that stabilize income, improve savings, and increase liquidity for families facing insecurity.

2. Economic insecurity and the Permanent Income Hypothesis

[2] The history begins with the legacy of slavery, Jim Crow laws, persistent employment discrimination, residential segregation, unequal access to finance, and other inequities (Massey and Denton 1993; Oliver and Shapiro 2006; Darity and Hamiliton 2012; Katznelson 2005).

"Economic insecurity" reflects the condition of instability and uncertainty that can de-rail households even when resources are adequate on average (Hardy and Ziliak 2014, Hacker 2006, Morduch and Schneider 2017). The permanent income hypothesis (PIH) (Friedman 1957) provides a core framework to consider how insecurity might be better understood. The PIH posits that optimizing households consume from permanent income, and that transitory fluctuations therefore have limited influence on well-being. This result requires that households are forward-looking, well-informed, have sufficient liquidity, and possess a sufficient amount of income or expected income to smooth in the first place. These conditions are open to empirical question (Jappelli and Pistaferri 2017), but the framework provides useful benchmarks.

In our context, we have two main ways to measure economic insecurity with data on household income and consumption. The first captures the income variability faced by earners and households. The second quantifies the ability of households to protect consumption in the face of income variability. The economic literatures on income volatility and coping ability proceed along separate tracks and are usually investigated independently, but understanding the economic conditions of households requires considering both dimensions jointly.

We begin with Friedman's (1957) decomposition of household income *y*, into two components:

(1) $y = y_p + y_v$.

The first component, permanent income (y_p), can be predicted from the wealth-holdings and personal attributes of household members, including their education, skills, location, and ambition. It is the more stable component of income and captures basic earning ability and

expectations. Cross-sectional dispersion in total household income *y* (and household wealth) is the most common metric of economic inequality, including the racial wealth gap.

To consider how instability relates to those forms of inequality, we focus on the second income component, transitory income (y_v), which reflects the spikes and dips in income due to temporary shocks like weather, illness, market fluctuations and job loss, and "chance" occurrences (Friedman 1957, p. 21-22). Such transitory variation is generally considered to be outside of households' control. The volatility of income, like the level, can be similarly decomposed (Gottschalk and Moffitt 1994; Hardy 2011; Shin and Solon 2011). First, transforming via log income:

(2) $$lny_{it} = \alpha_t \mu_i + \varphi_t v_{it}.$$

μ_i represents permanent earnings, v_{it} represents transitory earnings, while α_t and φ_t are time-varying factor loadings on the permanent and transitory components. This framework sets factor loadings equal 1 over all periods, and assumes independence of permanent and transitory components, such that the variance of log income in (3) equals

(3) $$Var(lny_{it}) = \sigma_\mu^2 + \sigma_v^2 = \text{var}(\mu_i) + \text{var}(v_{it}).$$

Transitory volatility σ_v^2 could reflect economic risk via negative events such as job loss, wage reductions, hours of work reductions, (Dynan et al. 2012), or positive events including bonus or incentive pay. Permanent volatility, measured as income variance between individuals, could proxy for economy-wide shifts in mobility within and across generations, including skill biased technological change (Autor, Kearney, and Katz 2008; Gottschalk and Moffitt 2009; Jaimovich and Siu 2012) or changes in labor market regimes in which certain demographic characteristics may be treated differently (see for example, Bound and Freeman, 1992). Here, we focus on the

incidence of transitory volatility as a proxy for economic insecurity deriving from shorter-term events and circumstances, following Gottschalk and Moffitt (1994) by defining transitory volatility as income deviations around a family or individual-specific mean:

$$(4) \qquad \text{var}(v_{i,t}) = \sigma_{v_i}^2 = (\tfrac{1}{T_i - 1}) \sum_{t=1}^{T_i} (y_{it} - \bar{y}_i)^2.$$

As a complement to (5), we also estimate a measure of volatility that subsumes transitory and permanent elements, with fewer assumptions:

$$(5) \qquad \textit{Total Volatility} = \text{var}(v_{i,t}) = \text{SD}(y_{it}).$$

Studies show that volatility rose throughout the 1970s and 1980s, as well as during and after the Great Recession of 2007-2009 (Carr and Weimers 2018; Gottschalk and Moffitt 1994, 2009; Hardy 2017; Moffitt and Zhang 2018a and 2018b). Many such studies of income and earnings volatility rely on yearly estimates, which potentially understate the incidence of volatility; estimates of month-to-month volatility find high levels of economic volatility as well (e.g. Acs et al. 2009; Gennetian et al. 2015). Still, while evidence of an increase in trend volatility increase is mixed (Dahl et al. 2011; Winship 2009), the evidence is clearer that volatility is highest among black families, as well as socioeconomically disadvantaged individuals and households (e.g. Hardy and Ziliak 2014; Hardy 2017; Hryshko 2018; Keys 2009; Latner 2019).

While these studies summarize the instability to which households are exposed, they generally do not reveal how well households cope with the instability. To better gauge the capability for coping by way of saving, borrowing, and other measures, we turn to consumption. We then ask how well households can protect consumption in the face of transitory income shocks via stored income and wealth and other mechanisms. Friedman decomposes household consumption c into permanent (c_p) and transitory (c_v) components such that

(6) $c = c_p + c_v$.

The permanent income hypothesis holds that, for well-informed, forward-looking households with sufficient liquidity, transitory income and consumption should be independent; i.e., the correlation coefficient $\rho(y_t, c_t) = 0$ (Friedman 1957, equation 3.3). The relationship $\rho(y_t, c_t) = 0$ indicates that households consume when and how they want, irrespective of the timing and size of transitory income in any given period (controlling for levels and changes in permanent income).[3]

Most important: all else the same, the welfare costs of coping difficulties—i.e., $\rho(y_t, c_t) \neq 0$—increase with the volatility to which households are exposed, σ_v^2. It is the interaction of the two conditions that matter for household welfare. Households that are relatively unprotected against income shocks—i.e., $\rho(y_t, c_t) \neq 0$ is high—may experience minimal welfare losses if they face little volatility at the outset— i.e., σ_v^2 is low. This case is shown in the upper right corner of Figure A. Conversely, when volatility is high, welfare losses may be small if households have ample means to cope (e.g. Hardy and Ziliak 2014)—the condition, perhaps, of investment bankers or successful entrepreneurs at the higher end of the income distribution, many also holding substantial wealth. This is the lower right corner of Figure A – and it could reflect particularly advantageous circumstances for those able to absorb risk.

[3] While the approach is often pursued under the label "consumption smoothing," the formulation does not necessarily imply that intertemporal patterns of consumption are smoother than income. Friedman's conceptual framework has since been further developed, taking account of information, expectations, discount rates, and interest rates in a dynamic, stochastic intertemporal optimization framework (Jappelli and Pistaferri 2017). Behavioral economics shows that it is also necessary that behavioral constraints do not bind and that households have no difficulty deriving and implementing optimal plans (Dhami 2016).

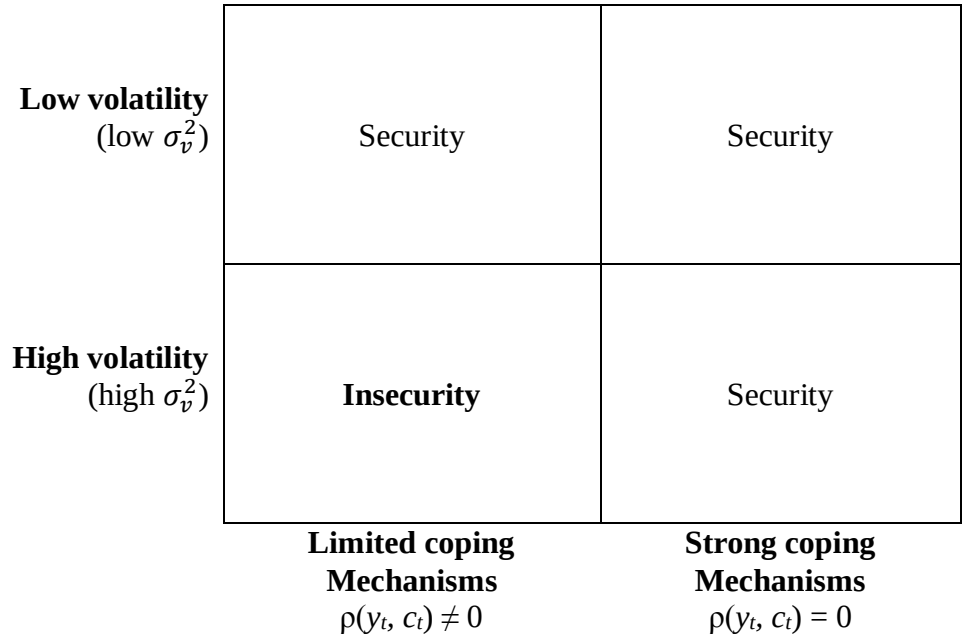

Figure A: Economic insecurity: High exposure to volatility and limited coping mechanisms

Insecurity is most acute in the lower left corner of Figure A. Here, high volatility is accompanied by low coping ability. The intersection is unlikely to arise randomly; there are reasons to suppose that volatility and coping ability are positively correlated. First, the experience of high volatility—high σ_v^2—can make it more difficult to plan, budget, and save, making it harder to build an emergency savings buffer (Morduch and Schneider 2017, Mullainathan and Shafir 2013). This lack of precautionary savings, in turn, can make it more likely that income shocks translate into consumption shocks: $\rho(y_t, c_t) \neq 0$. Second, high volatility may make it harder to borrow as lenders become reluctant to extend credit to customers with unstable income flows, again making it more likely that $\rho(y_t, c_t) \neq 0$. Third, market conditions—including the outcomes of contemporary and historical discrimination based on race, gender, and

ethnic heritage—independently may lead to lower wages, greater exposure to risk, and lower access to quality financial mechanisms, deepening a correlation between volatility and weak coping mechanisms. This third point is reinforced by well-documented cross-racial differences in wealth that are traceable to differences in intergenerational transfers (Chetty et al. 2018), which themselves are in large part a function of intentional, exclusionary public policies (e.g. Hamilton et al. 2015; Hardy et al. 2018; Pfeffer et al. 2013; Pfeffer and Killewald 2018).

Such factors, including the role of credit market biases and historical discrimination in labor markets, loanable funds markets, and public policy, recommend a research approach that explicitly assesses racial differences in inequality and exposure to economic insecurity. In essence, a class-based examination of inequality without consideration of race would conceal any racial clustering associated with the highly vulnerable position of households in the bottom left quadrant of Figure 1. As such, the study is well-situated within the field of stratification economics. An explicit examination of economic stratification by race allows us to better understand and identify the economic, social and political forces that lead to and maintain stratification, hierarchy and vulnerability to economic insecurity (Darity, Hamilton, and Stewart 2015). In our methodological approach, we therefore examine how wealth, income level, and income volatility interact, and how these interactions differ across race (in the PSID and SHED) and ethnicity (in the SHED).

3. Data

PSID

We link families in the Panel Study of Income Dynamics (PSID) from 1984 to 2015. The data series begins at 1984, as this is the first year with data available on wealth. The PSID is a longitudinal survey that began in 1968. It consists of two independent samples, the Survey Research Center (SRC) sample and the Survey of Economic Opportunity (SEO) sample. Because of challenges in the SEO survey design, this article uses the SRC sample of the PSID (Shin and Solon 2011). The PSID collects detailed economic, social, and demographic information on 1968 participant families and their descendants. It is not representative of the current U.S. population unweighted, though survey weights can be used to better approximate the U.S. population. Over time, offspring of the families are followed as they age and begin their own families, and the resulting sample spans multiple generations (McGonagle and Schoeni 2006). Major changes in the collection of the PSID throughout the 1990s include a switch to biennial interviews in 1997 and a doubling in the length of interviews between 1995 and 1999 (Gouskova et al. 2010). For our purposes, we further restrict the sample to family heads between ages 25 and 60.

Family income, the main income measure used, is a summary measure of earnings and other income flows for all members of the family. It is defined as the summation of total taxable income, nontaxable transfer income, and Social Security income for the head (husband), wife, and other members of the family. Families, defined by the PSID, include cohabitating adults and single individuals living alone in a distinct household. When both the mother and father are present, fathers are automatically assigned head status. The PSID assigns a family income value for all persons in a family based on the family interview number. The top one percent of family income (Shin and Solon 2011) is excluded, and we assign a value of $1 to family incomes that

are zero or negative (Dynan et al. 2012).[4] We measure family wealth, both with and without the value of home equity, in 1984, 1989, 1994, 1999, and each survey year thereafter. Wealth is comprised of farm and business income, total checking and savings account holdings, plus the value of stocks, other asses including vehicles, as well as the value of annuities or IRA accounts. All dollar denominated PSID values are in 2015 dollars, adjusted for inflation using the personal consumption expenditures deflator.

Survey of Household Economics and Decisionmaking (SHED)

Our study adds an additional layer of robustness by drawing upon data from the 2016 Survey of Household Economics and Decisionmaking (SHED), collected by the Federal Reserve. The SHED is a short survey with questions on savings, debt, income, and financial attitudes, administered to a nationally representative probability-based sample, recruited based on both random digit dialing and address-based sampling. 11,882 e-mail solicitations were sent to participants in the sample, over-sampling respondents in households earning less than $40,000. Of these, 6,643 full surveys were submitted.

The SHED collects information on pre-tax gross income from all sources (wages, salaries, tips, net income from a business, interest, dividends, child support, alimony, and Social Security, public assistance, pensions, or retirement benefits) and relatively liquid forms of wealth (including CDs, stocks, bonds, mutual funds, cash, savings accounts, and any individual retirement accounts, but excluding property or employee retirement savings). The data on

[4] Before 1979, the top-code value of income was $99,999; by 1980, it is $999,999; and in 1981, it increases to $9,999,999. During 1968–1993, family income was bottom coded at $1; but after 1994, the definition allows for negative family income of –$999,999 from business or farm losses.

income and wealth are drawn from short questions, and we analyze the data broken into broad categories.

The SHED includes qualitative questions on economic insecurity and the ability to cope, which includes direct questions regarding individual and household ability to cope with negative economic shocks. These include: "Suppose that you have any emergency expense that costs $400. Based on your current financial situation, how would you pay for this expense?" The SHED survey also asks a similar question on coping with a larger shock: "Have you set aside emergency or rainy day funds that would cover your expenses for 3 months in case of sickness, job loss, economic downturn, or other emergencies?"

Questions on income and expense volatility focus on variability from month-to-month within the year, rather than the year-to-year variation examined in the PSID and other once-a-year panels. The SHED asks, "Which one of the following best describes how your household's income changes from month to month, if at all?" Responses include what we call high volatility ("often varies quite a bit from one month to the next"), medium volatility ("roughly the same most months, but some unusually high or low months during the year"), and low volatility ("roughly the same amount each month"). The same question is asked for month-to-month variability in expenses.

A follow-up question seeks to get at the implications of the volatility: "In the past 12 months did you have any months where you struggled to pay your bills because your income was lower than normal?" It was asked only to respondents who reported medium or high income volatility.[5]

[5] In 2015 this question was asked to respondents who reported medium or high income *or* expense volatility. As such it was worded differently. In 2015 this variable is equal to one for respondents who select "Yes" in response to the SHED's question, "In the past year did you have any months where you struggled to pay your bills either because your income was unusually low or because your expenses were unusually high?"

4. Results

PSID

We now turn attention to estimates of wealth, income level, and income volatility by race in the PSID, spanning 1984-2015. Importantly, the PSID allows us to use a preferred data set for the study of wealth and income dynamics, in order to better understand potential intersections, while comparing recent SHED results on the topic. We begin by assessing mean

[Figures 1a and 1b]

and median wealth, in Figures 1a and 1b. Consistent with prior work in this domain, we find substantial black-white gaps in both mean and median wealth since the point at which PSID wealth data was first collected, in the early 1980s. Our trend is an interrupted data series for wealth, as this information is collected in 1984, 1989, 1994, 1999, and in every biennal survey year thereafter. It is noteworthy that wealth levels were affected similarly by positive growth during the early 2000s as well as declines due to the Great recession, but with black wealth entering this period from a lower initial position, the post-recession wealth levels for black families are roughly $35,000 at the mean. The overall raw black-white mean wealth gap in our analysis is $177,000 on average, but ranges from approximately $140,000 to $240,000 over the 1984-2015 period. These mean gaps mask lower levels of wealth for whites and extremely low levels of wealth for blacks at the median. Examining the series in Figure 1B, we find that large losses in white wealth during the Great Recession helped median wealth gaps close marginally in the post-Great Recession period. Still, pre-Great Recession levels of white median wealth ranged from $80,000 to $90,000, whereas black median wealth spans $5,000 to $10,000 over the same period. It is noteworthy that white median wealth falls to $40,000 in 2015, while black median

wealth held at $5,000, a relative steady state since survey year 2009 (calendar year 2008). There is a $62,000 median wealth gap, on average, between whites and blacks over the full period. Here, it is notable that wealth is especially low for the *median* black family—$8,000 for black families over the period—particularly as it relates to the ability to buffer against shocks and unanticipated life events.

[Figures 2a and 2b]

Moving from wealth, we now examine household income gaps over the same 1984-2015 period in Figures 2a and 2b. As is the case with wealth, we identify substantial and well-documented mean and median black-white income gaps. Mean income gaps are $35,000 on average for the full period. Unlike wealth, median income gaps are qualitatively similar, at $32,500. Figures 3a and 3b depict income volatility trends over the same period—and show consistent black-white income volatility gaps. Transitory volatility gaps appear to generally widen over the 1990s and 2000s, whereas total volatility differences (not shown in our trend figures) persist over the entire period. Taken together, the trends provide descriptive evidence that, on three domains of economic security or insecurity—wealth levels, income levels, and income volatility—there are clear racial gaps. Indeed, it is the economic insecurity (see bottom left quadrants of Figure 1) of the combinations of high volatility and low economic coping mechanisms (i.e. low income and low wealth) in which we are most concerned. However, it could be that this racial stratification is ameliorated once we control for socioeconomic factors such as income or education, which in-turn proxy for factors such as skills and job and occupational sorting.

In Table 2, we begin to explore the degree to which differences in wealth and income volatility occur across the income distribution. Here, to allow for comparability with SHED-based income bands, we depict our income distribution results using bands constructed in the

PSID for under $25,000, under $40,000, $40,000 to $99,000, and over $100,000. Looking across the income distribution in Table 2, we find that the lowest income group, under $25,000, also reports the lowest levels of wealth of approximately $15,000 ($5,241 without home equity); they also report the highest levels of income volatility, at 2.68 (transitory volatility) and 75.2 (total volatility). We disaggregate the results for 1984-1999 and for 2001-2015, and this relationship holds for both periods separately. For households reporting income of $100,000 or more, mean wealth is approximately $450,000 ($328,780 without home equity); transitory and total volatility are a relatively low 0.3 and 32.2, respectively. High income households also boast the highest levels of wealth buffers amid the lowest levels of income volatility.

[Table 2]

Even accounting for these results, it still could be the case that black-white differences in economic security along these three dimensions are largely explained by income differences, which potentially proxy for educational attainment and access to labor and capital markets. While this merits concern on its own, the conclusions and policy implications would be different: that low income families across race have similarly high levels of income volatility, and that access to higher income and the mechanisms allowing for this—inclusion via labor market and educational institutions, for example—could largely mitigate exposure to insecurity. On the other hand, if we observe meaningful gaps that persist *within* income groups, this raises questions about the role of permanent income and credit markets, and whether these mechanisms are sufficient to buffer against short-term events experienced by many households.

[Table 3]

Accordingly, in Table 3 we begin to assess differences in economic security by race and within the same income groups. Each panel represents one of 4 income groups, within which we further disaggregate by race. We find that large differences in economic security are driven, in part, by dramatic differences in economic insecurity among lower and moderate-income blacks versus lower and moderate-income whites. Within the $25,000 or less and $40,000 or less income groups, black families report as low as one-third the wealth level of white families, amid higher income volatility. Black families, for example, report $4,000 in mean wealth without home equity among those with income levels of $25,000 or less, compared to roughly $8,000 among white families. Economic security and home ownership and home valuation also loom large, as racial wealth gaps at the lower end of the income distribution show some reduction upon accounting for home equity. This is substantial, given that anywhere from a third to a fourth of black Americans live at or below the poverty line (Fontenot et al. 2018), and are far more likely to endure hardships such as food insecurity and homelessness (Flores et al. 2018; Fusaro 2018).

Once we move to the $40,000 to $99,000 and $100,000 or more categories, racial gaps in volatility appear to close. That said, clear income-adjusted gaps in wealth persist, suggesting substantial differences in the capacity of middle and upper-income black families to mitigate the impact of shocks via wealth. Upper income black families have, on average, just inside of $40,000 of liquid wealth compared against almost $90,000 for white families. Even relatively affluent black families in the $100,000 or more income group exhibit total income volatility levels comparable to those of white families situated within the middle-income band, $40,000-$99,000. Over the 2001-2015 period, black and white wealth levels are noticeably lower within the highest income group, owing largely to declines in wealth in the 2000s—perhaps reflecting the Great Recession. Interestingly, black wealth is only marginally higher in the $100,000 or

more group as compared to blacks within the $40,000 to $99,000 group. For the lowest income group, $25,000 and below, blacks report lower levels of wealth with home equity included, by over $6,000, and higher levels of wealth without the value of home equity, by about $1,300.

A major takeaway from the PSID-based results is that black families—very much overrepresented among low and moderate-income families—exhibit lower levels of wealth and higher income volatility within the same income group. Black-white income volatility gaps narrow substantially further up the income distribution and wealth levels rise across group; yet, wealth gaps remain across race and within the same income groups. For the purposes of documenting economic insecurity, we have identified important descriptive evidence of cross-race differences in security defined as sufficient income and wealth to buffer volatility. However, the PSID does not explicitly answer questions surrounding coping ability, which is why the SHED can help us better understand the nature of the volatility we observe in the PSID and related data sets. We can understand how, on a more granular level, wealth and higher income are related to households' ability to buffer or mitigate shocks and volatility.

SHED

The SHED survey provides a measure of financial assets: investments such as CDs, stocks, bonds, mutual funds, cash, savings accounts, and any individual retirement accounts. It excludes property and retirement savings in employer plans and thus differs from broad measures of net worth. The form of liquid wealth captured by the SHED is particularly valuable in addressing shocks. Overall, 47 percent of the 2016 sample held less than $25,000 of liquid wealth as defined by the SHED. Column (1) of Table 4 shows that 30 percent of the whole sample held less than $5000, a sum that can be considered a basic cushion, although it is considerably less than

financial advisors typically recommend keeping as an emergency saving fund; three or more months' worth of income is the standard suggestion for a savings buffer. The table displays a stark racial/ethnic gap, with a quarter of the white (non-Hispanic) population holding less than $5000 but 44 percent of the black (non-Hispanic) population and 45 percent of Hispanic households holding no more than $5000 of liquid wealth.

[Table 4]

Column (2) of Table 4 shows similar gaps in coping ability, focusing on smaller, urgent problems rather than the larger challenges (job loss, major health crisis, relationship break-up) which have been the standard concerns when considering household risk and wealth (e.g., Sherraden 1991). Respondents were asked "Suppose that you have any emergency expense that costs $400. Based on your current financial situation, how would you pay for this expense?" Respondents were offered nine options and could select all that applied. The variable in Column (2) is equal to one for respondents who said that they could not pay it with available savings, nor could they "Put it on my credit card and pay it off in full at the next statement." If they could raise the funds, respondents would have had to borrow the money or sell something. Column (2) shows that 37 percent of white respondents indicated that they could not handle the $400 emergency with available funds (i.e., 63 percent said they could). The situation is nearly exactly reversed for black households in the sample, with 62 percent of black households reporting an inability to pay $400 with resources easily on hand. The result shows the correlation between low wealth and the lack of coping ability, and it shows stark racial and ethnic differences on both dimensions.

Column (3) summarizes answers to a question about preparation for larger financial challenges: "Have you set aside emergency or rainy day funds that would cover your expenses

for 3 months in case of sickness, job loss, economic downturn, or other emergencies?" Among white households, 46 percent had not. Among black households, 64 percent had not. The results are consistent with the evidence on liquid wealth.

Columns (4) and (5) report on month-to-month volatility. Here, the racial/ethnic differences are narrower but still clear. The SHED asked, "Which one of the following best describes how your household's income changes from month to month, if at all?" Column (4) summarizes responses indicating medium volatility: "roughly the same most months, but some unusually high or low months during the year." Column (5) reflects high volatility: "often varies quite a bit from one month to the next." (The other alternative is low volatility: "roughly the same amount each month."). The incidence of medium volatility is 25 percent higher for black households than white households (25 percent versus 20 percent), and 50 percent higher for high volatility (12 percent versus 8 percent).

Columns (4) and (5) show that most households experience low volatility, but column (6) shows that, for those that do experience either medium or high volatility, the experience can translate into difficulty, including trouble paying bills ("In the past 12 months did you have any months where you struggled to pay your bills because your income was lower than normal?"). The difficulties occurred more often for black households (48 percent) than white households (38 percent) but at a significant rate for both groups.

[Table 5]

Table 5 disaggregates these figures by income strata, echoing the form of Table 3 from the PSID. Column (1) shows how liquid wealth correlates with income. Not surprisingly, two-thirds of the poorest group—with incomes under $25,000—holds liquid wealth below $5000. Levels of wealth rise with income, but a persistent divide by race and ethnicity persists. For

households earning between $40,000 and $100,000, for example, a quarter of white households hold no more than $5000 of liquid wealth (i.e., three-quarters hold more than $5000), while 35 percent of black households and 41 percent of Hispanic households hold under $5000.

Column (2) shows that the patterns of liquid wealth-holding are echoed in the data on coping ability. The question is whether respondents believe they could come up with $400 in an emergency without selling assets or borrowing. For the group earning $40,000 to $100,000, 38 percent of white households say no, while the figure for black households is 59 percent, a difference of roughly 50 percent relative to white households. For Hispanic households, the figure is 55%.

For poorer households, those earning less than $25,000 (in the vicinity of the federal poverty line for a family of four), 69 percent of white households and 78 percent of black or Hispanic households report expecting difficulty coping with a $400 emergency. Column (3) shows that these patterns play out similarly with regard to whether households have saved a rainy day fund with at least three-months' worth of income. The result is not surprising given the results in columns (1) and (2).

Columns (4), (5), and (6) move toward evaluating consequences. Answers to SHED questions about month-to-month volatility yield clear patterns by race. For the poorest respondents in the sample, 32 percent of whites indicated experiencing either medium or high volatility of income during the year. In comparison, 47 percent of black households, and 44 percent of Hispanic households reported similar experiences with income volatility. Thus, for poor households, not only is wealth lower and coping tools weaker, but volatility is greater. Column (6) provides evidence conditional on experiencing volatility; however, cell sizes are small and estimates are noisy. The data show that poor white households have somewhat greater

difficulty paying bills in the face of month-to-month volatility, relative to black or Hispanic households. The pattern is reversed for better-off households, but, again, standard errors are large. Still, it is interesting that, relative to whites, bill paying seems to statistically significantly different, and harder, for blacks at the top of the income distribution.

[Figures 4 and 5]

Figure 4 shows how the lack of wealth corresponds to the lack of coping ability, by income and race/ethnicity. The figure shows the tight correspondence between having low incomes, low wealth, and limited coping ability. The figure also shows the relative disadvantages of black and Hispanic households: poorer white households (income under $40,000) cluster with middle-income black and Hispanic households (income above $40,000 and below $100,000). Similarly, middle-income white households cluster with richer (income above $100,000) black households. A similar picture emerges in Figure 5 with respect to wealth and rainy day funds.

[Table 6]

To test robustness in a regression framework, we analyze the correlates of low wealth, volatility, and coping ability. Controls include an indicator for the gender of the respondent, annual income (disaggregated into 20 categories), education level, region, and an urban/rural indicator. Overall, the likelihood that a white household has liquid wealth under $5000 is 25 percent (without controls). The regression in column (1) of Table 6 shows that (without controls) the likelihood is 19 percentage points higher for black and Hispanic households. Adding controls in column (2) reduces the coefficient on the indicator for black households, but a 10.2 percentage

point difference in comparison white households remains even with the controls (for Hispanic households, the coefficient corresponds to a 12 percentage point difference).[6]

Columns (3) and (4) of Table 6 turn to income volatility. The dependent variable is an indicator for whether the household reports either medium or high volatility as described above. The average for white households is 31 percent and is 9.9 percentage points greater for black households and 11.2 percentage points higher for Hispanic households. Adding controls in column (4) does little to reduce the coefficients. Even after controlling for income, education, gender, and location, reported income volatility is 8-11 percentage points higher than for white households.

Table 7 analyzes coping ability using a linear probability model. On average, 42 percent of white non-Hispanic households say they could not come up with $400 in an emergency without borrowing or selling something. Column (1) shows an increase by 25 percentage points for black non-hispanic households and by 18 percentage points for Hispanic households. In column (2), controlling for income, gender, education, and location reduces the differences, but not by much. Black households maintain a 17 percentage point differential and Hispanic households maintain an 11 percentage point differential compared to similarly situated white households.

These are not causal estimates, and our interpretation proceeds accordingly. Still, the regressions clearly show that racial/ethnic differences in coping with a financial shock remain pronounced even after controlling for income, education, gender, and location. Columns (3) and (4) repeat the exercise with focus on whether households have enough savings for a three-month

[6] The "other" race/ethnicity indicator is largely a mix of households originally from East and South Asia, and column (1) shows greater wealth-holding than for white households on average, a result that is cut in half once the controls are added in column (2).

rainy day fund if confronted with a loss of income. The results are similar to those in the first three columns.

Figure 6 shows the relationship between experiencing income volatility and having a $5000 cushion of liquid wealth. The figure divides the sample by income and race/ethnicity, and shows that almost all of the households earning over $100,000, no matter the race or ethnicity, have over $5000 of wealth. But clearer differences emerge when turning to households earning under $40,000. As Tables 5 and 6 showed, Black and Hispanic households hold less wealth and are exposed to more volatility than white households.

5. Conclusion

Evidence on wealth possessed by the top 1 percent has brought new attention to economic inequality. In 2016, the top 1 percent owned about 40 percent of the nation's total wealth (Bricker et al, 2017). This overall level of wealth inequality is echoed by a ten to one white-black wealth gap. Concurrent with this, many workers face income and expense volatility without a sufficient buffer to absorb these events.

The racial wealth gap merits attention, given that wealth is an important channel through which advantage is reproduced and racial economic inequality is sustained; wealth begets more wealth through investment income, and bequests can perpetuate wealth inequalities in future generations. Yet, the racial gap in economic security—differences in wealth, income level, and income volatility—also merits attention. In this context, wealth matters because it provides a buffer, and, in this way, possessing ample wealth is a foundation for economic security. Wealth provides the cushion that prevents emergencies from becoming crises. Wealth provides the slack that allows ups and downs to be managed without undue stress, and it facilitates access to higher-

quality financial services. Wealth enables families' long-term pursuits to more easily rise above their short-term challenges.

The evidence here shows that not only is wealth inequitably distributed but economic challenges are inequitably experienced as well. Using data from the 2016 SHED and the 1984-2015 PSID, we find contemporary patterns of low wealth amid high levels of income volatility, describing a challenge in which households—even those with middle incomes—face substantial economic insecurity; such households are most in need of saving and borrowing to protect consumption, and are also those with the weakest mechanisms to protect themselves. While the PSID captures a longer time horizon, the SHED offers within-year insights characterizing the nature of economic risk amid low coping ability.

Both data sets show that low-wealth, low-income households also have relatively higher income volatility. The PSID shows persistently higher year-to-year income volatility for black households than white, along with persistent income and wealth gaps. Both the SHED and PSID show that month-to-month income volatility is disproportionately experienced by lower income households. Those least likely to be equipped to manage income volatility—i.e., those most likely to face both low income and low wealth—tend to be black or Hispanic. The SHED reveals that black and Hispanic households are more likely to have low income and low wealth, and are also disproportionately likely to face high income volatility. Controlling for income, education, gender, and location, black and Hispanic households are still more likely to (1) have difficulty coping in emergencies, and (2) face higher income volatility than white households.

The discussion of wealth often envisions closure of the racial wealth gap as a policy goal, with tools ranging from financial literacy interventions to large-scale government savings and transfer policy interventions. Policymakers would do well to also address the lack of emergency

liquidity for many families—a few hundred or even $1000—to absorb income volatility. Many specific proposals, ranging from an expanded earned income tax credit or increased welfare cash payments, to larger-scale microfinance, universal basic income, federal job guarantee, and baby bond proposals, could improve household balance sheets and access to wealth.

We demonstrate that such policies, or a companion package of policy proposals, may need to reach higher up the income scale, addressing the needs of families that appear too comfortable to merit assistance on the basis of conventional standards (e.g. income level alone). This is especially true for black and Hispanic families, who are disproportionately exposed to higher levels of income volatility and economic insecurity without sufficient wealth as a key coping resource.

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Table 1. Net worth by race/ethnicity. SCF 2016.

	Median net worth	Mean net worth
White	171.0	933.7
Black	17.6	138.2
Hispanic	20.7	191.2
Other	64.8	457.8

Note: In thousands of 2016 dollars. Source is Federal Reserve's "Recent Trends in Wealth Holding by Race and Ethnicity: Evidence from the Survey of Consumer Finances". https://www.federalreserve.gov/econres/notes/feds-notes/recent-trends-in-wealth-holding-by-race-and-ethnicity-evidence-from-the-survey-of-consumer-finances-20170927.htm

Table 2. Mean wealth and income volatility across the income distribution. PSID.

				Volatility			
Income Bands	**Mean Income**	**Mean Wealth**	**Mean Wealth (No Equity)**	**Transi-tory**	**Total**	**25% Ch.**	**50% Ch.**
Full Sample 1984-2015							
<25,000	14688.17	15393.09	5241.39	2.68	75.20	2.65	1.82
<40,000	22717.57	22876.70	10176.30	1.85	64.59	2.51	1.60
40,000-99,999	64367.52	108475.36	69593.36	0.40	38.58	2.25	1.00
100,000+	147695.09	456258.78	328780.91	0.30	32.22	2.29	0.90
1984-1999							
<25,000	14612.18	17237.02	6432.73	2.27	70.21	1.72	1.72
<40,000	22473.80	25173.41	12223.46	1.62	59.90	1.43	1.43
40,000-99,999	63750.96	117778.59	78582.31	0.40	35.01	0.79	0.79
100,000+	143036.06	444504.97	324587.78	0.33	29.58	0.73	0.73
2001-2015							
<25,000	14777.17	13835.09	4998.37	2.49	82.94	1.87	1.34
<40,000	23103.01	24086.65	11008.30	1.62	70.65	1.80	1.21
40,000-99,999	65300.83	100693.26	62336.55	0.24	41.72	1.59	0.76
100,000+	159314.92	482640.59	348693.50	0.11	33.25	1.45	0.60

Note: Income bands are designed to conform to SHED income bands. Dollar denominated values are adjusted for inflation using 2015 Personal Consumption Expenditures Deflator.

Table 3. Mean wealth and income volatility across the income distribution and by race/ethnicity. PSID.

		Wealth		Volatility			
Income Bands	**Race**	**Mean Wealth**	**Mean Wealth (No Equity)**	**Transitory**	**Total**	**25% Ch.**	**50% Ch.**
Full Sample 1984-2015							
<25,000	White	27682.04	7679.22	2.19	71.52	2.15	1.43
<25,000	Black	9891.90	3850.46	3.03	80.34	3.41	2.38
<25,000	Other	29930.36	16883.51	2.72	84.23	1.41	0.88
<40,000	White	37455.99	17733.29	1.48	59.45	2.21	1.34
<40,000	Black	14036.11	5620.01	2.18	70.45	3.18	2.08
<40,000	Other	38642.75	23953.57	1.87	74.03	1.85	1.13
40,000-99,999	White	136376.03	88749.26	0.45	37.76	2.39	1.06
40,000-99,999	Black	61813.71	38778.04	0.35	40.83	2.49	1.12
40,000-99,999	Other	154534.64	102227.70	0.59	46.46	1.94	0.97
100,000+	White	497385.00	358198.09	0.31	31.46	2.45	0.96
100,000+	Black	186410.67	125230.68	0.24	33.45	1.98	0.76
100,000+	Other	424321.91	320301.59	0.13	33.28	1.72	0.68
1984-1999							
<25,000	White	46210.23	18052.78	2.02	66.95	1.50	1.50
<25,000	Black	12549.88	4505.55	2.29	74.47	2.29	2.29
<25,000	Other	40076.83	17493.58	3.14	83.31	0.75	0.75
<40,000	White	57249.49	29896.94	1.45	54.11	1.26	1.26
<40,000	Black	20297.06	9460.04	1.72	65.56	1.97	1.97
<40,000	Other	53575.02	31657.51	1.71	67.79	0.65	0.65
40,000-99,999	White	195188.66	130243.45	0.49	34.52	0.89	0.89
40,000-99,999	Black	76226.78	47582.69	0.32	36.45	0.86	0.86
40,000-99,999	Other	175342.36	106010.00	0.59	47.63	0.55	0.55
100,000+	White	246604.14	174018.25	0.34	29.26	0.80	0.80
100,000+	Black	44149.05	27564.51	0.21	27.01	0.55	0.55
100,000+	Other	370251.09	279242.75	0.15	29.79	0.47	0.47
2001-2015							
<25,000	White	16223.70	3511.65	1.78	74.41	1.47	0.99

<25,000	Black	10696.58	4989.78	2.83	87.35	2.14	1.58
<25,000	Other	37294.45	19831.00	2.82	87.49	1.17	0.77
<40,000	White	32706.49	14662.62	1.13	64.06	1.54	0.99
<40,000	Black	14790.54	6696.99	1.95	75.39	2.00	1.38
<40,000	Other	41017.55	23273.56	2.01	80.41	1.64	1.16
40,000-99,999	White	114984.87	72964.90	0.22	40.65	1.49	0.70
40,000-99,999	Black	55663.27	34119.81	0.22	43.15	1.70	0.82
40,000-99,999	Other	150411.30	99557.06	0.13	43.08	1.70	0.81
100,000+	White	297919.03	209546.59	0.11	32.32	1.40	0.57
100,000+	Black	59422.46	36875.35	0.13	37.68	1.65	0.70
100,000+	Other	427767.53	317442.06	0.07	32.54	1.53	0.59

Note: Income bands are designed to conform to SHED income bands. Dollar denominated values are adjusted for inflation using 2015 Personal Consumption Expenditures Deflator.

Table 4. Wealth, coping ability, income volatility, and consequences by race/ethnicity. SHED 2016.

	(1)	(2)	(3)	(4)	(5)		(6)	
	Wealth <$5k	**Do not have $400 on hand**	**No 3-Month Rainy Day Fund**	**Medium Income Volatility**	**High Income Volatility**		**Bill Struggles from Inc Vol**	
	(%)	**(%)**	**(%)**	**(%)**	**(%)**	**N**	**(%)**	**N**
White	25	37	46	20	8	4431	38	1217
Black	44	62	64	25	12	531	48	197
Hispanic	45	55	61	28	11	601	49	220
All	30	42	50	22	9	5926	41	1739

Notes: "White" respondents are those self-identified as "white non-Hispanic" and "black" respondents self-identify as "black non-Hispanic". All averages for the black non-Hispanic and Hispanic groups are statistically different from white non-Hispanic averages at $p<.01$. Sample of respondents to the "Bill Struggles" variable is limited to those who reported either medium or high income volatility. Averages are population-weighted.

Table 5. By income and race/ethnicity: Wealth, coping ability, income volatility. SHED 2016.

Annual Income	Race/ Ethnicity	(1) Wealth <$5k (%)	(2) Do not have $400 on hand (%)	(3) No 3-Month Rainy Day Fund (%)	(4) Medium Vola-tility (%)	(5) High Vola-tility (%)	N	(6) Bill struggles from Inc Vol (%)	N
<$25,000	White	61	69	72	21	11	821	60	279
<$25,000	Black	70**	78***	79**	30***	17***	203	52	91
<$25,000	Hispanic	77***	78***	83***	21	23***	193	58	83
<$25,000	*All*	*67*	*73*	*76*	*22*	*14*	*1313*	*56*	*483*
<$40,000	White	49	60	64	22	9	1710	58	545
<$40,000	Black	68***	77***	78***	27**	20***	323	53	142
<$40,000	Hispanic	71***	73***	75***	22	17***	332	60	132
<$40,000	*All*	*56*	*65*	*69*	*23*	*12*	*2525*	*56*	*871*
$40-99,999	White	25	38	49	19	8	1569	40	389
$40-99,999	Black	35***	59***	63***	22	9	128	51	31
$40-99,999	Hispanic	41***	55***	64***	32***	10	174	45	60
$40-99,999	*All*	*28*	*44*	*52*	*22*	*8*	*1969*	*42*	*506*
>$100,000	White	10	19	31	20	7	1152	19	283
>$100,000	Black	17**	41***	43***	29**	5	80	32*	24
>$100,000	Hispanic	10	24	31	30***	5	95	40***	28
>$100,000	*All*	*10*	*21*	*32*	*22*	*6*	*1432*	*23*	*362*

*** p<0.01, ** p<0.05, * p<0.10, compared to means for the White non-Hispanic group

Notes: "White" respondents are those self-identified as "white non-Hispanic" and "black" respondents self-identify as "black non-Hispanic". Sample of respondents to the "Bill Struggles from Income Volatility" variable is limited to those who reported either medium or high volatility for income. Weighted for population. Data: 2016 SHED.

Table 6. OLS regression of low wealth and income volatility on indicators of race/ethnicity. SHED 2016.

	(1)	(2)	(3)	(4)
	Low Wealth (<$5000)	**Low Wealth (<$5000)**	**Any Income Volatility**	**Any Income Volatility**
Black	0.188***	0.102***	0.0989***	0.0823***
	(0.0186)	(0.0175)	(0.0189)	(0.0195)
Hispanic	0.194***	0.118***	0.112***	0.105***
	(0.0167)	(0.0159)	(0.0170)	(0.0178)
Other	-0.0654***	-0.0288	-0.0110	0.00279
	(0.0216)	(0.0202)	(0.0220)	(0.0225)
Female		0.0286***		0.0463***
		(0.0107)		(0.0120)
Demographic and income controls?	No	Yes	No	Yes
Sample average	30%	30%	31%	31%
White average	25	25	28	28
Observations	5,926	5,926	5,926	5,926
R-squared	0.038	0.209	0.011	0.027

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.10

Notes: "White" respondents are those self-identified as "white non-Hispanic" and "black" respondents self-identify as "black non-Hispanic". Specifications (2) and (4) include controls for gender, annual income (20 categorical variables), education, region, and a city/rural indicator. The omitted race/ethnicity variable is an indicator for "white non-Hispanic." Estimated with population weights.
Data: SHED 2016

Table 7. OLS regression of coping ability on indicators of race/ethnicity. SHED 2016.

	(1)	(2)	(3)	(4)
	Do not have $400 on hand for an emergency	**Do not have $400 on hand for an emergency**	**No 3-Month Rainy Day Fund**	**No 3-Month Rainy Day Fund**
Black	0.254***	0.167***	0.182***	0.113***
	(0.0201)	(0.0191)	(0.0205)	(0.0200)
Hispanic	0.180***	0.105***	0.145***	0.0743***
	(0.0180)	(0.0174)	(0.0184)	(0.0183)
Other	0.00491	0.0743***	-0.0335	0.0227
	(0.0233)	(0.0222)	(0.0237)	(0.0232)
Female		0.0328***		0.0154
		(0.0118)		(0.0123)
Demographic and income controls?	No	Yes	No	Yes
Sample average	42%	42%	50%	50%
White average	37	37	46	46
Observations	5,926	5,926	5,926	5,926
R-squared	0.037	0.184	0.022	0.127

Notes: "White" respondents are those self-identified as "white non-Hispanic" and "black" respondents self-identify as "black non-Hispanic". Specifications (2) and (4) include controls for gender, annual income (20 categorical variables), education, region, and a city/rural indicator. The omitted race/ethnicity variable is an indicator for "white non-Hispanic." Specifications (3) and (5) include controls for wealth (11 categorical variables). Estimated with population weights.
Data: SHED 2016.

Figure 1a. Mean wealth by race/ethnicity, 1984-2015. PSID.

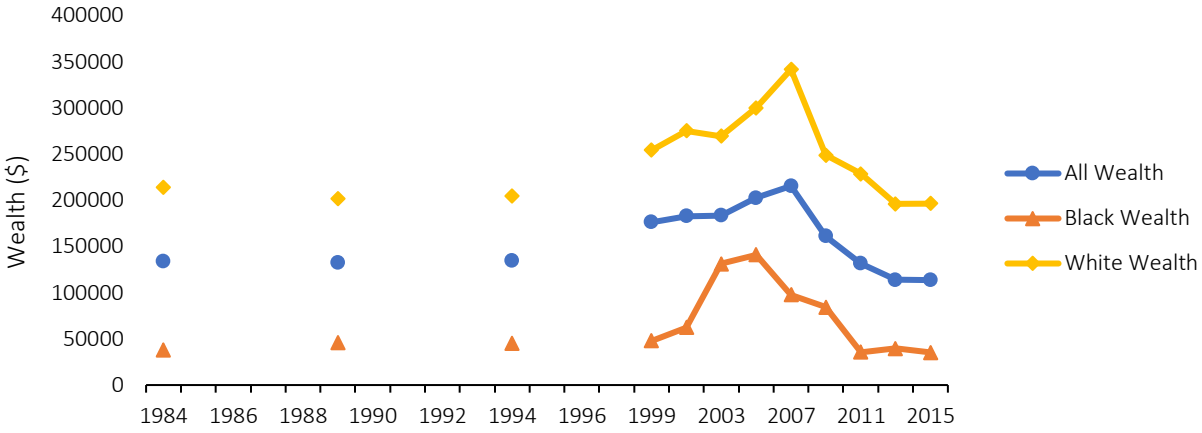

Figure 1b. Median wealth by race/ethnicity, 1984-2015. PSID.

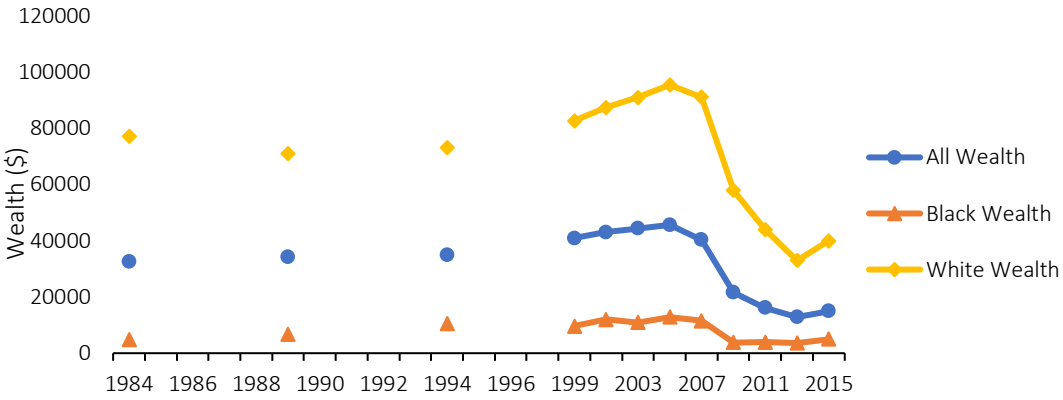

Figure 2a. Mean income by race/ethnicity, 1984-2015. PSID.

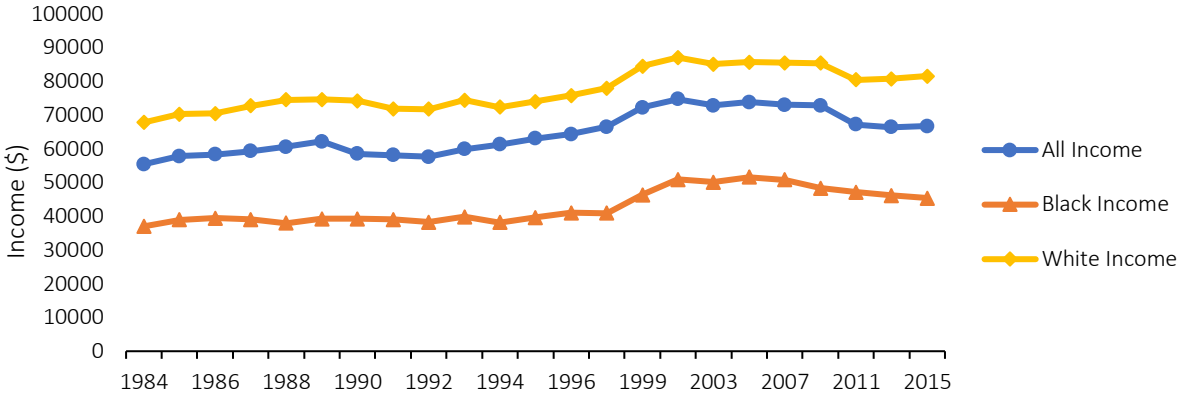

Figure 2b. Median income by race/ethnicity, 1984-2015. PSID.

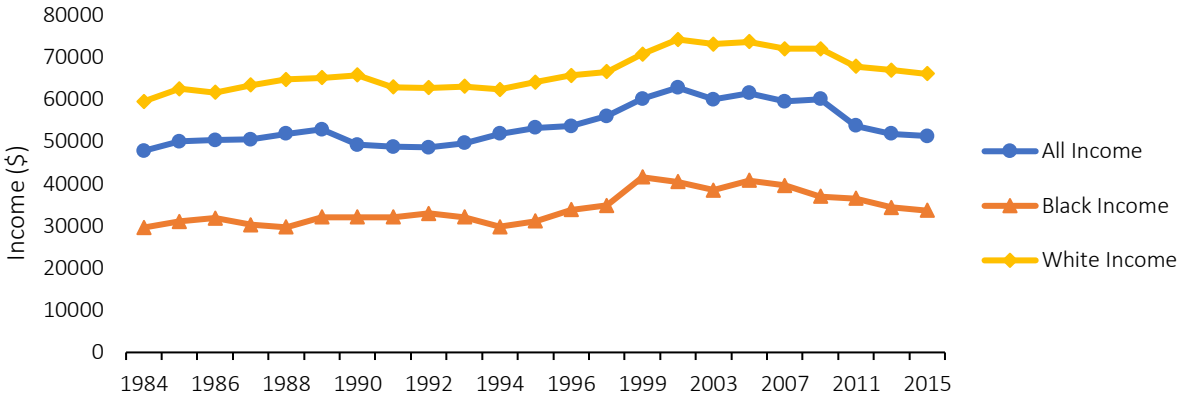

Figure 3. Mean volatility by race/ethnicity, 1984-2015. PSID.

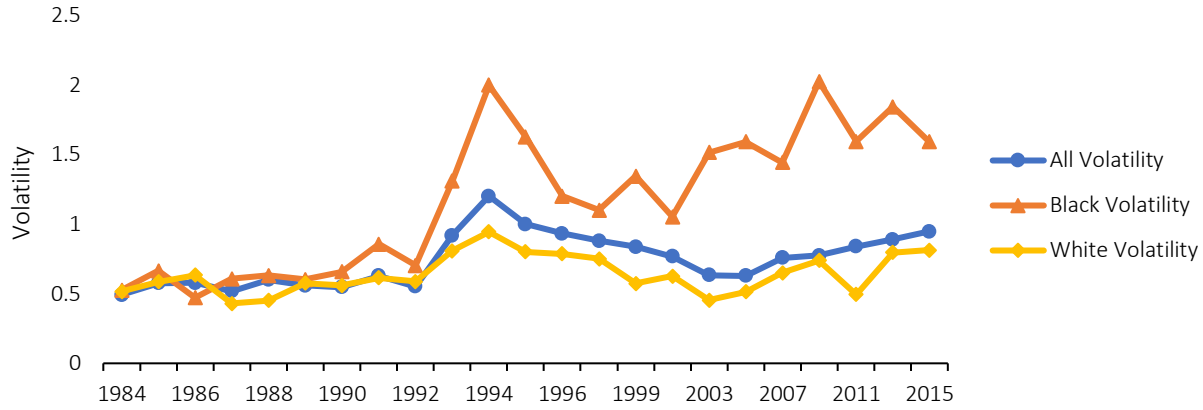

Figure 4. Ability to cope with a $400 emergency vs having at least $5k in savings and investments. SHED 2016. Weighted.

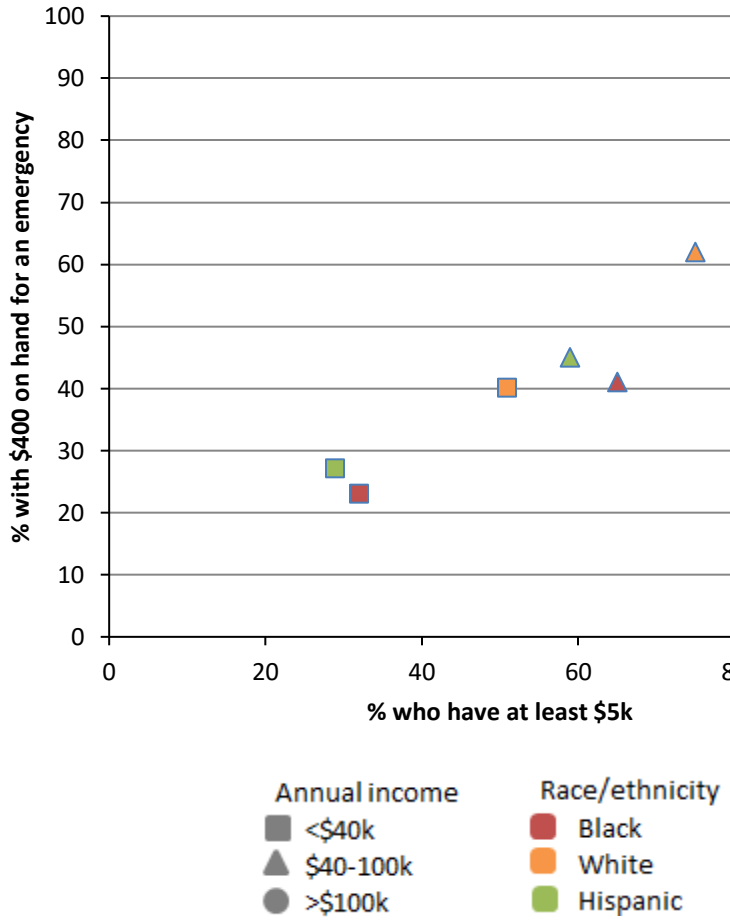

Figure 5. Ability to cope with 3 months of income loss vs having at least $5k in savings and investments. SHED 2016. Weighted.

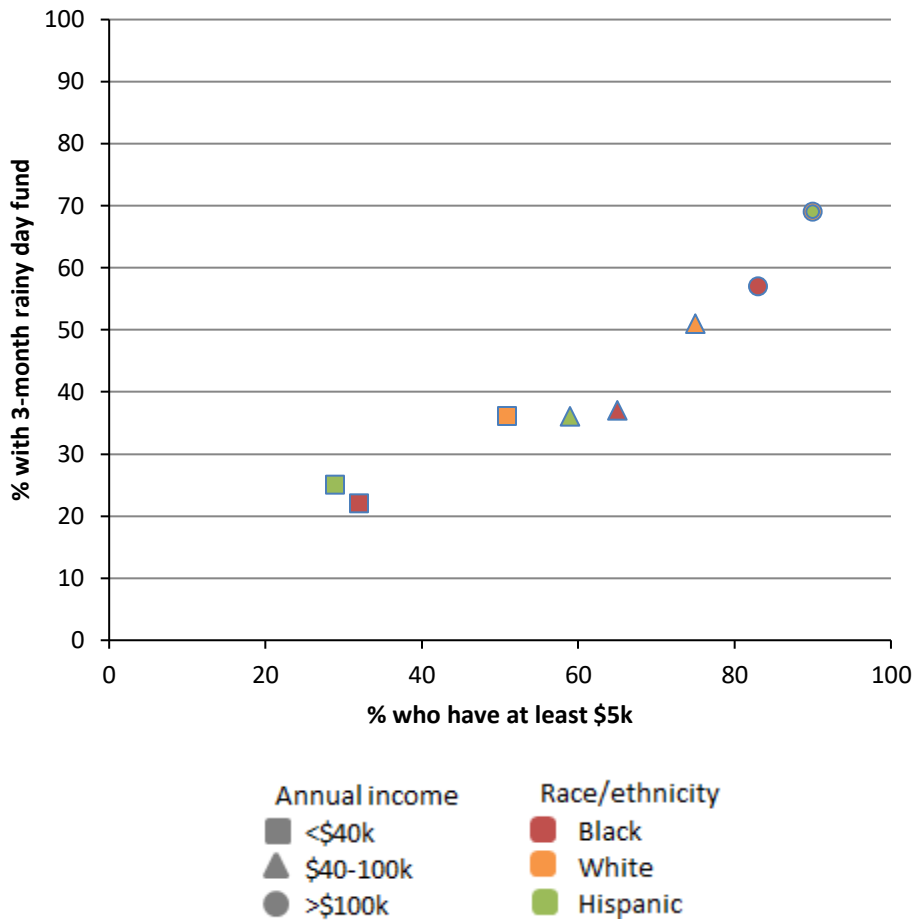

Figure 6. Income stability vs having at least $5k in savings. SHED 2016. Weighted.