

Racial Inequality Across Income Volatility and Employment



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Summary

Volatility is an under-explored facet of economic insecurity, and it further helps to characterize otherwise omitted nuance in the economic situation facing many socioeconomically disadvantaged groups. Defined as a measure of short-run intragenerational mobility, standard measures of volatility leverage panel data in order to estimate higher moments of the growth rate of earnings or income, most often as variance transformations. Broadly, volatility can arise from one of two sources: instability in earnings among the continuously employed due to variable hours, hourly earnings, or salary changes; and/or instability in employment. The current literature shows that while both sources play an important role in the level of volatility for both men and women, trends are similar whether or not employment instability is accounted for, with overall declines in volatility for women and a largely flat trend for men over the last 40 years. The overall flat trend in volatility for men does seem at odds with other evidence that shows falling labor force participation for working-age men, and for Black men in particular. The link between these two processes—earnings changes over short periods of time and weekly or monthly snapshots of employment and labor force participation—remains largely absent from the literature because the most commonly used panel data sets are unable to capture within-year fluctuations in employment instability. Whether declining labor force participation for men increases or decreases volatility depends on whether there is a bifurcation in employment where some men are consistently employed over longer time horizons and some are not employed at all, or if declines in labor force participation at a point in time reflect increasing instability in employment over time. If the latter is true, then volatility could increase and could result in notably different trends in volatility over time by both race and gender.

Keywords: earnings volatility, racial economic inequality, labor market inequality, joblessness, administrative data

Subjects: Labor and Demographic Economics

Contemporary research on poverty and economic inequality has consistently revealed disturbing racial and ethnic gaps across labor market outcomes such as earnings, labor force participation, and overall economic instability (Bayer & Charles, 2018; Casey & Hardy, 2018; Hardy, 2017). These outcomes are central to understanding economic well-being as they measure current well-being and are also related to longer-run outcomes such as economic

mobility within and between generations (Chetty et al., 2020). An extensive literature investigating the underlying causes of gaps in a select few outcomes highlights the importance of large-scale issues, including structural labor market conditions (Darity et al., 2012), discrimination (e.g., Bertrand & Mullainathan, 2004), and educational attainment (Hardy & Marcotte, 2020; Haskins et al., 2009) as important factors that help to explain the persistence of these gaps over time. The literature suggests that Black workers are among the most economically disadvantaged, exhibiting relatively low levels of employment and earnings compared to their non-Black counterparts; Black men face higher rates of incarceration than other demographic groups as well (Western & Pettit, 2000, 2010). The labor market conditions and ensuing outcomes facing these groups in general have large negative spillovers on the communities and families in which they reside.

Although the labor economics literature has paid considerable attention to both static cross-sectional and dynamic long-run outcomes, comparatively little attention has been paid to the shorter-run dynamics at play in the labor market. Measures such as volatility—a measure of earnings or income instability over short time periods—when combined with standard labor force and economic well-being indicators, add to the understanding of racial disparities in exposure to economic insecurity. Income volatility measurement is not new, but it is relatively new in comparison to more commonly reported measures of labor market outcomes, and as such, much less is known about how the transitory shocks that volatility captures are distributed across race and gender subgroups that in turn shape other labor market outcomes.¹

There is good reason to believe that earnings and employment instability vary systematically by race and gender. Black and Hispanic men and women are overrepresented in lower paid service, care, agricultural, and construction work, all of which is typified by unstable earnings from week to week, month to month, or seasonally (Dwyer & Wright, 2019; Kim & Golden, 2021; Schultz, 2019). These same workers are also more likely to work part-time involuntarily, which can manifest as unstable earnings if this happens temporarily but repeatedly.

This article investigates volatility and employment (in)stability by race and gender over a period of 35 years, running from 1980 to 2014. Volatility as a measure of short-run instability has interest in its own right but is also a useful summary measure of the transitory component of earnings inequality (Shin & Solon, 2011). Because short-run earnings instability represents the combined impact of employment instability and earnings instability, conditional on being employed, trends in earnings volatility are supplemented with trends in employment instability by race and gender over the same time period. Analysis of the Survey of Income and Program Participation (SIPP) linked to administrative earnings histories from 1980 to 2014 yields several important findings. First, there is a secular decline in women's income volatility that coincides with rising volatility for men over the same time period, a trend also demonstrated in Ziliak et al. (2011) for the years 1973–2008.

Cross-race differences in volatility follow distinct patterns based on gender. For Black women, the level of volatility is roughly equivalent to that of White women until the early 2000s, at which point volatility among Black women rises while volatility levels for Hispanic respondents and members of other demographic groups converges downward toward the

volatility levels of Whites and Blacks. Black male income volatility rises over the same period, and especially so since the late 1990s. Although Black male income volatility is initially below Black female volatility—in part a reflection of the severe economic insecurity facing Black women (Hardy, 2012; Simms & Malveaux, 1989)—an overtaking occurs by the mid-1990s. Within males overall, large Black-White income volatility gaps emerge, and by the early 2000s, Black males report the highest levels of income volatility overall. In general, racial and ethnic level differences in income volatility occur alongside employment differences across race. For men, a troubling slowdown in Black male full-year employment emerges around 1996, along with a rise in both part-year work and joblessness around the same time period. Together, these findings show that measures of volatility, which capture short-run, intra-generational well-being, operate as helpful complements to panel data and cross-sectional data on employment participation. With this more in-depth set of factors, they also show that the economic situation for many minority workers, including Black males, appears to be characterized by higher levels of economic insecurity.

Background on Labor Market Conditions and Heterogeneity Across Race

The study of volatility is directly related to both changes at the extensive margin (working or not working) and intensive margin (changes in hours among the employed), and how these trends vary across groups. Racial disparities in employment, and barriers to employment for Black men in particular, are well documented in the social sciences literature. As briefly summarized by Casey and Hardy (2018), increased competition within the U.S. labor market (Price et al., 2020) and labor market polarization (Jaimovich & Siu, 2020) creates unique disadvantages for groups—including Black males—with relatively lower formal educational credentials and job networks. In addition to this, historically and economically disadvantaged racial groups, and especially Black workers, have and continue to experience persistent labor market racial discrimination (Bertrand & Mullanaithan, 2004). Societal discrimination writ large has driven a range of criminal justice and incarceration policies that have likewise contributed to depressed Black male employment prospects (Cox, 2010; Western & Pettit, 2000). Additionally, both Black families and the Black males within these families are generally sorted into neighborhoods with higher rates of poverty, fewer employment opportunities, and subsequently lowered social and economic mobility over the long run (Chetty et al., 2016, 2017; Wilson, 2011).

Less is known, however, about how transitory outcomes that play out over relatively short periods of time vary by race and gender. That is, there is considerable evidence about point-in-time measures of insecurity (e.g., poverty rates) and about “lifetime” measures of stability (e.g., intergenerational mobility), but little is known about shorter-run phenomena such as volatility or multi-year measures of labor force participation. This kind of transitory instability is important and may come with great consequence, as these phenomena can, in turn, shape a range of short- and longer-term intergenerational outcomes, including lowered mental health and educational attainment for adult children who grew up in homes with volatile incomes (e.g., Cheng et al., 2020; Hardy, 2014; Whitfield et al., 2021). Both low and volatile income

very often coincide, making the separation of these conceptual effects difficult at times to distinguish (Carr & Wiemers, 2021; Hardy, 2017). Evidence to date from the Current Population Survey and the Panel Study of Income Dynamics suggests, broadly, that socioeconomically disadvantaged groups generally exhibit higher levels of income volatility (Hardy, 2017; Keys, 2008; Ziliak et al., 2011), though these studies seldom disaggregate across race, ethnicity, and gender, potentially masking important differences in exposure to economic risk.

Labor market data, shown in Figures 1 and 2, yield persistent racial gaps in cross-sectional employment participation. What these trends do not fully capture is that the lower levels of employment occurring among Blacks are not necessarily static across time for any given individual or family. Instead, as demonstrated in Figures 5–10 lower levels of labor force participation and employment are, in many instances, indicative of instability in employment rather than a persistent decline in the probability that a given individual participates in the labor force over longer periods of time. For example, many minority workers, especially those with fewer formal educational credentials, are more likely to work in employment sectors with variable, involuntary hours (Schneider & Harknett, 2017, 2019). Moreover, underemployment is documented to occur at higher rates among minority workers at lower income levels (Kim & Golden, 2021).

The discussion of labor market inequality begins by drawing on data from the Federal Reserve Economic Database (FRED), documenting racial gaps in labor force participation and employment-to-population ratios. Even within broad race-gender groups, there is important heterogeneity. For example, several studies have explored racial inequality in labor market outcomes among younger Black men with less education, documenting both declining labor force participation throughout the 1990s and 2000s. Over this time period, economic expansions seemingly fail to lift many of these males up the economic ladder (e.g., Holzer & Offner, 2006; Juhn, 1992) to the degree that other groups appear to gain from economic growth.

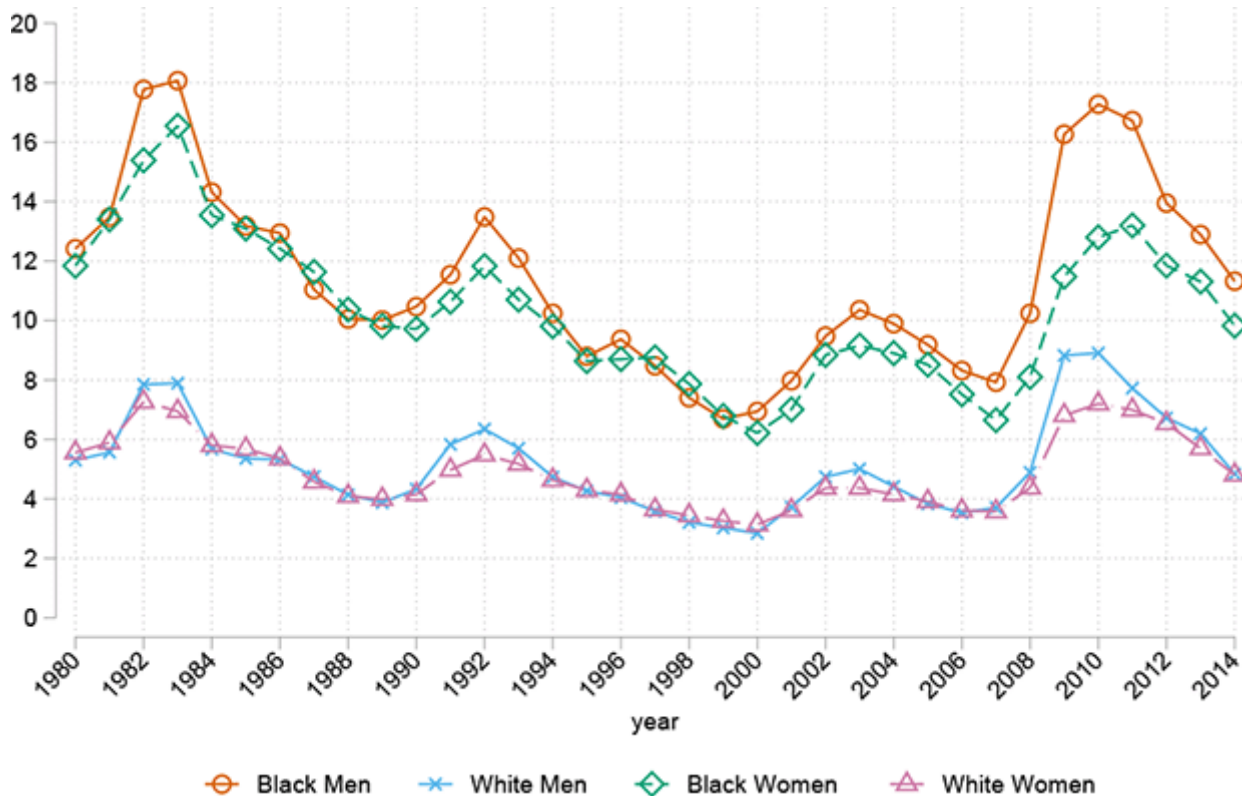


Figure 1. Unemployment rate across race, ethnicity, and gender.

Source: Federal Reserve Bank of St. Louis FRED Data.

Figure 1 depicts racial gaps in labor force participation between 1980 and 2014, the interval over which the main analysis is focused. Overall trends in labor force participation between Black men and White men follow the same overall path, though with Black men these are 5 to 7 percentage points lower in level. Though not shown here, the Covid-19 pandemic that began in March of 2020 resulted in a fairly dramatic drop in participation rates that have not yet recovered.

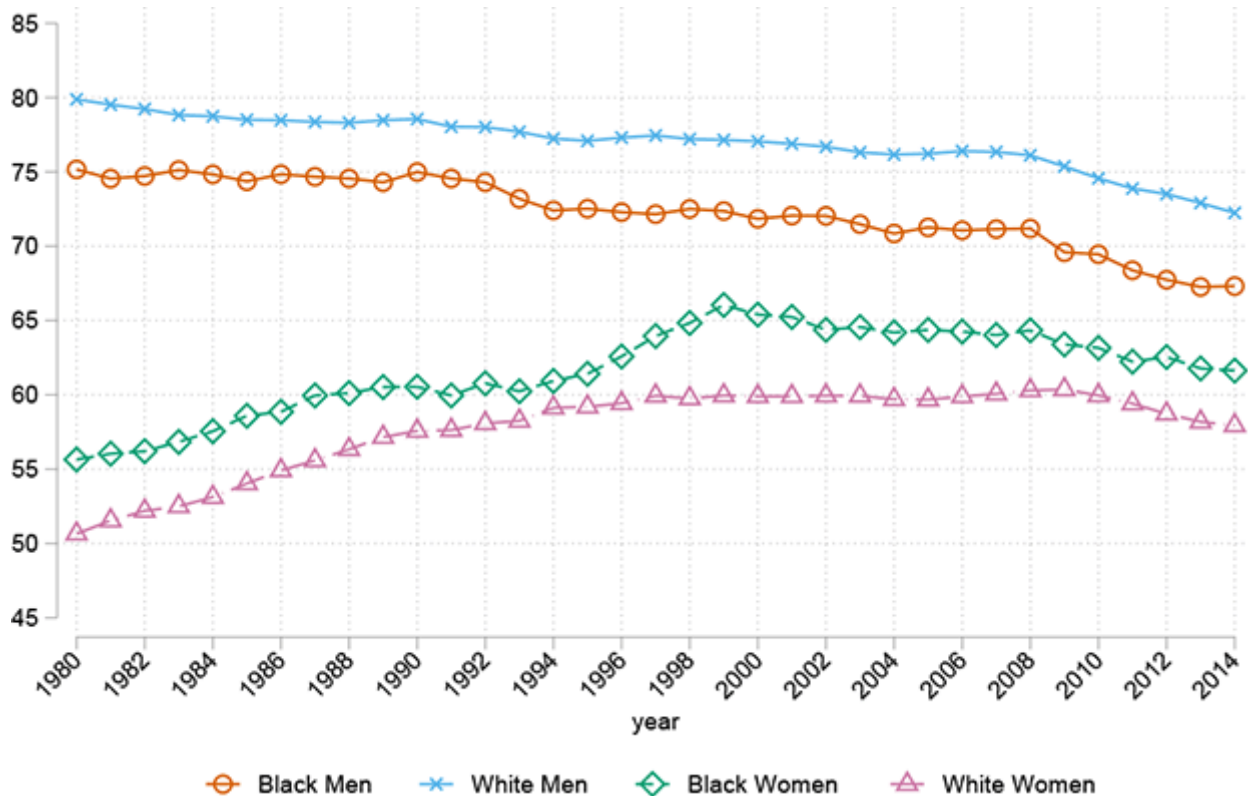


Figure 2. Labor force participation across race, ethnicity, and gender.

Source: Authors' estimates using the Survey of Income and Program Participation. Sample is all individuals ages 25–59 with non-imputed labor force status.

Moving to Figure 2, a similar snapshot emerges. Unemployment rates between Blacks, Whites, and Hispanics across gender over the 1980–2014 period. In this instance, it is more apparent that Black male joblessness was roughly equivalent to that of Black women, though with a pronounced separation during the Great Recession. Again, recent tabulations of the FRED data also show that unemployment has not fully recovered from the Covid-19 crisis as of March 2021. Taken together, both figures establish as a first principle that Black labor force participation is lower than that of Whites and the overall population. Likewise, Black unemployment is higher relative to other groups overall; within Black workers, the Black male unemployment rate generally exceeds that of Black women, especially more recently. Measures of unemployment potentially mask larger racial gaps in employment, given that labor force participation and employment to population capture differences inclusive of men who are discouraged or have otherwise dropped out of the labor market altogether.

Measuring Volatility

Cross-sectional measures of insecurity, such as the unemployment rate and labor force participation rate, provide only a partial view of inequality in labor market outcomes across race and gender. Arguably, measures that capture short-run instability, or transitory shocks, are as important, if not more important, than static outcomes for understanding how

economic insecurity is distributed across the population. A simple way to characterize short-run earnings instability in a population is to use a measure like volatility, or the variance of earnings changes over a short time horizon. Although there are several measures of volatility in the literature, the arc-change measure used here allows for the inclusion of individuals who have zero earnings for an entire calendar year. Specifically, volatility estimated using the arc change is given by $\text{Var}[(Y_{it} - Y_{i,t-1}) / ((Y_{it} + Y_{i,t-1}) / 2)]$, where Y_{it} ($Y_{i,t-1}$) is earnings in year t ($t - 1$).²

To better understand the motivation behind a measure like volatility, it is useful to think of earnings as being composed of two components: a transitory component and a permanent component. This means that earnings inequality also has two parts: inequality in transitory earnings and inequality in permanent earnings. Transitory earnings inequality provides a useful summary of how much short-run, or transitory, instability there is in a population. Higher levels of volatility indicate wider dispersion in instability, or roughly speaking, higher levels of transitory inequality.³

As a summary measure, volatility represents the combined effects of year-to-year changes in earnings for those who are continuously employed (intensive margin) and year-to-year changes in earnings for those who experience a period of no earnings (extensive margin). Because of the structure of most U.S. data, the volatility literature has focused almost exclusively on year-to-year changes in calendar-year earnings. And to the extent that intensive versus extensive margin changes have been disaggregated, the literature has focused only on individuals with zero earnings for an entire calendar year.⁴ This means that individuals with extended periods of zero earnings within a calendar year, but positive earnings for the year, are pooled together with individuals who worked consistently for the entire year, and individuals with stable and unstable work hours are all pooled together as employed individuals. The literature has also focused largely on men, though as is discussed here, there are some exceptions to this. Little attention has been given to how instability varies by race.

Men

The early literature on earnings instability, and volatility specifically, relied mostly on the Panel Study of Income Dynamics (PSID) and focused exclusively on year-to-year changes in annual earnings for men. Shin and Solon (2011) provided a recent baseline estimate of volatility for working-age men using the PSID. They found declining volatility from the mid-1980s through the late 1990s, and increasing volatility from the late 1990s through 2007. Carr and Wiemers (2018) and Moffitt and Zhang (2018) extended this series, showing that volatility continued to rise through 2010 and declined afterward. Overall, from 1980 to 2014 the trend is relatively flat, but there is a distinct U-shape between 1983 and 2010. Moffitt et al. (2021) showed that the trend of declining volatility in the PSID continued through 2018.

In the last 10 to 15 years, a wide range of survey and administrative data sources have been used to estimate volatility for men, though the focus remains exclusively on annual earnings and considers an individual employed for the entire year if earnings are positive for the year.

For example, a set of analyses using the Current Population Survey found largely flat or slightly increasing volatility for men from the 1980s onward, a trend that is largely consistent with that seen in the PSID (Hardy & Ziliak, 2014; Ziliak et al., 2011, 2020). However, several analyses using administrative data sources have argued that volatility for men has steadily declined since the 1980s (Celik et al., 2012; DeBacker et al., 2013; Sabelhaus & Song, 2009, 2010). This apparent disagreement between survey and administrative data has sparked a literature unto itself, the upshot of which is that the apparent differences in trends between survey and administrative data come largely from differences in sample definitions and methods (Moffitt et al. 2021). In particular, because administrative earnings data tend to have considerably higher numbers of individuals with very low earnings, and large earnings changes are overrepresented among low earners, trends in earnings volatility are quite sensitive to how low earnings are handled. Carr and Wiemers (2021) made this point clearly by demonstrating that a single administrative data source is capable of producing rising, flat, or falling volatility for employed men, depending entirely on the method used to exclude low earnings from the sample.

Relatedly, as shown, labor force participation rates are also falling for men. This can affect the level and trend in volatility because men who have zero earnings for one of two calendar years, but not both, will have considerably higher earnings growth rates than those who are continuously employed or out of the labor force. Indeed, Ziliak et al. (2011) found that transitions in and out of employment are playing an increasingly large role for men. Because of limitations imposed on them by the data Ziliak et al. (2011) used, however, they considered only transitions that result in zero earnings for an entire calendar year, treating anyone with positive earnings in a year as employed.

Heterogeneity Among Men

Comparatively little attention has been paid to heterogeneity in volatility among men. Ziliak et al. (2011) provided some of the only evidence on subgroup volatility among men. They found that volatility is generally higher among less educated men and among Black men, but that the trends through time are similar. There is also some work showing that volatility is highest among low-earning men.⁵

What this portion of the literature largely fails to do is to complete the picture. Ziliak et al. (2011) provided clear evidence that volatility varies by race, and estimates that consider the impact of the extensive margin showed that the level of volatility is high among these individuals. However, there is little systematic work on how potential differences in trends and levels of labor force participation by race affect observed differences in volatility by race. Moreover, importantly, the literature has yet to consider how within-year periods of zero earnings affect volatility, focusing instead exclusively on entire (calendar) years of zero earnings. If employment stability varies by race, the observed differences in the existing literature in volatility among individuals “continuously employed” could, in fact, be coming from a higher prevalence of periods of zero earnings within a calendar year among historically disadvantaged groups.

Women

Comparatively little attention has been paid to volatility for women. Sabelhaus and Song (2009, 2010) pooled men and women together and found sharply declining volatility from 1980 onward, but did not provide an estimate for only women. The estimates for women alone come from Ziliak et al. (2011). Both found that volatility is declining somewhat for women. But, unlike for men, labor force participation for women is rising over this time period. There is some evidence that suggests that there is less heterogeneity across race for women than men.

Data

The data for this project come from Survey of Income and Program Participation (SIPP) data linked to administrative earnings data in the Detailed Earnings Records (DER). The linked data are compiled by the Census Bureau and are officially referred to as the SIPP Gold Standard File (SIPP GSF). The SIPP is a nationally representative sample of the civilian non-institutionalized population of the United States that began in 1984. There have been 14 SIPP panels since 1984, with each panel lasting between 2 and 4 years. Within panels, the SIPP is longitudinal, but each panel draws a new nationally representative sample of 14,000 to 52,000 households. The Census Bureau makes available a data set that links each individual in a SIPP household in the 1984 and 1990–2008 SIPP panels to their DER co-maintained by the Social Security Administration and the Internal Revenue Service.⁶ Linkages are both prospective and retrospective, so regardless of what panel an individual participates in, earnings histories cover 1978–2014 for all years after an individual is born. Individuals who were children at the time of a SIPP panel are also linked.

The SIPP linked data sums taxable and deferred earnings reported to the IRS across all jobs in a calendar year, which provides non-top-coded total earnings from 1978 to 2014, including deferred and non-deferred earnings from all jobs and from self-employment, but not under-the-table earnings that were not reported to the IRS. The complete administrative DER earnings history is linked to every individual who is ever surveyed in any of the included SIPP panels and who has a valid Social Security number. If an individual had a valid Social Security number but did not have earnings in the DER, then this individual had no taxable earnings and was assigned a value of zero. In addition to the administrative earnings records, the Census Bureau has included basic demographic and human capital variables, which allows these essentially publicly available data to be analyzed by race and gender subgroups.

Volatility and employment were estimated on a sample of individuals ages 25–59. This sample was chosen in order to limit the impact of actively enrolled students and early retirees. Unfortunately, the structure of the SIPP GSF does not provide a way to tell whether someone is enrolled in school in any given calendar year; this information is only available for the months an individual participated in the SIPP survey. Similarly, it is not possible to differentiate between someone who was retired from the labor market and someone who was simply not working for pay.

The key advantage of these data is that, in addition to administrative earnings histories, they also include the number of quarters in a calendar year an individual earned enough to be eligible for credit toward Social Security (about \$250 in 2014). Thus, though crude, these data make it possible to separate individuals who had earnings for an “entire” calendar year from those who experienced at least one extended period of zero earnings. Unfortunately, these data do not include work hours or weeks worked outside the months covered by the SIPP survey. So although it is a tremendous improvement to be able to capture some types of within-year employment transitions, substantial amounts of within-year instability in employment, hours worked, and/or hourly wages are still treated as continuous employment.

Results

Figures 3 and 4 show trends in volatility for women and men, respectively, separately by race, including both individuals with positive earnings in t and $t - 1$, and individuals with zero earnings in either t or $t - 1$. Documented previously in the literature, volatility for women was falling. Figure 3 shows that earnings volatility was broadly flat for men as a whole, which is consistent with other recent findings in the literature. What is new here is a set of complete trends by race, for both men and women, covering the entire time period from 1980 through the aftermath of the Great Recession. These new estimates highlight the broad convergence between men and women across all race groups, with the exception of Black men, who diverged from all other groups after the recession of the early 2000s.

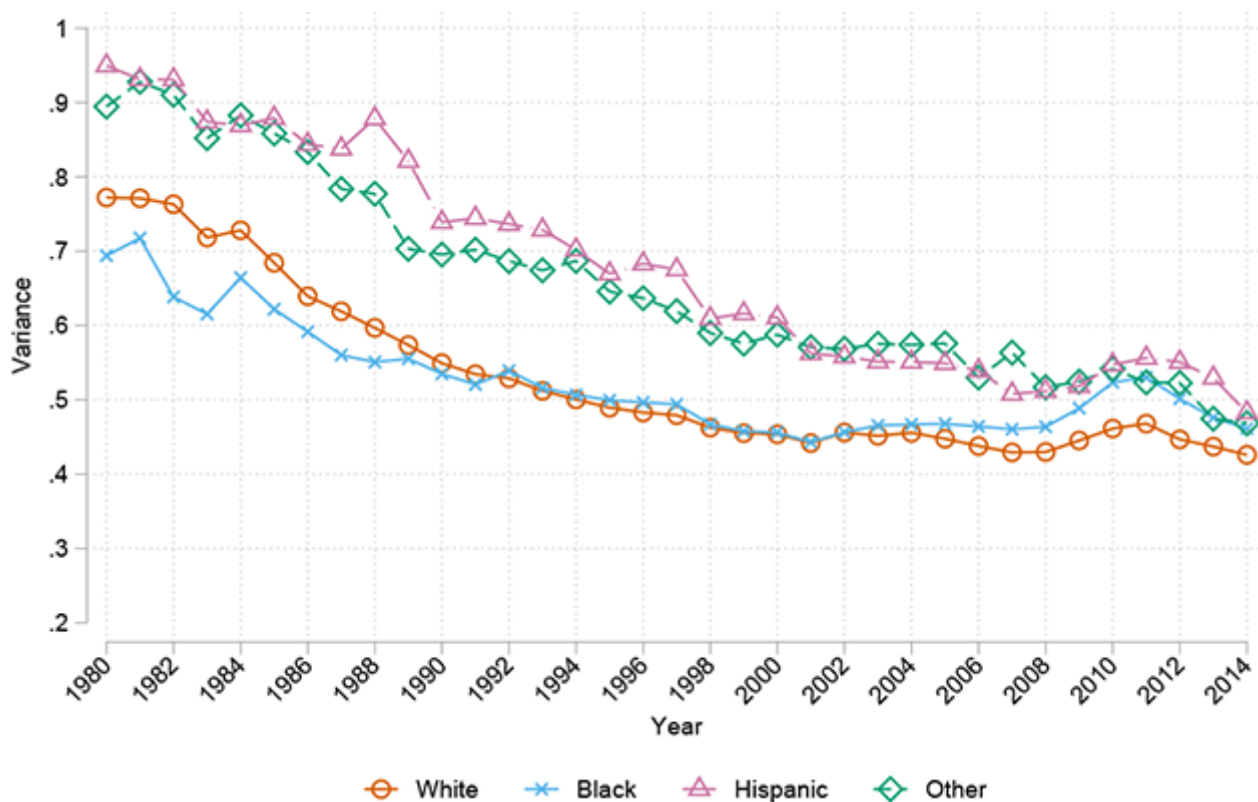


Figure 3. Female volatility by race.

Source: Author's calculations on SIPP GSF for 1979–2014. Sample is all women ages 25–59. Volatility is estimated between $t - 1$ and t , and labeled using year t .

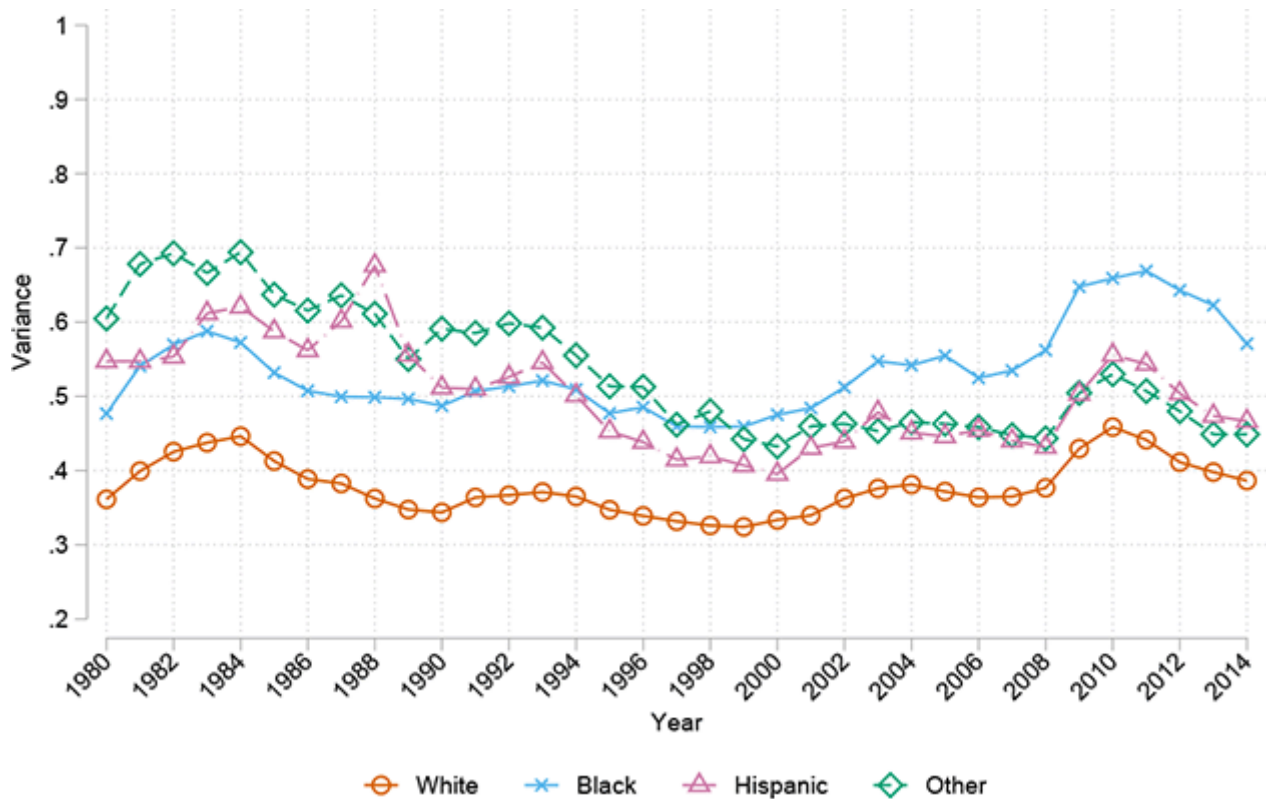


Figure 4. Male volatility by race.

Source: Author's calculations on SIPP GSF for 1979–2014. Sample is all women ages 25–59. Volatility is estimated between $t - 1$ and t , and labeled using year t .

Considering women first, volatility fell for White, Hispanic, and other women, about 48% over the entire period. For all three groups, the bulk of the decline happened prior to 2001, though volatility continued to decline slightly for Hispanic and other women after 2001. The increase in volatility during the Great Recession was also less pronounced for White, Hispanic, and other women. Black women, although they began the period with the lowest level of volatility, ended similar to other women, for the smallest overall declines. They also experienced the largest increase in volatility during the Great Recession.

The patterns for men are more varied. As shown in Figure 4, volatility for White men was the lowest and showed a modest U-shape, as observed in other estimates when zero earnings are included. Volatility for Hispanic and other men declined by 25% to 30% over the period, with the most pronounced declines happening in the 1990s. Compared to White men and the pooled “other” race-ethnicity category, Hispanic and other men began the period with volatility about 50% higher and ended the period with volatility 17% higher. Black men, on the other hand, did not show the same type of convergence. They began the period with volatility

that was about 40% higher, and ended the period with 48% higher volatility than White men. The increase in volatility during the Great Recession was also notably larger for Black men than for White and Hispanic men.

The estimated levels and trends in volatility in Figures 3 and 4 reflect the combined effect of entrance and exit from employment for an entire calendar year *and* changes in earnings, conditional on being employed at all during two consecutive calendar years. Periods of non-employment could have lasted an entire calendar year, the type of non-employment previously considered by the literature; or could have lasted only a portion of the year, a type of non-employment not generally considered by the literature. Unlike most other data sets previously used, the SIPP GSF makes it possible to separate individuals who have earnings in all four quarters of a calendar year from individuals who have essentially zero earnings for at least one quarter but fewer than four.⁷ Although this does miss many periods of non-employment, and glosses over issues around unstable positive working hours, it is a considerable improvement over analyses that consider only periods of zero earnings that cover at least a calendar year.

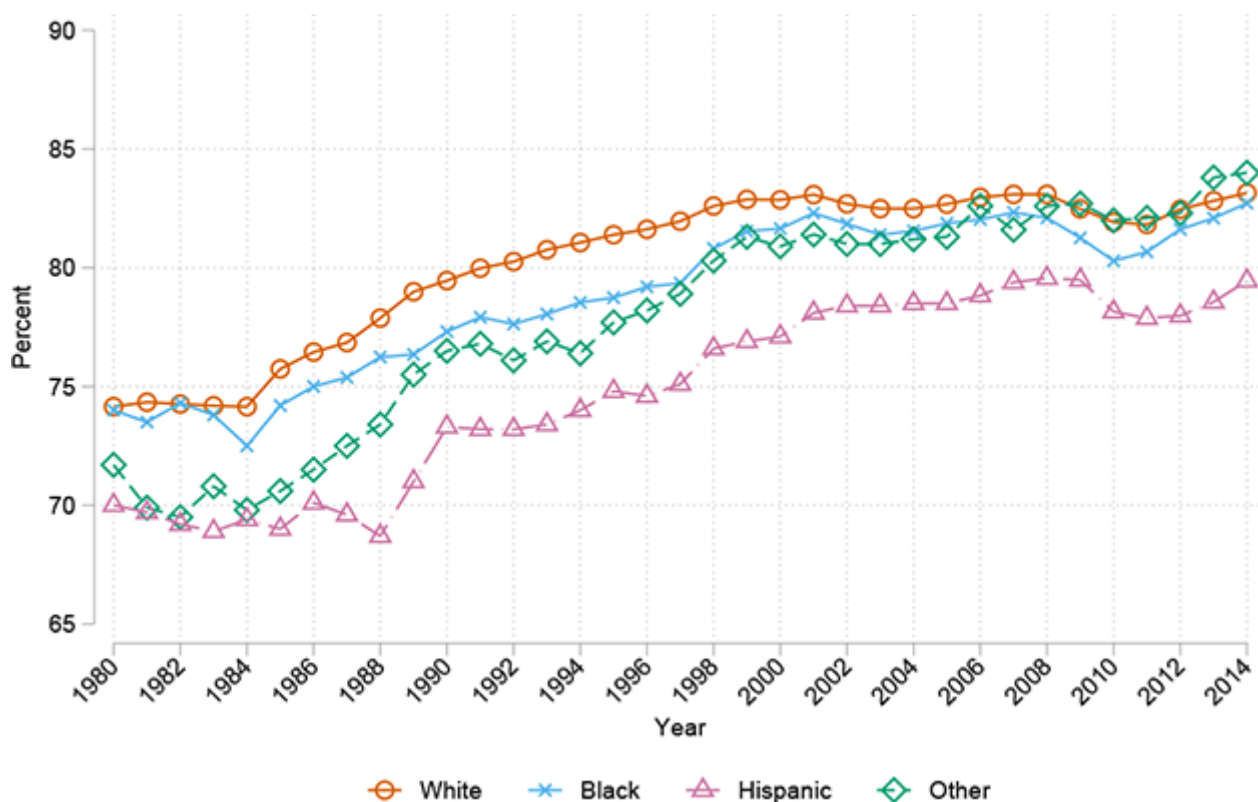


Figure 5. Share of women employed full-year in t and $t - 1$.

Source: Author’s calculations using SIPP GSF from 1979 to 2014.

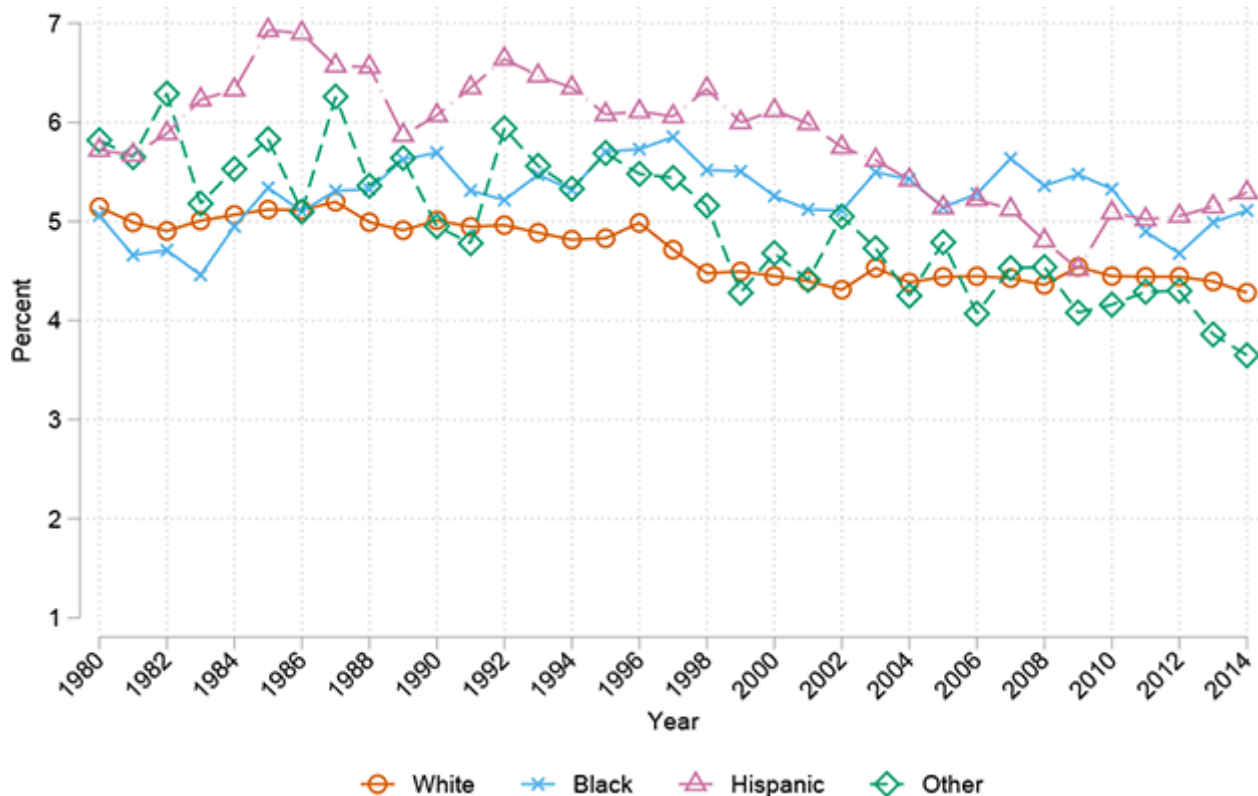


Figure 6. Share of women employed part-year in t or $t - 1$.

Source: Author's calculations using SIPP GSF from 1979 to 2014.

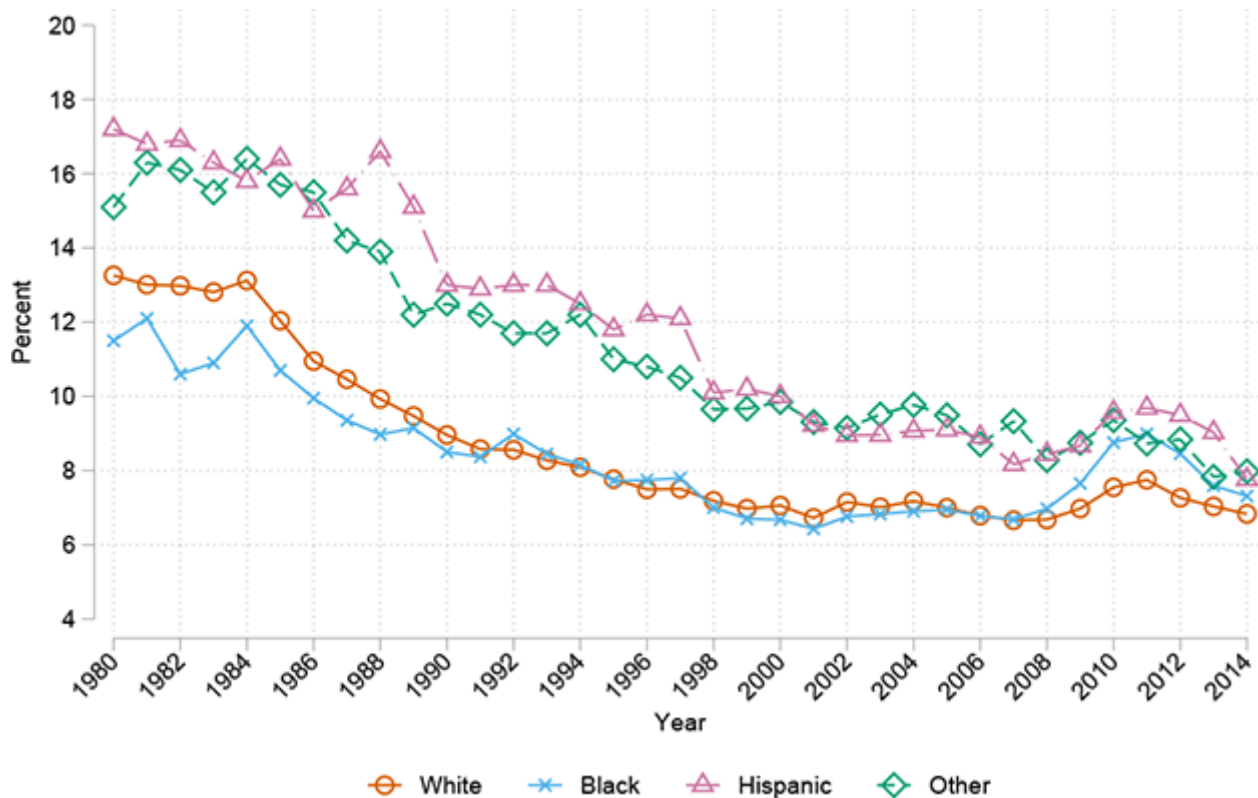


Figure 7. Share of women with zero earnings in t or $t - 1$.

Source: Author's calculations using SIPP GSF from 1979 to 2014.

Figures 5–7 depict the share of women who were employed full year in t and $t - 1$ (Figure 5), were employed part of a year in either t or $t - 1$ (Figure 6), or had zero earnings for an entire year in either t or $t - 1$ (Figure 7). This last group is the group that has previously been highlighted in the literature, whereas the part-year group has generally been subsumed within the full-year group. Among women, there was a shift toward full-year employment. The share who were employed full year in two consecutive years increased from 70%–75% in 1980 to 80%–85% in 2014. Similarly, the share employed part year in one of two years decreased somewhat, from 5–7% to 4–5%, and the share who had zero earnings in one of two years decreased from 12–17% to around 8%. Notably, among women who had zero earnings in one of two years, there was a convergence. In the early 1980s, the share was about 40% higher for Hispanic and other than for White and Black women, with Black women having had the lowest rate. By 2014, all groups were roughly equal. On the other hand, although Black women had the lowest share of part-year workers in 1980, and they were tied with Hispanic women for the highest share in 2014. Overall, though, the substantial shift toward full-year employment clearly operated as an important factor in falling volatility for women given that this group had lower volatility overall than women who were entering or exiting employment.

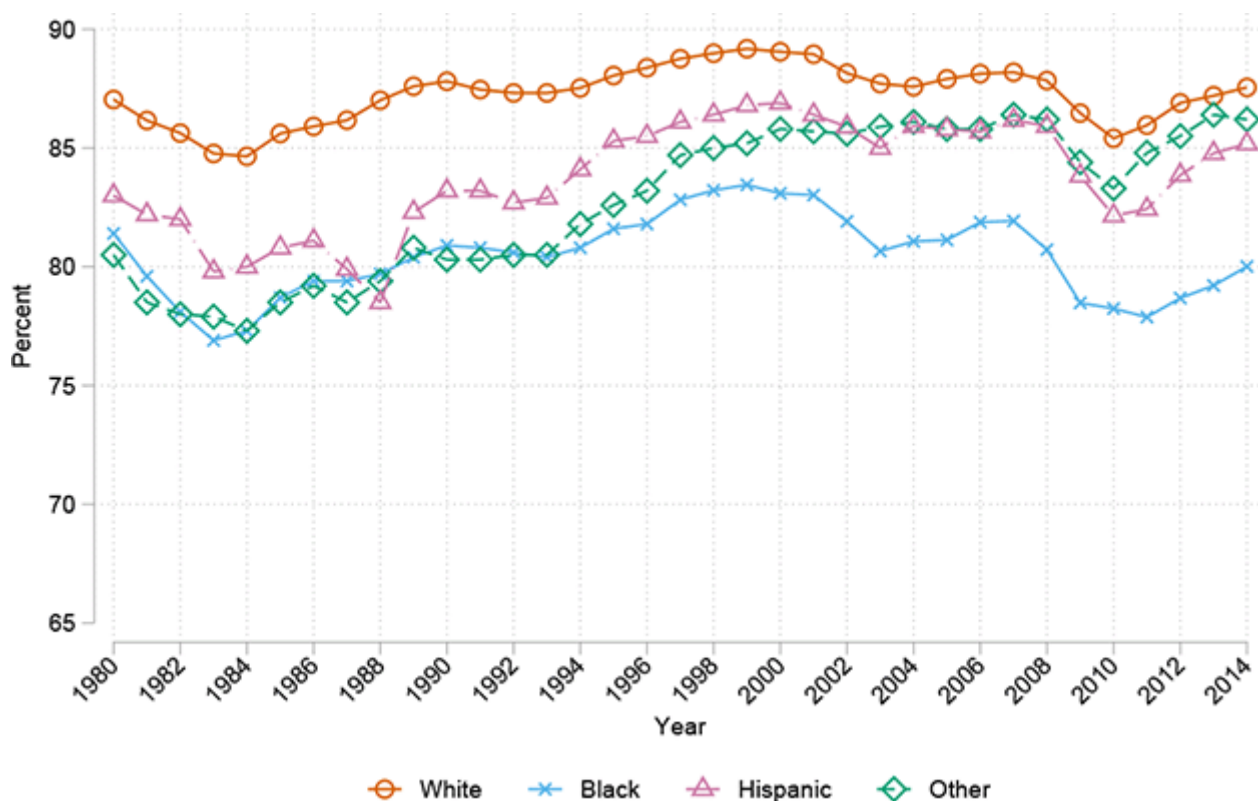


Figure 8. Share of men employed full year in t and $t - 1$.

Source: Author’s calculations using SIPP GSF from 1979 to 2014.

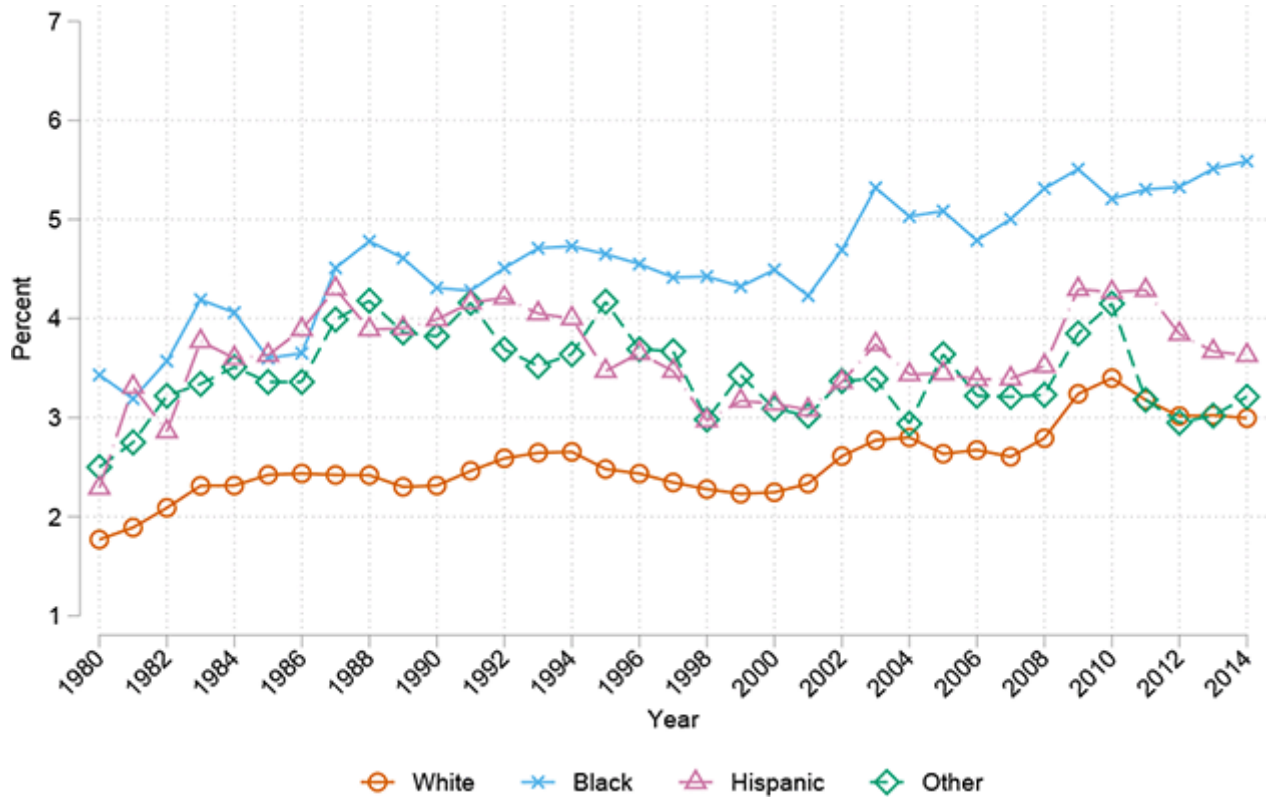


Figure 9. Share of men employed part year in t or $t - 1$.

Source: Author's calculations using SIPP GSF from 1979 to 2014.

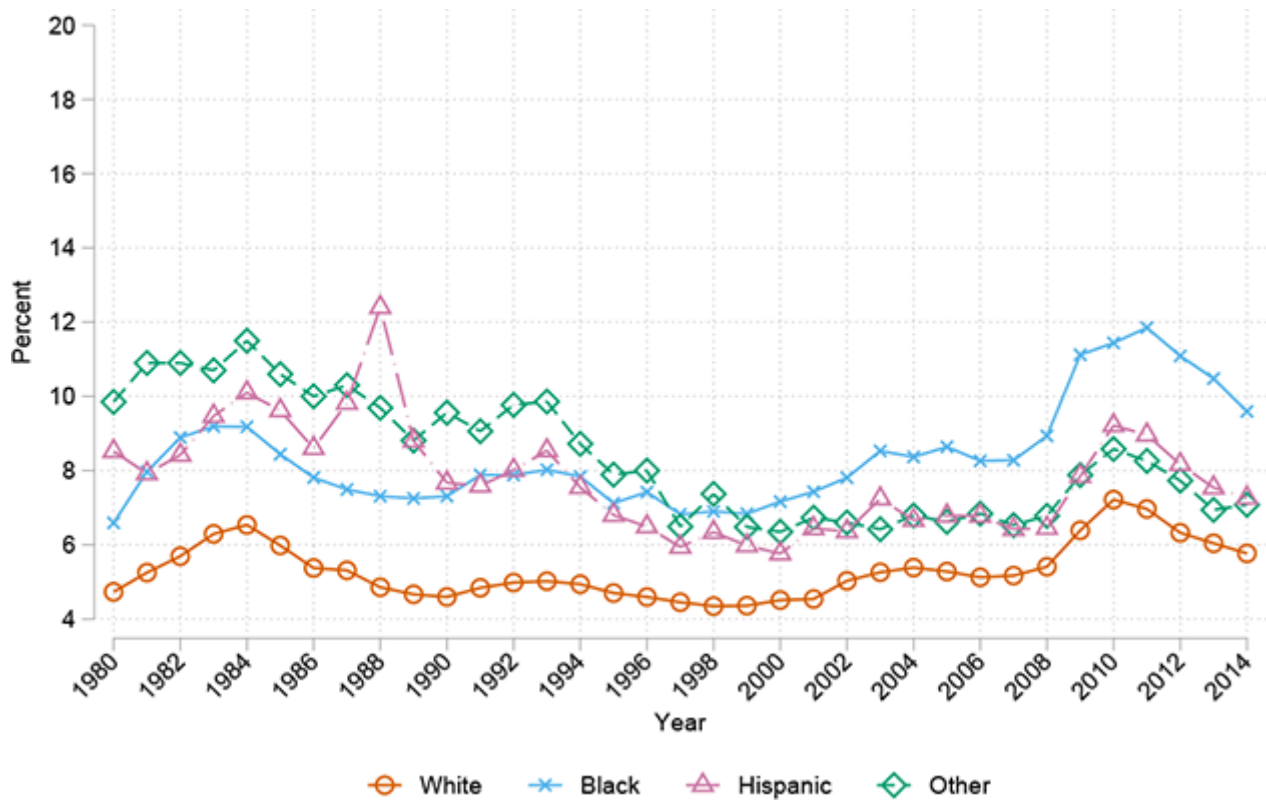


Figure 10. Share of men with zero earnings in t or $t - 1$.

Source: Author's calculations using SIPP GSF from 1979 to 2014.

Figures 8–10 show the shares of full-year, part-year, and out-of-the-labor-force men. As with volatility, there is more heterogeneity among men than among women. It is well documented that cross-sectional labor force participation is falling for men, but as Figure 8 shows, this does not necessarily translate into an increase in persistent non-employment for an entire calendar year, let alone across multiple years. The share of men who were employed full year in two consecutive years rose from the mid-1980s through 2000 for all men. It then fell slightly for White men, fell somewhat more for Black men, but was flat for Hispanic and other men. The degree of cyclical volatility was more pronounced for non-White men, with a substantial spike during the Great Recession, indicating the increase in extended periods of non-employment experienced during that time.

Figure 9 is where evidence of falling labor force participation among men can be observed. Recall that the measure of part-year work implies that an individual experiences at least one quarter of zero earnings in a year, meaning that it implies an extended period of non-employment in either t or $t - 1$. Although the level may seem low, the share of part-year work among Black men nearly doubled over this period, and increased about 50% for White men. For Hispanic and other men, there was a surge in the early 1980s, followed by a largely flat trend. Accompanying the increase in part-year employment for Black men was a near doubling of the share of men with one full year of non-employment between 1998 and 2011, as shown in Figure 10. The timing of these two increases—the increase in part-year work and the increase in non-employment—coincides perfectly with the timing of the rise in volatility for Black men compared to all other men. Thus, a key element for understanding the divergence in volatility for Black men was the diverging trend in employment stability rather than the instability of earnings among the continuously employed alone.

Policy Implications and Responses to Income Volatility

Our analysis builds on evidence on the incidence and potential root causes of income volatility differences across race and gender. Using data from the SIPP linked to administrative earnings histories for 1980–2014, the results demonstrate that several changes in the relative incidence of income volatility occurred over a roughly 35-year period. Noteworthy among group-wide changes, Black male income volatility stands as the highest among all demographic groups and is broadly associated with diminished full-time employment and increases in part-time work and joblessness. Given the relatively weaker trends of Black males with respect to employment, earnings, and incarceration outcomes, this further belies the weakened economic position facing this group, and the families they are connected to. Similar racial inequality emerges between Black and White women, though the level of volatility for Black women is below that of Hispanic women and women from other racial groups. These trends are consistent with findings from Ziliak et al. (2011), providing further support for the finding that racial and ethnic minority groups are exposed to higher levels of economic risk. And evidence also strongly suggests that intensive margin instability of hours worked, plausibly higher in part-time arrangements, operates as an additional driver of volatility in low-wage labor markets (Schneider & Harknett, 2017, 2019). The data, however, are limited in

the extent to which it is possible to investigate the sources of part-year work. These reasons are varied, and likely vary systematically by race or ethnicity and gender.⁸ The goal of this exercise was to simply document the trends that exist, as this had not been done before. Further research with alternative data sources would be needed to understand why these differences exist.

The current economic situation in the United States and worldwide, as society grapples with the economic consequences of the Covid-19 pandemic, provides helpful context for understanding the implications of income volatility and the economic insecurity that it approximates. As a policy challenge, volatility associated with involuntary changes to intensive and extensive margin employment looms as a serious problem. This is distinct from the volatility that workers may elect to participate in, associated with increasing on-the-job flexibility (e.g., Kim et al., 2020). Many individuals and households that experience shocks and disturbances to their income flows will struggle to meet basic food and shelter consumption expenses in the absence of robust private savings or public social welfare programs. Relatedly, many of these economically disadvantaged families are highly unlikely to possess minimal levels of emergency savings to draw on in the event of a financial emergency. As shown in Table 1, the employment-to-population, labor force participation, and unemployment shock is historically dramatic and in occurrence across race and ethnicity. Still, for some demographic groups, elevated levels of economic insecurity are disturbingly common from year to year. As scholars and policymakers assess and explore issues of economic well-being, it is important to incorporate measures of income volatility and to consider important aspects of heterogeneity across income volatility. In many ways, income volatility measures help to provide further descriptive evidence surrounding the consequences of well-documented economic barriers. For these groups, a resource base that is both low and unpredictable likely portends a variety of negative social and economic consequences both within and between generations.

Table 1. Labor Force Participation and Unemployment, 2019–2020

	Labor force participation				Unemployment rate			
	Men		Women		Men		Women	
	Black	White	Black	White	Black	White	Black	White
2019	68.11	71.78	62.53	57.97	6.05	2.98	5.07	2.98
2020	65.60	70.33	60.69	56.85	11.67	6.70	10.44	7.35

Economic conditions facing adult workers have an intra- and inter-generational dimension. Income levels and income dynamics, in general, have been shown to have consequences for health and educational attainment. For Black families, the potential consequences of exposure to economic shocks may be even more acute, given the low likelihood of upward mobility and the high likelihood of downward mobility, even for the children of relatively affluent Black parents (Carr & Wiemers, 2016; Chetty et al., 2016, 2020). Combined with the results presented above, a picture emerges suggesting that historically disadvantaged groups, including Black men, who exhibit relatively high levels of unemployment and volatility, face several threats. First, they have lower levels of mobility, proxied for as lower permanent earnings. Second, amid lower permanent earnings they have more short-run instability. The preponderance of evidence suggests that instability during childhood is associated with poor health and other lowered socioeconomic outcomes in adulthood, raising the specter of a cycle of intergenerational disadvantage. Efforts to interrupt this likely require expansions of transfer programs, which have been shown to be effective toward promoting social and economic mobility (e.g., Akee et al., 2018; Dahl & Lochner, 2012; Gundersen & Ziliak, 2004; Hoynes et al., 2016). Promising interventions to boost incomes include expansions of existing programs, such as the earned income tax credit (Zewde et al., 2021), as well as policies that attack some of the root labor-market causes of volatility by providing for subsidized employment (Paul et al., 2018). Such policies could, in some cases, take the form of place-based policies targeted toward economically insecure populations at the county or even neighborhood level (e.g., Ziliak, 2019), all with the aim of establishing a floor on income level and volatility.

Further Reading

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Notes

1. See Moffitt et al. (2021) for a comprehensive review of the literature. To the knowledge of the authors of this article, the only estimates of volatility by race are in Ziliak et al. (2011, 2020).

2. The arc-change measure of volatility was introduced in Ziliak et al. (2011).

3. The work separating earnings into permanent and transitory components began with Gottschalk et al. (1994) and is summarized in Moffitt and Zhang (2018). This work relied on complex parametric models to estimate the underlying earnings generating process. Shin and Solon (2011) argued that, as long as permanent inequality is evolving slowly, volatility has some advantages as an estimate of transitory inequality over the more complex parametric models. Specifically, they argued that it is more transparent and analytically tractable and also relies on fewer assumptions about the true earnings generating process.

4. See Ziliak et al. (2011), who decomposed total volatility into that due to extensive margin and intensive margin changes. They considered individuals who had positive earnings in 2 consecutive years versus individuals who had zero earnings in one of two years.

5. The results in Guvenen et al. (2014) and Carr and Wiemers (2021) both implied that the trend in volatility, and much of the cyclical, comes from men with temporarily very low earnings. This is consistent with Hardy and Ziliak (2014), which found that volatility is highest at the top and bottom of the earnings distribution and considerably lower in the middle.

6. This analysis was first performed using the SIPP Synthetic Beta (SSB) on the Synthetic Data Server housed at Cornell University, which is funded by NSF Grant no. SES-1042181. These data are public use and may be accessed by researchers outside secure Census facilities. For more information, visit US Census Bureau <https://>

www.census.gov/programs-surveys/sipp/guidance/sipp-synthetic-beta-data-product.html. Final results for this article were obtained from a validation analysis conducted by Census Bureau staff using the SIPP Completed Gold Standard Files and the programs written by this author and originally run on the SSB. The validation analysis does not imply endorsement by the Census Bureau of any methods, results, opinions, or views presented in this article. All results in this article have been reviewed by the Disclosure Review Board to ensure no confidential results are disclosed (#CBDRB-FY21-095).

7. The level of earnings required to earn a quarter of coverage toward Social Security changes from year to year with both inflation and average earnings. In 2014, an individual needed to earn at least \$1,200 in a quarter to receive credit. In 1980, the threshold was \$872 in 2014 dollars.

8. The reasons for part-year work are too many to list. Women, particularly Black and Hispanic women, are overrepresented among care and service workers; some of these jobs may be more likely to be cyclical (e.g., only during the summer or only during the school year) (CITE). Hispanic men are overrepresented in season occupations like agriculture and construction (CITE). White men are historically overrepresented in occupations that are more stable throughout the year.

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