



# Income of Black Working-Age Veterans



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# At a Glance

In 2023, about 18 percent of veterans who had served in the military since the start of the first Gulf War were Black. A limited but growing body of research has examined the relationship between military service and economic outcomes of Black veterans, the largest minority group ever to have served. In this report, the Congressional Budget Office describes several economic outcomes of veterans who are Black, male, and working age (ages 22 to 54) and whose service began during or after August 1990. Using data from the Census Bureau's American Community Survey and the Department of Veterans Affairs (VA), CBO compared the outcomes of that group with outcomes of Black nonveterans and White veterans from 2017 to 2019.

CBO found the following:

- Black veterans had more earnings, higher rates of marriage and homeownership, and greater educational attainment than Black nonveterans did. The average earnings of Black veterans and Black nonveterans did not differ among men with similar demographic characteristics (age, marital status, level of education, and region of residence).
- Black veterans had less earnings and lower rates of marriage and homeownership than White veterans did. Educational attainment was much the same for the two groups. Among men whose demographic characteristics were similar, Black veterans earned about 20 percent less than White veterans did, on average.
- Black veterans were more likely than White veterans to have disability ratings from VA, and their ratings were higher, on average. (VA disability ratings generally reflect the severity of a veteran's service-connected conditions and are the basis for disability payments. The higher the rating, the more severe the conditions.) A larger percentage of Black veterans than White veterans received VA disability compensation and health care; but a greater share of White veterans used VA-supported home loans.

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# Notes About This Report

Unless this report indicates otherwise, all years referred to are calendar years. Occasionally, the report refers to federal fiscal years, which run from October 1 to September 30 and are designated by the calendar year in which they end.

Numbers in the tables may not add up to totals because of rounding.

All dollar values are expressed in 2019 dollars, unless the report notes otherwise. To remove the effects of inflation, the Congressional Budget Office adjusted those values using the price index for personal consumption expenditures from the Bureau of Economic Analysis.

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# Income of Black Working-Age Veterans

## Summary

The United States has a racially and ethnically diverse mix of veterans. In 2023, out of 18 million veterans, about a quarter identified as something other than non-Hispanic White. About 13 percent of all veterans identified themselves as non-Hispanic Black, a slightly smaller share than that of people who identify as non-Hispanic Black in the overall U.S. population.<sup>1</sup> Black veterans account for 18 percent of those who have served since the first Gulf War in 1990.

In a recent report, the Congressional Budget Office compared economic outcomes of working-age veterans (ages 22 to 54) who received disability compensation from the Department of Veterans Affairs (VA) with outcomes of those who did not.<sup>2</sup> In this report, the agency examines economic outcomes of a subset of working-age veterans: Black male veterans whose service began during or after August 1990. CBO compared average outcomes of those veterans with outcomes of two groups of working-age men: Black nonveterans and White veterans of the Gulf War era. The results give policymakers and others more information about how military service and race may affect economic outcomes of Black people in the United States.

CBO analyzed economic outcomes of Black veterans from 2017 to 2019 using data from the Census Bureau's American Community Survey (ACS) and administrative data from VA. In its statistical analysis of earnings associated with military service and race, CBO accounted for differences in age, marital status, level of education,

region of residence, veteran status (for Black men), and race (for veterans).

## How Do Economic Outcomes of Black Veterans Compare With Those of Black Nonveterans?

On average, Black veterans had more earnings (that is, income from working) and personal income (which includes earnings) than Black nonveterans did. Black veterans also had greater educational attainment (that is, the highest level of school or degree completed), higher rates of marriage and homeownership, and lower poverty rates than Black nonveterans did. Some of those differences could be explained by the training and experience that veterans acquire while serving in the military, the subsequent support they receive from VA, or their intrinsic traits as individuals.

Because earnings are the single largest source of income for most adults who work, CBO used regression analysis to account for demographic characteristics—specifically, age, marital status, level of education, and region of residence—when examining earnings.<sup>3</sup> That analysis indicated that the average earnings of Black veterans and Black nonveterans did not differ among men whose demographic characteristics were similar. But that finding might understate the positive economic impact of military service because serving in the military might lead to greater educational attainment.

## How Do Economic Outcomes of Black Veterans Compare With Those of White Veterans?

Compared with White veterans, Black veterans had less earnings and personal income, lower rates of marriage and homeownership, and higher VA disability ratings, on average. (VA disability ratings generally reflect the severity of a veteran's service-connected medical conditions and are the basis for disability payments. The higher the rating, the more severe the conditions.) Also, a greater percentage of Black veterans than White veterans used VA health care. Educational attainment was about the same for both groups.

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1. In this report, CBO uses VA's definitions of race and ethnicity in Department of Veterans Affairs, Office of Data Governance and Analytics, *Minority Veterans Report: Military Service History and VA Benefit Utilization Statistics* (March 2017), <https://tinyurl.com/4u4v5d5c> (PDF). For information about how the Census Bureau defines race and ethnicity for its surveys, see Census Bureau, "About the Topic of Race" (March 1, 2022), <https://tinyurl.com/29z9r7p4>. In this report, CBO included only respondents who self-identified as "White" or "Black/African American" combined with "not Hispanic."

2. Congressional Budget Office, *Income of Working-Age Veterans Receiving Disability Compensation* (December 2023), [www.cbo.gov/publication/59380](http://www.cbo.gov/publication/59380).

3. Regression analysis is a set of statistical methods used for estimating relationships between a dependent variable and one or more independent variables.



An examination of earnings using regression analysis revealed that Black veterans earned, on average, about 20 percent less than their White counterparts with similar demographic characteristics. That difference could be explained by differences in specific geographic locations (within regions) and lower rates of participation in the labor force.<sup>4</sup> Other factors that are harder to measure could play a part, too, such as racial discrimination and the quality of primary or secondary education. CBO did not have information about individuals' particular responsibilities, training, or experiences during their military service that might have affected differences between Black and White veterans' earnings.

## Background

In 2023, about 6 percent of adults in the United States were veterans. The largest minority group of veterans is categorized by VA as non-Hispanic Black.<sup>5</sup> Comparing all working men by race, the relevant research literature has found that, on average, White workers earn significantly more than Black workers do.

## The Veteran Population

The number of veterans has been declining since the 1980s. Most working-age veterans—defined in this report as those ages 22 to 54—served in the military during the Gulf War era, which began in August 1990 and continues today.<sup>6</sup>

Reflecting broader changes in the U.S. population, Gulf War-era service members have different demographic and social characteristics than do older veterans who served before and just after the institution of the

All-Volunteer Force.<sup>7</sup> Those more recent veterans are less likely to be non-Hispanic White and more likely to have attended college than veterans from previous service eras. The share of veterans who are women—10 percent in 2023—is increasing, as is the share of non-White veterans. VA projects that by 2040, non-White veterans will make up over 35 percent of all veterans, an increase from about 26 percent in 2022.

Black service members have fought in every U.S. conflict.<sup>8</sup> In 1948, President Truman directed the military to desegregate. By the end of the Korean War in 1953, the military was fully integrated. Since then, increasing proportions of entrants to the military have been members of racial and ethnic minority groups. In 2023, non-Hispanic Black veterans constituted 13 percent of all veterans and 18 percent of all Gulf War-era veterans.

## Research on the Relationship Between Men's Military Service, Race, and Wages

When comparing the wages of male veterans with those of male nonveterans who have similar demographic characteristics, the research literature reports mixed results on the influence of military service.<sup>9</sup> Much of the research has identified associations between military service and earnings rather than causal effects. Most studies have analyzed men's wages separately by veteran status and by race. That is, White veterans were compared with White nonveterans, and Black veterans were compared with Black nonveterans.

Looking at veterans of all races, one series of papers by Joshua D. Angrist and others found that the earnings gap between veterans and nonveterans—less earnings for

4. The labor force participation rate is the percentage of people in the civilian noninstitutionalized population who are at least 16 years old and have jobs or are available for work and either seeking work or expecting to be recalled from a temporary layoff.

5. VA's estimate aligns with information from the Department of Defense indicating that the enlisted population is more racially and ethnically diverse than the portion of the U.S. population that is eligible for military service, with Black enlistees represented at slightly higher rates. See Department of Defense, *Department of Defense Board on Diversity and Inclusion Report: Recommendations to Improve Racial and Ethnic Diversity and Inclusion in the U.S. Military* (December 2020), <https://tinyurl.com/rctt8tdp> (PDF).

6. Veterans of the Gulf War era are typically divided into two groups. Those who served between August 1990 and August 2001 are sometimes called Gulf War I veterans. The more recent group, often referred to as post-9/11 or Gulf War II veterans, served during or after September 2001. This report focuses on both groups.

7. The All-Volunteer Force comprises members who joined or continued to serve in the military as of July 1973.

8. For a brief review of the contributions of Black service members in U.S. military history, see Department of Veterans Affairs, Office of Data Governance and Analytics, *Minority Veterans Report: Military Service History and VA Benefit Utilization Statistics* (March 2017), <https://tinyurl.com/4u4v5d5c> (PDF).

9. Many economists use the terms earnings and wages interchangeably to signify income from working. About 90 percent of adults in the U.S. labor force are employees (who submit a W-2 form to the Internal Revenue Service), and the remainder are self-employed (business owners). When describing its own analysis, CBO uses the American Community Survey's definition of earnings, which is money received as an employee and self-employment income from a person's own business or farm. (The share of self-employment income of all men studied in this report was less than 4 percent of earnings, on average.) When describing the work of other researchers, CBO generally uses the terms they use.

Vietnam-era veterans and for those in the All-Volunteer Force immediately after separating from service—largely disappeared as time went on, although conscription probably depressed the lifetime earnings of White Vietnam veterans. Non-White veterans may have always had a small wage and employment advantage compared with similar non-White nonveterans, whereas military service reduced, albeit modestly, the civilian earnings of White veterans.<sup>10</sup> Since 2000, most research comparing veterans' and nonveterans' wages supports those findings.

**Factors Affecting Differences Between Veterans' and Nonveterans' Wages.** The effect of military experience on the wages that veterans subsequently earn as civilians could be positive or negative. Military service could be viewed as an alternative to college or as a means to attend college, or both.<sup>11</sup> Prospective employers may hold favorable or unfavorable views about military service that could influence veterans' hiring and wages in the civilian labor force. Military service may be particularly valuable as a means of upward mobility for certain groups. According to one theory known as the bridging hypothesis, military experience and associated benefits are especially important to people from socioeconomically disadvantaged backgrounds.<sup>12</sup>

**Factors Affecting Differences Between Black and White Men's Wages.** A substantial body of research documenting differences in economic outcomes by race may also apply to veterans. Wages, employment rates,

and rates of participation in the labor force for Black men have been and remain lower than those for White men.<sup>13</sup> Several researchers have concluded that broad changes in the economy—especially those leading to income inequality—disproportionately affect Black people.<sup>14</sup> Gaps in wages and household income by race have both narrowed (from the end of World War II through the mid-1970s) and widened (since the mid-1970s) as the income distribution of adults and households in the United States became more and then less equal.<sup>15</sup> Two recent studies have estimated that Black men earn 30 percent less than White men earn.<sup>16</sup>

10. The large majority of non-White men who were analyzed were Black, given the demographic composition of the military during the Vietnam War (August 1964 to January 1973).

11. One researcher concluded that for veterans who served in the early 1980s, the benefits from military experience were equal to between one and two years of additional schooling. See Joshua D. Angrist, "Estimating the Labor Market Impact of Voluntary Military Service Using Social Security Data on Military Applicants," *Econometrica*, vol. 66, no. 2 (March 1998), pp. 249–288, <https://doi.org/10.2307/2998558>. Others have estimated that employers treat military experience as being equivalent to or slightly less than civilian experience, with respect to earnings. See Christos A. Makridis and Barry T. Hirsch, "The Labor Market Earnings of Veterans: Is Military Experience More or Less Valuable Than Civilian Experience?" *Journal of Labor Research*, vol. 42, nos. 3–4 (December 2021), pp. 303–333, <https://doi.org/10.1007/s12122-021-09321-y>.

12. For more information about the bridging hypothesis, see Harley L. Browning, Sally C. Lopreato, and Dudley L. Poston Jr., "Income and Veteran Status: Variations Among Mexican Americans, Blacks and Anglos," *American Sociological Review*, vol. 38, no. 1 (February 1973), pp. 74–85, <https://www.jstor.org/stable/2094332>.

13. For an overview of empirical evidence of differences in wages, unemployment, and other outcomes associated with race, see Kevin Lang and Jee-Yeon K. Lehmann, "Racial Discrimination in the Labor Market: Theory and Empirics," *Journal of Economic Literature*, vol. 50, no. 4 (December 2012), pp. 959–1006, <https://doi.org/10.1257/jel.50.4.959>.

14. For an overview of research on different outcomes in the labor market by race and gender, see Joseph G. Altonji and Rebecca M. Blank, "Race and Gender in the Labor Market," in Orley C. Ashenfelter and David Card, eds., *Handbook of Labor Economics*, vol. 3 (North Holland, 1999), pp. 3143–3259, [https://doi.org/10.1016/S1573-4463\(99\)30039-0](https://doi.org/10.1016/S1573-4463(99)30039-0).

15. Black people are overrepresented in the lower portions of the income distribution. See Robert Manduca, "Income Inequality and the Persistence of Racial Economic Disparities," *Sociological Science*, vol. 5 (March 2018), pp. 182–205, <https://doi.org/10.15195/v5.a8>; and Patrick Bayer and Kerwin Kofi Charles, "Divergent Paths: A New Perspective on Earnings Differences Between Black and White Men Since 1940," *Quarterly Journal of Economics*, vol. 133, no. 3 (August 2018), pp. 1459–1501, <https://doi.org/10.1093/qje/qjy003>. From 2000 to 2014, Black people and most other racial and ethnic groups experienced more income inequality and less economic mobility than White people and Asians. See Randall Akee, Maggie R. Jones, and Sonya R. Porter, "Race Matters: Income Shares, Income Inequality, and Income Mobility for All U.S. Races," *Demography*, vol. 56, no. 3 (June 2019), pp. 999–1021, <https://doi.org/10.1007/s13524-019-00773-7>.

16. See Patrick Bayer and Kerwin Kofi Charles, "Divergent Paths: A New Perspective on Earnings Differences Between Black and White Men Since 1940," *Quarterly Journal of Economics*, vol. 133, no. 3 (August 2018), pp. 1459–1501, <https://doi.org/10.1093/qje/qjy003>; and Mary C. Daly, Bart Hobijn, and Joseph H. Pedtke, "Disappointing Facts About the Black-White Wage Gap," *Federal Reserve Bank of San Francisco Economic Letter*, no. 2017-26 (September 2017), <https://tinyurl.com/4majyc6h>. One study estimated that Black men earned 80 percent of what White men earned. See Kevin Lang and Jee-Yeon K. Lehmann, "Racial Discrimination in the Labor Market: Theory and Empirics," *Journal of Economic Literature*, vol. 50, no. 4 (December 2012), pp. 959–1006, <https://doi.org/10.1257/jel.50.4.959>.

Differences in wages are often explained by characteristics that are proxies for productivity, such as age or education, but those factors do not account for a substantial portion of that earnings gap.<sup>17</sup> Other factors that could explain it, such as discrimination, lower-quality schools, and fewer career opportunities, are either challenging to observe or statistically define, or both. Some researchers posit that the unexplained differences are attributable to the structure of U.S. society.<sup>18</sup>

## Comparing Economic Outcomes of Black Veterans and Black Nonveterans

Research about male veterans over the past 35 years has generally found that Black veterans earn as much as or more than Black nonveterans do: The results of 13 studies that CBO identified as the most informative ranged from no difference to 25 percent more earnings for Black male veterans (see Table 1). For White veterans, the reverse is true: They earn slightly lower wages than White male nonveterans, on average.

Using ACS data from 2017 to 2019, CBO compared earnings and other economic outcomes of Black male working-age veterans of the Gulf War era with those of Black male working-age nonveterans. For its analysis, the agency estimated that Black veterans accounted for 8 percent of all Black working-age men (ages 22 to 54). CBO found that when the data were adjusted for age, Black veterans had greater educational attainment, higher rates of marriage and homeownership, and lower poverty rates than Black nonveterans did, on average. Personal and household income were also higher, on average, for Black veterans. But when using regression analysis to account for the effects of specific demographic characteristics

(age, marital status, levels of education, and region of residence), CBO found no difference between the average earnings of Black veterans and Black nonveterans.

Economic outcomes of Black veterans could differ from those of Black nonveterans for several reasons. First, the Department of Defense recruits high school graduates who tend to achieve above-average scores on national aptitude tests and physical fitness exams and who must satisfy other criteria. Second, all service members have designated responsibilities, extensive training, steady pay, and free health care during active duty. That basic financial security may be particularly valuable to Black men if they have fewer good options for jobs or for postsecondary education than other young men do; but it is unclear whether, and to what extent, the positive effects of that financial security continue after active duty. Third, after separating from service, most veterans are eligible for education benefits through the Post-9/11 GI Bill and for mortgage assistance through the VA home loan program. And fourth, many veterans may use VA health care with little or no cost sharing.

## Demographic Characteristics

Various demographic characteristics—including age, educational attainment, and geographic location—influence the earnings and, consequently, the income of adults. Like veterans overall, Black male veterans were older, on average, than Black men with no military service (see Table 2). (CBO adjusted the comparisons of all other characteristics so that they were between men of the same age, 41, which was the average age of Black veterans. For details about CBO’s analytical approach, see the appendix.) Eleven percent of Black nonveterans had not earned a high school diploma or its equivalent, whereas 3 percent of Black veterans had not done so. More Black veterans than Black nonveterans had a college degree or higher, and adults with more schooling are more likely to work and to have higher wages. Black veterans were much more likely to be married—a reflection of higher rates of marriage among service members—than Black nonveterans, whose rates of marriage are low compared with those of the general population.<sup>19</sup> More Black veterans than Black nonveterans lived in the South, where poverty rates are the highest in the nation and where a disproportionate

17. For a decomposition of hourly wages by race and gender from 1979 to 2016, see Mary C. Daly, Bart Hobbijn, and Joseph H. Peditke, “Disappointing Facts About the Black-White Wage Gap,” *Federal Reserve Bank of San Francisco Economic Letter*, no. 2017-26 (September 2017), <https://tinyurl.com/4majyc6h>. For an overview of economic differences by race that cannot be fully explained by human capital indicators, see Grieve Chelwa, Darrick Hamilton, and James Stewart, “Stratification Economics: Core Constructs and Policy Implications,” *Journal of Economic Literature*, vol. 60, no. 2 (June 2022), pp. 377–399, <https://doi.org/10.1257/jel.20211687>.

18. For an overview of economic stratification theory, see William A. Darity Jr., “Position and Possessions: Stratification Economics and Intergroup Inequality,” *Journal of Economic Literature*, vol. 60, no. 2 (June 2022), pp. 400–426, <https://doi.org/10.1257/jel.20211690>.

19. For findings related to differences between the marital status of service members and civilians, see John Cadigan, *Family Status of Enlisted Personnel*, Technical Paper 2000-6 (Congressional Budget Office, August 2000), [www.cbo.gov/publication/13334](http://www.cbo.gov/publication/13334).



Table 1.

## Summary of Recent Literature Comparing Earnings of Male Veterans and Male Nonveterans by Race

Year	Authors	Earnings results	General findings
1990	Angrist	White veterans earned 15 percent less than White nonveterans. Non-White veterans earned the same as non-White nonveterans.	By the early 1980s, White Vietnam veterans earned less than comparable White nonveterans. No difference in earnings was evident between non-White veterans and non-White nonveterans.
1998	Angrist	Several years after separating from the military, White veterans earned the same as White nonveterans. Non-White veterans earned up to 10 percent more than non-White nonveterans.	In the early 1980s, White veterans from the All-Volunteer Force earned less than matched nonveterans soon after separating from the military, but that earnings gap eventually disappeared. <sup>a</sup> Non-White veterans earned slightly more than non-White nonveterans.
2003	Hirsch and Mehay	White veterans earned about 1 percent less than White nonveterans. Black veterans earned about 5 percent more than Black nonveterans.	There was a small negative effect on the earnings of White enlistees compared with those of White nonveterans. There was a wage premium for Black enlistees and for all former officers, White or Black.
2011	Angrist and Chen; and Angrist, Chen, and Song (whose findings overlap)	White veterans earned about 10 percent less than White nonveterans over their lifetime. The effects of veteran status on earnings of non-White men were unclear.	By the early 1990s, the earnings penalty for White Vietnam veterans had largely faded. There was a modest average lifetime earnings loss for those veterans. For non-White men, the effects of veteran status on earnings were inconclusive.
	Loughran, Martorell, Miller, and Klerman	White enlistees earned 9 percent more than White men who did not enlist. Black enlistees earned up to 25 percent more than Black men who did not enlist.	Enlistment increased annual earnings of Army veterans and current service members, compared with earnings of those who applied for service in the Army but did not enlist.
2012	Dávila and Mora	White veterans earned about 6 percent less than White nonveterans. Black veterans earned 3 percent more than Black nonveterans.	The hourly earnings of all male veterans were 3 percent less than those of nonveterans. Black veterans earned more than Black nonveterans.
2013	Kleykamp	White veterans' hourly wages were 5 percent higher than those of White nonveterans. Black veterans' hourly wages were 9 percent higher than those of Black nonveterans.	Gulf War II veterans earned more, on average, than nonveterans. <sup>b</sup>
2017	Vick and Fontanella	White veterans earned 9 percent less than White nonveterans. Black veterans earned 7 percent more than Black nonveterans.	For Gulf War II veterans and nonveteran full-time workers, average earnings were similar; earnings differed by race and across the wage distribution. <sup>b</sup>
2019	Renna and Weinstein	White veterans earned 1 percent less than White nonveterans. Black veterans earned up to 2 percent more than Black nonveterans.	White veterans earned less than White nonveterans, but Black veterans earned more than Black nonveterans. The earnings premium for Black veterans disappeared when selection into military service was considered.
2021	Makridis and Hirsch	The earnings of all veterans and nonveterans were about the same. Black veterans earned 2.4 percent more than Black nonveterans.	Earnings of workers with military experience were roughly equivalent to or slightly less than earnings of those with civilian work experience. Black veterans earned more than Black nonveterans.
2022	Piquado, Holliday, McBirney, Trail, Prieto, Goldman, Seelam, O'Hollaren, and Kofner	White veterans earned 14 percent less than White nonveterans. Black veterans earned 20 percent more than Black nonveterans.	Black veterans had more economic stability than Black nonveterans but had less income than White veterans and White nonveterans.
	Greenberg, Gudgeon, Isen, Miller, and Patterson	White enlistees earned the same as White men who did not enlist. Black enlistees earned from \$5,000 to \$15,000 more per year than Black men who did not enlist.	Army service increased soldiers' earnings for up to 19 years after their service ended, compared with earnings of men who did not enlist. That increase was greater for Black enlistees than for White enlistees. Army service eventually closes the earnings gap associated with race.

Data source: Congressional Budget Office.

For full citations of, and links to, the research literature discussed in this table, see the final section of the appendix.

a. The All-Volunteer Force comprises members who joined or continued to serve in the military as of July 1973.

b. Veterans of the Gulf War era are typically divided into two groups. Those who served between August 1990 and August 2001 are sometimes called Gulf War I veterans. The more recent group, often referred to as post-9/11 or Gulf War II veterans, served during or after September 2001.

Table 2.

## Demographic Characteristics of Black Men, Ages 22 to 54, by Veteran Status

Percent	Veterans	Nonveterans
Average age (years)	41	37
Educational attainment		
No high school diploma	3	11
High school <sup>a</sup>	25	37
Some college or associate's degree	46	31
Bachelor's degree or higher	27	20
Marital status—married	55	42
Region		
Northeast	7	16
Midwest	11	17
South	69	58
West	13	9
Owens a home	55	49
Poverty rate	8	14
<b>Addendum:</b>		
Total population (millions)	1.6	20.2

Data source: Congressional Budget Office, using data from the Census Bureau's American Community Survey, 2017 to 2019. See [www.cbo.gov/publication/60043#data](http://www.cbo.gov/publication/60043#data).

For these comparisons, CBO restricted its data sample to non-Hispanic men who were U.S. citizens. CBO did not adjust the data to account for differences in the average characteristics of men, except for age.

All characteristics (with the exception of age) were reweighted using a method that adjusts for differences between the age distributions of Black veterans and Black nonveterans. That method is similar to the one described in John DiNardo, Nicole M. Fortin, and Thomas Lemieux, "Labor Market Institutions and the Distribution of Wages, 1973–1992: A Semiparametric Approach," *Econometrica*, vol. 64, no. 5 (September 1996), pp. 1001–1044, <https://doi.org/10.2307/2171954>.

a. The category "high school" includes people who received a general equivalency diploma or alternative credential.

share of all veterans live.<sup>20</sup> And Black veterans were less likely than Black nonveterans to live in poverty and, relatedly, more likely to own their home.<sup>21</sup>

20. Jessica Semega and others, *Income and Poverty in the United States: 2019*, Current Population Reports, P60-270 (Census Bureau, revised September 2021), <https://tinyurl.com/2nk3mrkb> (PDF).

21. In 2019, the official poverty rate for all nonelderly adults in the United States was 9.4 percent; for Black people it was 18.8 percent. See Figure 8 in Jessica Semega and others, *Income and Poverty in the United States: 2019*, Current Population Reports, P60-270 (Census Bureau, revised September 2021), <https://tinyurl.com/2nk3mrkb> (PDF).

## Income

CBO compared the income of Black male veterans and Black male nonveterans ages 22 to 54. The agency looked at personal income (which includes earnings and income from self-employment, VA disability payments for veterans, and small amounts of other nonlabor income) and household income. Both personal and household income were greater, on average, for Black veterans than for Black men who never served. The agency did not adjust any of those results for characteristics other than age, except in its regression analysis of earnings.

**Personal Income and Earnings.** On average, over the 2017–2019 period, Black veterans had \$52,000 in annual personal income, which was 30 percent more than Black nonveterans, whose income was \$39,900 (see Table 3). Black nonveterans received almost all (97 percent) of their personal income from earnings, whereas 12 percent of Black veterans' personal income came from VA disability compensation. For both groups, annual nonlabor income averaged \$1,200.

Black veterans earned \$44,800 per year, on average—16 percent more than the \$38,700 in annual earnings of Black nonveterans. (Those results do not account for demographic characteristics other than age.) To exclude extremely high and low values that can skew earnings calculations, CBO also examined median earnings (the midpoint value), and the same pattern emerged: Annual median earnings amounted to \$38,000 for Black veterans and \$30,000 for Black nonveterans. Those lower median amounts confirm that workers with very high earnings were included in the calculation of the average earnings for both groups. Thus, the median amounts may be preferable for describing both groups' typical earnings (or the center of the earnings distribution). CBO found that median earnings for working-age Black men—regardless of veteran status or employment status—were below the national median for all working men in 2019.<sup>22</sup> Lower labor force participation by Black men probably contributed to those lesser earnings. The

22. In 2019, national median earnings for all working men were \$41,500. That amount was calculated using a different survey (the Current Population Survey instead of the ACS) for males ages 15 or older, with earnings, who worked part time or full time during the preceding calendar year. See Figure 4 in Jessica Semega and others, *Income and Poverty in the United States: 2019*, Current Population Reports, P60-270 (Census Bureau, revised September 2021), <https://tinyurl.com/2nk3mrkb> (PDF). CBO's sample, by contrast, included only Black men ages 22 to 54 regardless of their status in the labor force. Using ACS data, the agency calculated that for all men ages 22 to 54 in 2019, median earnings were \$40,000.

Table 3.

**Average Annual Income and Labor Force Status of Black Men, Ages 22 to 54, by Veteran Status**

2019 dollars

	Veterans	Nonveterans
Personal income		
Earnings <sup>a</sup>	44,800	38,700
VA disability compensation <sup>b</sup>	6,100	n.a.
Other nonlabor income	1,200	1,200
Total personal income	52,000	39,900
Additional household income	36,800	42,500
<b>Total household income</b>	<b>88,800</b>	<b>82,500</b>
In the labor force (percent) <sup>c</sup>	84	83
<b>Addendum:</b>		
Total population (millions)	1.6	20.2

Data source: Congressional Budget Office, using data from the Census Bureau’s American Community Survey, 2017 to 2019, and from the Department of Veterans Affairs. See [www.cbo.gov/publication/60043#data](http://www.cbo.gov/publication/60043#data).

For these comparisons, CBO restricted its data sample to non-Hispanic men who were U.S. citizens. CBO did not adjust the data to account for differences in the average characteristics of men, except for age.

Median earnings were lower than the average earnings reported above: \$38,000 for veterans and \$30,000 for nonveterans.

VA = Department of Veterans Affairs; n.a. = not applicable.

- a. Earnings are income that an employee received in the previous 12 months in the form of wages and salaries (including tips, commissions, and bonuses), as well as self-employment income from a business, professional practice, or farm after subtracting business expenses from gross receipts. The average includes respondents who had no earnings.
- b. VA provides tax-free disability compensation to veterans with medical conditions or injuries that occurred or worsened during active-duty military service. To estimate the average VA disability payment to each veteran in the American Community Survey who reported a disability rating, CBO used VA’s data on average payments by disability rating, age, and sex. VA provided CBO with data from fiscal year 2018, which CBO deflated for 2017 and inflated for 2019 using the price index for personal consumption expenditures from the Bureau of Economic Analysis.
- c. Men in the labor force either were working or were not working but were available for and actively looking for a job.

labor force participation rates of Black veterans and Black nonveterans (84 percent and 83 percent, respectively) were below the average (89 percent) for all men ages 25 to 54 in 2019.<sup>23</sup>

23. Because many service members complete only a single enlistment and separate from the service at age 22, CBO used a slightly larger age interval (22 to 54) than the Bureau of Labor Statistics uses; see Bureau of Labor Statistics, “Labor Force Participation Rate for People Ages 25 to 54 in May 2023 Highest Since January 2007,” *The Economics Daily* (June 7, 2023), <https://tinyurl.com/mt9dhsmp>.

Nineteen percent of Black veterans in the labor force were federal workers. Three percent of Black nonveterans in the labor force were federal workers—which was still higher than the share of federal workers in the labor force in 2019.<sup>24</sup> That high percentage of federal workers among Black veterans was partly the result of statutory preferences in hiring veterans. In addition, many veterans have acquired skills and expertise that the Department of Defense and VA value in their civilian workforce.

When CBO used regression analysis to account for demographic differences between Black veterans and Black nonveterans, the agency found no difference in their average annual earnings.<sup>25</sup> Although most researchers have found that Black veterans earn more than similar Black nonveterans, the magnitudes of the differences were generally small—between zero and 10 percent, depending on the method they used.

Including the level of education in the regression analysis may understate the earnings advantage provided by military service. Serving in the military may allow some people to attain more education than they otherwise would, either during or after their service. (Members of the military can earn degrees while they serve, not always funded by the GI Bill.)<sup>26</sup> When levels of education are included in the regression analysis of earnings for Black men, the amount of average annual earnings associated with veteran status decreases by about \$5,000.<sup>27</sup> That result suggests that much of the benefit to earnings from veteran status comes from obtaining more education. If Black veterans would have achieved the same levels of education without serving in the military, then their greater educational attainment would be attributable to the favorable self-selection of those individuals instead of

24. In 2019, approximately 3 million civilian workers were employed in the three branches of the federal government, which is less than 2 percent of the U.S. labor force; see Bureau of Labor Statistics, “Current Employment Statistics” (January 2019), Table B1-a, <https://tinyurl.com/2k4ww9nh>.

25. To estimate earnings, CBO used ordinary least squares, a method that aims to minimize the sum of squared differences between the observed and predicted values. In this case, the regression analysis included age, marital status, region of residence, level of education, and veteran status as explanatory variables.

26. For more information on the GI Bill, see Congressional Budget Office, *The Post-9/11 GI Bill: Beneficiaries, Choices, and Costs* (May 2019), [www.cbo.gov/publication/55179](http://www.cbo.gov/publication/55179).

27. To calculate that value, CBO estimated two ordinary least squares earnings models for Black men. The first was univariate with only veteran status as the independent variable; the second added levels of education. The difference between the coefficient on the variable “veteran status” for the two models was about \$5,000.



their military service. If, however, Black veterans would not have achieved the same levels of education without military service, then their greater educational attainment would be attributable to that service.

**Household Income.** From 2017 to 2019, the average annual household income of Black veterans was \$88,800, 8 percent more than that of Black nonveterans, which was \$82,500. Although Black veterans were more likely than Black nonveterans to be married (and might therefore have been more likely to have a working spouse), Black nonveterans had a greater amount of additional household income—\$5,700 more per year, on average.<sup>28</sup>

### Comparing Economic Outcomes of Black and White Veterans

Most of the research on economic outcomes of veterans has compared earnings by veteran status rather than by race, and little research has been done on the earnings of Black veterans. One study found that, on average, Black veterans earned between \$1,600 more and \$6,000 less than White veterans did, depending on the branch and length of service and on how long they had been separated from the military.<sup>29</sup> The earnings gaps in that study were smaller than the overall earnings gap of 30 percent (with Black men earning less than White men) discussed earlier, in the Background section.

In this study, CBO found that Black veterans earned 20 percent to 30 percent less than White veterans did, depending on the analytical approach used. CBO compared earnings and other economic outcomes of Black and White veterans, all of whom were working-age men who had served since August 1990. The two groups had about the same educational attainment and served in

Gulf Wars I and II (or both) at similar rates. And like most veterans, the majority of men from both groups joined the civilian workforce after serving.

When the two groups were compared by age, Black veterans had lower rates of marriage and homeownership, and higher poverty rates, than White veterans did. A greater percentage of Black veterans, one-third of them, had VA disability ratings. And, on average, Black veterans had less earnings and less personal and household income than White veterans did. Estimates from the regression analysis narrowed, but did not eliminate, the gap between the two groups' earnings.

### Demographic Characteristics

Sixteen percent of the veterans included in CBO's analysis were Black. The Black veterans were, on average, one year older than the White veterans (see Table 4). (CBO adjusted the comparisons of all other characteristics so they were between veterans of the same age, 41.) Educational attainment was similar for both groups. Black veterans were less likely to be married than White veterans were (by 11 percentage points). And a much larger share of Black veterans (69 percent) than White veterans (43 percent) lived in the South—the region of the United States where the largest percentage of Black people and veterans tend to live. Black veterans were less likely than White veterans to own their home, and their poverty rate was about the same as that for all nonelderly adult men in the United States—which was higher than the poverty rate for White veterans.<sup>30</sup> A larger share of Black veterans than White veterans reported a VA disability rating.

### Income

From 2017 to 2019, White veterans had greater personal and household income, on average, than Black veterans did. CBO did not adjust any of those results for characteristics other than age, except in its regression analysis of earnings.

**Personal Income and Earnings.** Black veterans had less personal income and less earnings than White veterans did, on average (see Table 5). Earnings of Black veterans

28. That greater amount of additional household income for Black nonveterans could be attributable to differences in household composition between the two groups. For example, 55 percent of Black male veterans were identified as a head of household (the primary respondent to the survey), whereas 45 percent of Black male nonveterans were identified as such. Furthermore, Black nonveterans were more likely to be the child (19 percent) or friend (9 percent) of a head of household than Black veterans were (11 percent and 6 percent, respectively). Those differences suggest that the nonveterans were less likely than the veterans to be the main source of household income and that other members of their households would report additional income.

29. Charles A. Goldman and others, *Navigating a Big Transition: Military Service Members' Earnings and Employment After Active-Duty Service*, RR-A361-1 (RAND Corporation, 2021), <https://doi.org/10.7249/RR-A361-1>.

30. The poverty rate of male nonelderly adults in 2019 was 8.1 percent. See Figure 10 in Jessica Semega and others, *Income and Poverty in the United States: 2019*, Current Population Reports, P60-270 (Census Bureau, revised September 2021), <https://tinyurl.com/2nk3mrkb> (PDF).



Table 4.

### Demographic Characteristics of Male Veterans, Ages 22 to 54, by Race

Percent	Black	White
Average age (in years)	41	40
Educational attainment		
No high school diploma	3	1
High school <sup>a</sup>	25	23
Some college or associate's degree	46	44
Bachelor's degree or higher	27	31
Marital status—married	55	66
Region		
Northeast	7	12
Midwest	11	23
South	69	43
West	13	22
Owens a home	55	72
Poverty rate	8	5
Has a VA disability rating <sup>b</sup>	33	30
Service era		
Gulf War I (August 1990 to August 2001)	59	61
Gulf War II (September 2001 onward)	61	60
Both eras	20	21
<b>Addendum:</b>		
Total population (millions)	1.6	8.1

Data source: Congressional Budget Office, using data from the Census Bureau's American Community Survey, 2017 to 2019. [www.cbo.gov/publication/60043#data](http://www.cbo.gov/publication/60043#data).

For these comparisons, CBO restricted its data sample to non-Hispanic men who were U.S. citizens. CBO did not adjust the data to account for differences in the average characteristics of men, except for age.

All characteristics (with the exception of age) were reweighted using a method that adjusts for differences between the age distributions of Black and White veterans. That method is similar to the one described in John DiNardo, Nicole M. Fortin, and Thomas Lemieux, "Labor Market Institutions and the Distribution of Wages, 1973–1992: A Semiparametric Approach," *Econometrica*, vol. 64, no. 5 (September 1996), pp. 1001–1044, <https://doi.org/10.2307/2171954>.

- The "high school" category includes those who received a general equivalency diploma or alternative credential.
- The Department of Veterans Affairs (VA) provides tax-free disability compensation to veterans with medical conditions or injuries that occurred or worsened during active-duty military service. VA determines the severity of each medical condition and assigns ratings in increments of 10 percent.

(\$44,800) were 30 percent less, on average, than that of White veterans (\$64,000).<sup>31</sup> That difference may be partly explained by their lower labor force participation rate (84 percent) compared with that of White veterans (88 percent). Black veterans had less other (nonlabor) income than White veterans did, although the absolute amounts were small (\$1,200 and \$1,600, respectively). Black veterans also received more VA disability compensation, on average—probably because a greater percentage of them had VA disability ratings than did White veterans. But disability compensation was a small share of personal income for both groups because earnings constituted the bulk of personal income for most veterans.

When CBO used regression analysis to account for demographic characteristics, the agency still found that, on average, Black veterans earned less than White veterans did, but the gap narrowed to about 20 percent.<sup>32</sup> The difference in earnings by race might have been less or more if CBO had additional information about the nature of veterans' military experience. The types of skills that individuals acquire while serving in the military vary by vocation, assignment, and length of service. The effects of military service on subsequent earnings will not be the same for all veterans, however, if they are treated differently in the civilian labor market.

**Household Income.** The average annual household income of Black veterans was \$88,800—about 19 percent less than that of White veterans, which was \$110,300. That difference was attributable to both greater earnings and more additional household income for White veterans.

- Other researchers have found that Black men earned 20 percent or 30 percent less than White men. See Patrick Bayer and Kerwin Kofi Charles, "Divergent Paths: A New Perspective on Earnings Differences Between Black and White Men Since 1940," *Quarterly Journal of Economics*, vol. 133, no. 3 (August 2018), pp. 1459–1501, <https://doi.org/10.1093/qje/qjy003>; and Mary C. Daly, Bart Hobijn, and Joseph H. Pedtke, "Disappointing Facts About the Black-White Wage Gap," *Federal Reserve Bank of San Francisco Economic Letter*, no. 2017-26 (September 2017), <https://tinyurl.com/4majyc6h>.
- To estimate earnings, CBO used ordinary least squares. In this case, the regression analysis included age, race, marital status, region of residence, level of education, and presence of a VA disability rating as explanatory variables.



Table 5.

### Average Annual Income and Labor Force Status of Male Veterans, Ages 22 to 54, by Race

2019 dollars

	Black	White
Personal income		
Earnings <sup>a</sup>	44,800	64,000
VA disability compensation <sup>b</sup>	6,100	4,600
Other nonlabor income	1,200	1,600
Total personal income	52,000	70,100
Additional household income	36,800	40,100
<b>Total household income</b>	<b>88,800</b>	<b>110,300</b>
In the labor force (percent) <sup>c</sup>	84	88
<b>Addendum:</b>		
Total population (millions)	1.6	8.1

Data source: Congressional Budget Office, using data from the Census Bureau's American Community Survey, 2017 to 2019, and from the Department of Veterans Affairs. See [www.cbo.gov/publication/60043#data](http://www.cbo.gov/publication/60043#data).

For these comparisons, CBO restricted its data sample to non-Hispanic men who were U.S. citizens. CBO did not adjust the data to account for differences in the average characteristics of men, except for age.

Median earnings were lower than the average earnings reported above: \$38,000 for Black veterans and \$51,800 for White veterans.

VA = Department of Veterans Affairs.

- Earnings are income that an employee received in the previous 12 months in the form of wages and salaries (including tips, commissions, and bonuses), as well as self-employment income from a business, professional practice, or farm after subtracting business expenses from gross receipts. The average includes respondents who had no earnings.
- VA provides tax-free disability compensation to veterans with medical conditions or injuries that occurred or worsened during active-duty military service. To estimate the average VA disability payment to each veteran in the American Community Survey who reported a disability rating, CBO used VA's data on average payments by disability rating, age, and sex. VA provided CBO with data from fiscal year 2018, which CBO deflated for 2017 and inflated for 2019 using the price index for personal consumption expenditures from the Bureau of Economic Analysis.
- Men in the labor force either were working or were not working but were available for and actively looking for a job.

### Use of VA Benefits

VA spent more than \$300 billion for disability compensation, health care, and other benefits for all veterans in fiscal year 2023. Using administrative data provided by VA, CBO found differences in the use of VA benefits by Black and White male veterans. A larger share of Black veterans used VA health care and received disability

compensation, and a smaller share of Black veterans than White veterans used the VA home loan program.

VA maintains the Center for Minority Veterans, which supports research, assembles an advisory committee that makes recommendations to the VA Secretary and the Congress, and partners with other VA offices and programs to “ensure all veterans receive equal service regardless of race, origin, religion, or gender.”<sup>33</sup> A 2017 report by VA documented the growth in the share of minority veterans who use at least one VA benefit or service—from 35 percent in 2005 to 44 percent in 2014.<sup>34</sup> But because all non-White veterans (with few exceptions) were analyzed as a single group, differences in the use of VA benefits and services by certain subgroups could have been missed. VA reports that the largest minority group among veterans—amounting to just over 50 percent—is non-Hispanic Black veterans. To obtain data that best corresponded to the last year of ACS data in its analysis, CBO received information from VA about the use of benefits and services in 2019 by Black and White male veterans ages 25 to 54.<sup>35</sup>

In fiscal year 2019, about the same share of Black veterans (49 percent) as White veterans (47 percent) used at least one VA benefit. The range of VA benefits includes disability compensation, health care, home mortgages, life insurance and other types of insurance, vocational rehabilitation, and education. Veterans used the first three of those benefits at a much higher rate than they did the others. A larger percentage of Black veterans than White veterans received VA health care and disability compensation; but a smaller share of Black veterans used VA-supported home loans (see Figure 1).

VA's data show that about 31 percent of Black veterans, and about 25 percent of White veterans, had a VA disability rating—which are both smaller percentages than

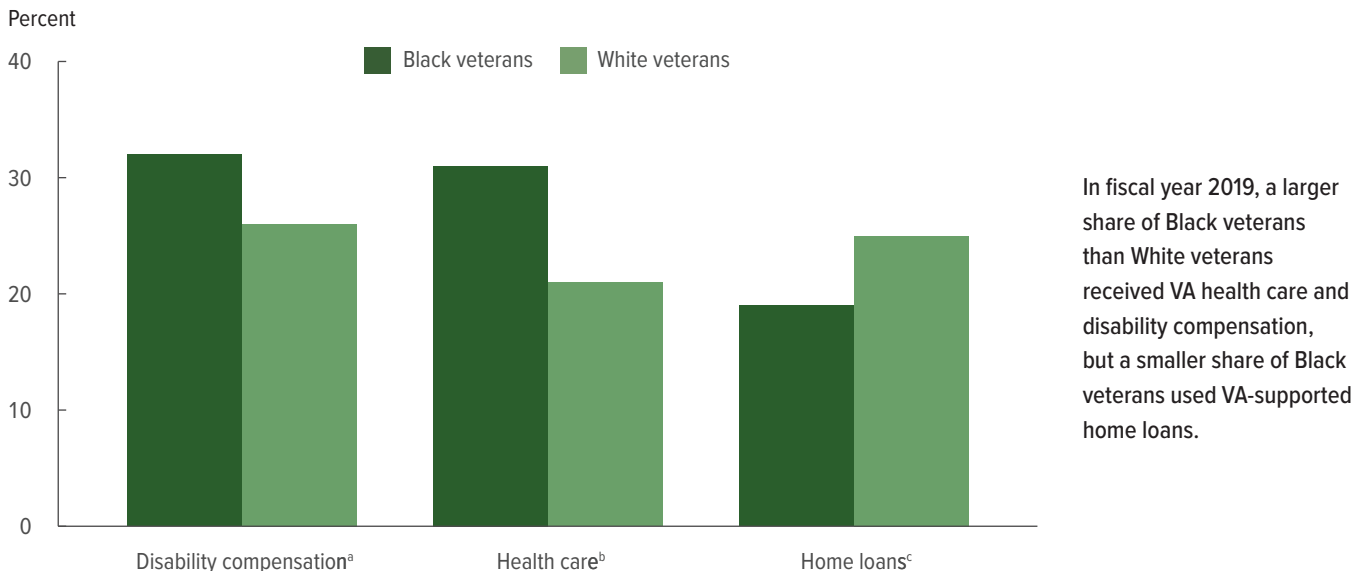
33. Center for Minority Veterans, “The Center’s Vision” (April 21, 2021), [www.va.gov/centerforminorityveterans/about/index.asp](http://www.va.gov/centerforminorityveterans/about/index.asp).

34. Department of Veterans Affairs, Office of Data Governance and Analytics, *Minority Veterans Report: Military Service History and VA Benefit Utilization Statistics* (March 2017), <https://tinyurl.com/4u4v5d5c> (PDF).

35. VA was unable to provide information about veterans ages 22 to 24. CBO estimates that about 13 percent of the veterans included in the data it received from VA probably completed their service before the Gulf War. Those veterans would be older and would probably use more VA benefits than would the veterans in the ACS sample that CBO used.

Figure 1.

**Use of VA Programs by Black and White Male Veterans, Ages 25 to 54, in Fiscal Year 2019**



In fiscal year 2019, a larger share of Black veterans than White veterans received VA health care and disability compensation, but a smaller share of Black veterans used VA-supported home loans.

Data source: Congressional Budget Office, using data from the Department of Veterans Affairs. See [www.cbo.gov/publication/60043#data](http://www.cbo.gov/publication/60043#data).

The categories “Black veterans” and “White veterans” exclude anyone who reported Hispanic ancestry or more than one race.

VA = Department of Veterans Affairs.

- a. VA provides tax-free disability compensation to veterans with medical conditions or injuries that occurred or worsened during active-duty military service.
- b. Health care includes hospital care, outpatient primary and specialty care, rehabilitation and prosthetic care, diagnostic tests, prescriptions, and more. Most of those services or products are delivered in VA facilities at little or no cost to veterans. VA also pays for care provided to veterans in non-VA facilities under certain circumstances.
- c. VA home loans are provided by private lenders, such as banks and mortgage companies, and VA guarantees a portion of the loan to the lender.

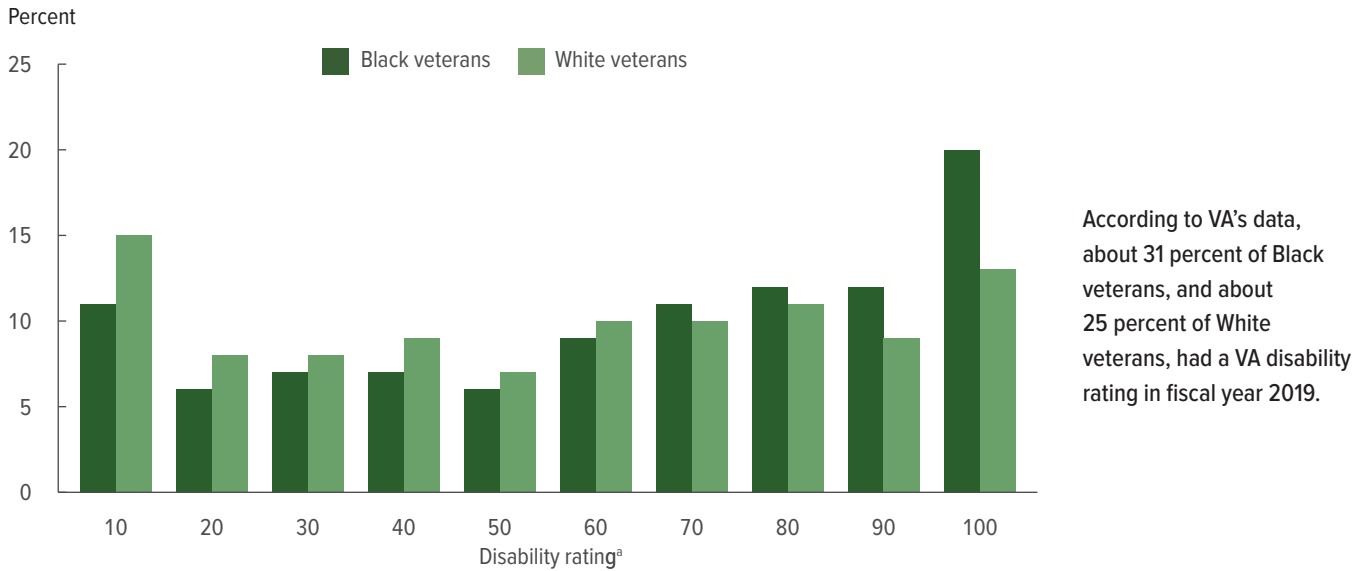
CBO estimated using ACS data. Among veterans with a disability rating, Black men were more likely than White men to have a rating of 100 percent, which classifies them as totally disabled (see Figure 2). VA has found that veterans with service-connected disabilities are more likely to use VA health care than veterans without them, regardless of race or ethnicity. That is probably

because patients do not share the cost of treatment for service-connected disabilities.<sup>36</sup>

36. Department of Veterans Affairs, Office of Data Governance and Analytics, *Minority Veterans Report: Military Service History and VA Benefit Utilization Statistics* (March 2017), <https://tinyurl.com/4u4v5d5c> (PDF).

Figure 2.

### VA Disability Ratings for Black and White Male Veterans, Ages 25 to 54, in Fiscal Year 2019



Data source: Congressional Budget Office, using data from the Department of Veterans Affairs. See [www.cbo.gov/publication/60043#data](http://www.cbo.gov/publication/60043#data).

The categories "Black veterans" and "White veterans" exclude anyone who reported Hispanic ancestry or more than one race.

VA = Department of Veterans Affairs.

a. VA provides tax-free disability compensation to veterans with medical conditions or injuries that occurred or worsened during active-duty military service. VA determines the severity of each medical condition and assigns ratings in increments of 10 percent. The higher the rating, the more severe the condition.

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# Appendix: CBO’s Approach to Analyzing Earnings and Other Outcomes

To analyze the earnings and other economic outcomes of Black male working-age veterans from the Gulf War era, the Congressional Budget Office used data from the American Community Survey (ACS) and administrative data on disability payments and benefits from the Department of Veterans Affairs (VA). The ACS is among the largest of the Census Bureau’s surveys, reaching more than 3 million households each year, and is designed to represent the entire U.S. population.<sup>1</sup> Households responding to the ACS provide information on demographics, labor earnings and other sources of regularly received income, employment status, functional disabilities, military service, and VA disability ratings, among other subjects.

## Data From the American Community Survey

CBO’s sample from the ACS represents a combined total of 30 million men ages 22 to 54 in 2017, 2018, and 2019. Because the labor market experiences and income of men and women differ substantially, CBO focused its analysis on men, who constitute the majority of veterans.<sup>2</sup> The agency excluded men under age 22 for the sake of comparison because any veterans below that age had probably left the military before the end of their initial enlistment contract and are probably unlike other veterans. Using three years of combined data gave CBO a large enough sample to examine how outcomes varied among the relatively small group of Black veterans. CBO analyzed the outcomes in the years immediately before the coronavirus pandemic. The pandemic influenced employment and income in ways that were not typical, and it affected the Census Bureau’s data collection efforts and the resulting quality of the data in its survey.

CBO excluded retirement payments from its estimates of income for several reasons. Few adults in the United States are eligible for retirement income before age 55, although there are some exceptions, such as for retirees from qualified public safety jobs and for certain life events, such as a disability or inheritance of an account. Another special case applies to some people who served in the military. Specifically, service members may retire after 20 years of service (some retire earlier because of disability), but few remain in the military long enough to receive that pension. In a recent report, CBO estimated that about 7 percent of all working-age veterans receive military pensions.<sup>3</sup> But a larger share of working-age veterans in this analysis—about 13 percent—reported retirement income in the ACS. Those who did so reported receiving about \$24,000 per year, on average, compared with an average military pension of about \$33,000 as recorded in administrative data from the Department of Defense. Because, on average, nonveterans under age 55 have no retirement income and relatively few working-age veterans receive military retirement income, CBO’s measure of personal income includes most of the income that working-age men receive.

## Data From the Department of Veterans Affairs

To estimate VA disability payments, CBO used the department’s administrative data instead of data from the ACS. VA pays disability compensation to veterans for medical conditions or injuries that occurred or worsened during active-duty service. It determines whether a veteran has a service-connected disability and uses a rating system to set those payments.<sup>4</sup> To estimate the average VA disability payment to each veteran in the ACS who

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1. For the ACS data and related documentation, see Steven Ruggles and others, “IPUMS-USA: Version 10.0” (census data, accessed September 1, 2022), <https://doi.org/10.18128/D010.V10.0>.

2. Men living in group quarters, such as college dormitories and prisons, were excluded from the analysis.

3. Congressional Budget Office, *Income of Working-Age Veterans Receiving Disability Compensation* (December 2023), [www.cbo.gov/publication/59380](http://www.cbo.gov/publication/59380).

4. For more details about VA’s disability compensation program, see Congressional Budget Office, *Veterans’ Disability Compensation: Trends and Policy Options* (August 2014), [www.cbo.gov/publication/45615](http://www.cbo.gov/publication/45615).

reported a disability rating, CBO used VA's data on average payments by disability rating, age, and sex. VA provided CBO with data from fiscal year 2018, which CBO deflated for 2017 and inflated for 2019 using the price index for personal consumption expenditures from the Bureau of Economic Analysis.

CBO used VA's administrative data for two reasons. First, in the ACS, VA disability payments are mingled with other types of income (including, for example, unemployment compensation and child support) in a residual category designating income from "any other sources." And amounts of disability compensation can be significant: about \$4,000 per month in 2024 (depending on the number of dependents) for veterans with a rating of 100 percent (which considers them to be totally disabled). CBO therefore sought a more accurate estimate of that income source than the ACS provides. Second, the amounts of VA disability payments reported in the ACS category "any other sources" were vastly understated compared with amounts in VA's administrative data. Therefore, CBO excluded that residual category from total personal income and household income and instead used VA's administrative data to assign amounts of disability payments on the basis of self-reported disability ratings.<sup>5</sup>

## Statistical Methods

CBO compared Black male working-age veterans of the Gulf War era with two groups: Black working-age men with no military service and White male working-age veterans of the Gulf War era. (All groups were non-Hispanic.) CBO reweighted the data so that Black nonveterans and White veterans matched the age distribution of Black veterans.<sup>6</sup>

CBO estimated individuals' earnings (which includes wages, salaries, and self-employment income), VA disability payments, and other nonlabor income sources to

construct annual personal income.<sup>7</sup> Except for earnings, CBO reported averages rather than median amounts because data provided from VA on disability compensation were in averages.

CBO analyzed earnings in two ways. First, the agency calculated average and median earnings without accounting for differences in demographic characteristics other than age. Second, because earnings are the single largest source of income for most working-age men in the labor force, CBO conducted a detailed analysis of earnings. Specifically, CBO used regression analysis to account for differences in age, marital status, levels of education, and region of residence.<sup>8</sup> That technique—an alternative to calculating the average values—allows analysts to estimate annual earnings by controlling for factors that might influence the amount of earnings, such as veteran status and race. Not all men included in the analysis reported earnings.

CBO's definition of total household income differed from that in the ACS to reflect the agency's construction of personal income. To calculate household income, CBO used the amount provided in the ACS and then subtracted income from the survey's "retirement" and "any other sources" categories and—for veterans receiving disability compensation—added VA's data on disability payments.

When studying economic outcomes of veterans, it is difficult to disentangle the effects of military service from the effects of selection into the military, because applicants both self-select and are screened by the Department of Defense. Therefore, any differences between Black veterans and Black nonveterans reflect the combination

5. For consistency, CBO also excluded income in the residual category "any other sources" for Black nonveteran men; their average annual income reported in that category was \$262.

6. To reweight the data, CBO used a method that adjusts for differences in the age distribution between Black veterans and the two comparison groups. Specifically, more weight was placed on men in the comparison groups whose ages are more common among Black veterans. That method is similar to the one described in John DiNardo, Nicole M. Fortin, and Thomas Lemieux, "Labor Market Institutions and the Distribution of Wages, 1973–1992: A Semiparametric Approach," *Econometrica*, vol. 64, no. 5 (September 1996), pp. 1001–1044, <https://doi.org/10.2307/2171954>.

7. Earnings were defined as money that an employee received in the previous 12 months in the form of wages and salaries (including tips, commissions, and bonuses) and self-employment income from a business, professional practice, or farm, after subtracting business expenses from gross receipts. Other (nonlabor) income included regular income from investments, estates and trusts, Supplemental Security Income, Social Security disability income, and welfare income. Amounts of VA disability payments, found in the ACS residual category "any other sources," which also included such items as alimony and child support, were vastly understated compared with amounts in VA's administrative data.

8. Earnings regressions were estimated using ordinary least squares, a method that aims to minimize the sum of squared differences between the observed and predicted values. One model was used for Black men, and another was used for veterans. The regression for Black men included a variable for veteran status. The regression for veterans contained a variable for race (Black) and another variable for the presence of a VA disability rating.



of effects of military service and the two-sided selection process associated with entry into the military: choosing to join and being allowed to join.

### Limitations of CBO's Approach

CBO's study has limitations that are common to any analysis based on survey data: The data may be inaccurate because of misreporting and because some people may not answer certain questions. Both problems have been extensively noted.<sup>9</sup> Information about wages and salaries is generally reported correctly, except for self-employment income, which may not be reported or may be underreported.<sup>10</sup> The consequences of those errors were probably minimal in this report because only about 5 percent of men in CBO's sample reported any positive income from self-employment.

In addition, because CBO did not include retirement income, the amounts of personal income and household income are probably underestimated for a small share of men, particularly military retirees. Because so few adults younger than 55 receive retirement income, however, the results presented should be largely unaffected.

CBO used VA's data to estimate the average amount of disability compensation veterans received by disability rating and age range. Actual amounts per person may have been larger or smaller.

CBO did not estimate the causal effects of either veteran status or race on earnings. Although the agency used regression analysis to better compare men with similar demographic characteristics, they may differ along dimensions not observable in the data, and those factors could also contribute to differences in earnings. For instance, CBO did not have any details about military service (such as branch, length of service, military occupation, and rank) that could change estimates of earnings.

9. C. Adam Bee and Joshua W. Mitchell, *Do Older Americans Have More Income Than We Think?* Working Paper SEHSD-WP2017-39 (Census Bureau, July 2017), <https://tinyurl.com/5kmcdmhc>; and Bruce D. Meyer, Wallace K. C. Mok, and James X. Sullivan, "Household Surveys in Crisis," *Journal of Economic Perspectives*, vol. 29, no. 4 (Fall 2015), pp. 199–226, <https://doi.org/10.1257/jep.29.4.199>.

10. Jonathan L. Rothbaum, *Comparing Income Aggregates: How Do the CPS and ACS Match the National Income and Product Accounts, 2007–2012*, Working Paper SEHSD-WP2015-01 (Census Bureau, January 2015), <https://tinyurl.com/vxh33hkk>.

### Recent Research Comparing Earnings of Male Veterans and Male Nonveterans by Race

The following research literature, which compares earnings of male veterans and male nonveterans by race, was particularly useful in CBO's analysis. See Table 1 on page 5 for a summary of findings from these publications.

Joshua D. Angrist, "Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence From Social Security Administrative Records," *American Economic Review*, vol. 80, no. 3 (June 1990), pp. 313–336, [www.jstor.org/stable/2006669](http://www.jstor.org/stable/2006669).

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# About This Document

This report was prepared at the request of the Ranking Member of the House Committee on the Budget and the Ranking Member of the House Committee on Veterans' Affairs. In keeping with the Congressional Budget Office's mandate to provide objective, impartial analysis, the report makes no recommendations.

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CBO seeks feedback to make its work as useful as possible. Please send comments to [communications@cbo.gov](mailto:communications@cbo.gov).



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