

The changing composition of the military and the effect on labor force data

With the end of the draft and the beginning of an all-volunteer military force in 1973, the racial composition of the services has changed significantly and complicates interpretation of labor force data based on the civilian population alone

HAL SIDER AND CHERYL COLE

January 1983 marked the 10th anniversary of the all-volunteer Armed Forces; since the end of the draft, important changes in the size and demographic composition of the military have occurred. These changes have implications for the analysis of labor force statistics, which have traditionally focused on civilians. Recognizing that this distinction is increasingly archaic in the context of an armed force that competes in the job market for its work force, beginning in January 1983, the Bureau of Labor Statistics began to count domestic military personnel as employed members of the aggregate labor force.¹ The data cited in this article incorporate the total (foreign and domestic) military population. Roughly 80 percent of military personnel are stationed in the United States.

This article examines some of the changes that have occurred in the military as a result of the advent of the all-volunteer Armed Forces. Trends in labor force data which include individuals in the military are compared with traditional statistics that measure the civilian labor market.

Demographic changes in the composition of the military in recent years affect the analysis of labor force trends based on the civilian population alone. The effect is greatest for males, ages 16 to 24, a group that makes up roughly 50 percent of the Armed Forces. As measured by civilian em-

ployment-to-population ratios and unemployment rates, the labor market experience of nonwhites has worsened considerably relative to that of whites in recent years. The analysis indicates, however, that roughly 30 percent of the relative decline can be attributed to changes in the demographic composition of the military alone.

Changes in the military since 1972

Size. When the shift to an all-volunteer force² was completed in January 1973, the military was in the midst of significant changes. By January 27, 1973, the last U.S. combat troops were withdrawn from Vietnam and the size of the Armed Forces was already declining rapidly. The military population reached post-World War II peaks in 1968 and 1969 when there were more than 3.5 million active duty personnel. By January 1973, the total size of the military was 2.3 million. As the following tabulation shows, draftees made up a declining share of recruits in the years prior to 1973:

<i>Year</i>	<i>Percent</i>
1968	41
1969	33
1970	33
1971	29
1972	7
1973	8
1974-82	0

Hal Sider and Cheryl Cole are economists in the Office of Policy, U.S. Department of Labor.

In 1968, there were 340,000 draftees and fewer than 40,000 in 1972, according to the U.S. Department of Defense's Office of Accession Policy.

Between 1973 and 1980, the size of the military fell 10 percent to 2.1 million but then increased slightly to 2.2 million in 1982. The distribution of the military population among the various services has been relatively steady since 1973. In 1982, the Army made up roughly 36 percent of personnel on active duty; the Navy, 26 percent; the Air Force, 27 percent; the Marines, 9 percent; and the Coast Guard (now administered by the Department of Transportation), 2 percent.³

Race. The change in the racial composition of the military is perhaps the most often cited result of the all-volunteer force. In fact, since 1973 this change has been quite dramatic. The proportion of the military (in percent) made up by nonwhites roughly doubled between 1972 and 1982 and tripled between 1963 and 1982. The proportion of the population made up by nonwhites increased from 10 to 13 percent over the period. The following tabulation shows the percentage of males of all ages in the Armed Forces and in the population as a whole.

Year	Armed Forces	Total population
1963	7.8	10.1
1972	12.3	10.9
1982	23.2	12.9

As late as 1970, nonwhites were actually less than proportionately represented in the military. Currently, the proportion of the military made up of nonwhites is at a high (23 percent) and is roughly double the nonwhite share of the total population. Following the formation of the volunteer force, the proportion of nonwhite officers has grown from 3 percent in 1972 to 8 percent in 1981.⁴ Roughly 85 percent of nonwhites in the military are black. This figure has remained fairly constant during the 1970's.⁵

Sex. The proportion of the military made up by women is low compared with civilian employment. However, the number of women on active duty has grown very rapidly in recent years, increasing more than fourfold in the last decade. In 1972, slightly more than 43,000 women were in the Armed Forces, making up less than 2 percent of the total personnel. In 1982, 190,000 women were in the military, accounting for about 9 percent of the total. In comparison, women made up 36 percent of all civilian employment in 1972 and roughly 40 percent in 1982. In 1982, women made up 9 percent of the Army; 8 percent of the Navy; 11 percent of the Air Force; and 4 percent of the Marines. Trends in the racial composition of female personnel are similar to those among males. In 1982, 29 percent of the women were nonwhite, compared with 12 percent in 1972.

Age. Changes in the age composition of the Armed Forces have also occurred during the same period, but they have

been less dramatic than those in the race and sex classifications. In the early 1960's, before large-scale American participation in Vietnam, teenagers made up roughly 18 percent of the Armed Forces. At the height of the Vietnam conflict, 1969-71, the proportion of teenagers fell to 12 percent. The proportion of teenagers again approached pre-Vietnam War levels in the mid-1970's after implementation of the all-volunteer force. However, this proportion has fallen steadily in recent years, reflecting increased efforts by the Armed Forces to attract and retain older and more highly educated recruits. The following tabulation shows the age distribution (in percent) of the male Armed Forces population for selected years:

	16 to 19	20 to 24	25 and over
1963	18.4	35.4	46.2
1969	11.9	52.1	36.0
1973	16.5	41.4	42.1
1982	12.7	38.6	48.7

Trends in the "quality" of recruits are observed in data on the proportion of recruits having at least a high school diploma. The proportion fell from 67 percent in 1972 to 61 percent in 1974 but increased to more than 86 percent in 1982. In contrast, 74 percent of the total youth population ages 18 to 23 were high school graduates in 1982.⁶

Labor force trends

This section incorporates data on the Armed Forces population into the analysis of labor market trends. The focus of the analysis is on males ages 16 to 24. In recent years, there has been a marked divergence in the civilian employment-to-population ratios and unemployment rates of whites and nonwhites in this age group. Table 1 shows that civilian employment-to-population ratios have fallen and unemployment rates have risen rather dramatically for nonwhites in recent years. Measures of labor market performance were fairly stable for whites, at least until the onset of the 1981-82 recession. There are no generally accepted explanations for the causes of the racial divergence in labor market performance.⁷

Table 1. Civilian employment-to-population ratios and the unemployment rate for males, ages 16 to 24, selected years, 1963-82

Year	Employment-to-population ratio		Unemployment rate	
	White	Nonwhite	White	Nonwhite
1963	61.5	55.5	11.0	20.1
1970	63.0	53.3	10.2	17.4
1973	67.8	52.4	8.8	17.9
1974	67.7	50.3	10.1	21.5
1975	63.1	43.9	15.1	27.2
1976	65.0	44.6	13.4	25.7
1977	67.5	44.6	11.5	26.8
1978	69.5	46.4	9.9	25.0
1979	69.6	48.6	9.9	22.0
1980	66.7	45.5	13.0	26.2
1981	65.7	42.8	13.8	28.7
1982	62.3	39.6	16.9	33.9

The addition of the military population to data on the civilian labor force necessarily increases employment-to-population ratios and decreases "civilians only" unemployment rates.⁸ The extent of the adjustment for different demographic groups, however, is larger or smaller depending on the proportion of the group's population in the military. Data on the female labor force, for example, are only negligibly affected due to the small number of women in the military.

Table 2. Comparison of civilian and total labor force statistics¹ for males, selected years, 1963-82

[In percent]

Measure and year	White			Nonwhite		
	Total	Civilian	Difference ²	Total	Civilian	Difference
Employment-to-population ratio						
Ages 16 to 19:						
1963	49.5	44.7	4.8	40.7	37.4	3.3
1970	52.3	49.6	2.7	38.0	35.5	2.4
1973	56.4	54.3	2.0	37.2	33.9	3.3
1974	56.3	54.4	1.9	35.9	32.4	3.5
1975	52.7	50.6	2.1	31.5	27.8	3.7
1976	53.5	51.5	1.9	30.5	27.4	3.1
1977	56.1	54.4	1.7	30.8	27.7	3.2
1978	57.7	56.3	1.5	33.2	30.0	3.2
1979	57.0	55.7	1.3	33.6	30.2	3.3
1980	54.8	53.4	1.4	32.0	28.5	3.5
1981	52.8	51.3	1.5	29.4	26.1	3.4
1982	48.5	47.0	1.6	25.7	22.7	3.0
Ages 20 to 24:						
1963	82.4	79.1	3.4	77.4	74.8	2.7
1970	81.5	76.8	4.7	77.1	72.9	4.2
1973	82.2	80.2	2.0	73.9	70.9	3.0
1974	81.6	79.8	1.8	72.2	68.8	3.4
1975	76.3	74.3	2.0	64.6	60.3	4.3
1976	78.5	76.9	1.6	66.0	62.0	4.0
1977	80.2	76.7	1.4	65.0	61.0	4.1
1978	81.9	80.6	1.2	66.1	62.0	4.1
1979	82.3	81.1	1.2	69.5	65.7	3.8
1980	78.9	77.5	1.3	65.5	61.0	4.5
1981	78.3	77.0	1.4	62.9	58.0	4.9
1982	75.5	73.9	1.6	59.8	54.4	5.3
Unemployment rate						
Ages 16 to 19:						
1963	13.5	15.9	2.4	24.7	27.3	2.7
1970	12.4	13.7	1.3	23.0	24.9	1.9
1973	11.4	12.3	.9	24.1	26.0	2.7
1974	12.7	13.5	.9	28.2	31.4	3.2
1975	17.1	18.3	1.2	31.2	35.1	3.9
1976	16.2	17.3	1.1	31.9	35.6	3.3
1977	14.1	15.0	.9	33.3	36.7	3.4
1978	12.8	13.5	.7	30.8	34.1	3.3
1979	13.3	14.0	.6	28.2	31.4	3.2
1980	15.4	16.2	.7	30.7	34.3	3.6
1981	17.0	17.9	.9	33.8	37.6	3.8
1982	20.7	21.7	1.0	40.1	44.0	4.0
Ages 20 to 24:						
1963	6.4	7.8	1.4	13.7	15.6	1.8
1970	6.0	7.8	1.8	10.4	12.6	2.3
1973	5.8	6.6	.8	11.3	12.9	1.6
1974	7.0	7.8	.8	13.6	15.6	2.0
1975	12.0	13.1	1.2	19.6	22.7	3.1
1976	10.0	10.9	.9	17.9	20.6	4.8
1977	8.6	9.3	.7	18.7	21.4	2.8
1978	7.1	7.7	.6	17.3	20.0	2.7
1979	6.9	7.5	.5	14.8	17.2	2.3
1980	10.3	11.1	.8	18.9	22.1	3.1
1981	10.7	11.6	.9	20.7	24.3	3.6
1982	13.3	14.3	1.0	25.0	29.2	4.3

¹Total includes civilian and Armed Forces.

²Numbers may not add to totals because of rounding.

The starting point for the analysis is the construction of the ratio of the Armed Forces population to total population for various demographic groups. The data reveal a long-term trend toward a reduced role for the military in the life of young adults, particularly for whites. This is, of course, due to a larger population (the entry of the baby-boom cohort into the labor force) as well as changes in the military. The tabulation below shows the male military population to total population (in percent) by age and race, for selected years:

Year	16 to 19		20 to 24	
	White	Nonwhite	White	Nonwhite
1963	8.7	5.2	16.0	10.6
1972	4.2	3.8	12.1	11.1
1974	4.2	5.1	8.7	10.9
1982	2.9	3.9	6.2	11.7

Before the all-volunteer force, enlistment-to-population ratios were uniformly higher for whites than nonwhites. Since that time, however, enlistment ratios have been uniformly higher among nonwhites. The phasing out of the draft has resulted in a decrease in the proportion of white males ages 20 to 24 in the military, as well as in the proportion of white teenagers.

Table 2 presents total (including Armed Forces) and civilian labor force data for male teenagers and young adults. For whites, the difference between total and civilian labor force statistics is greatest in the years before the formation of the volunteer Armed Forces because whites were more than proportionally represented in the Armed Forces at that time. As enlistment-to-population ratios fell for whites, the wedge between civilian and total labor force statistics narrowed. Thus, the declines in white civilian employment-to-population ratios are *smaller* than the decline in the employment-to-population ratio for the *total* population. In fact, for white teenagers, an increase of 2.3 points in the civilian employment-to-population ratio between 1963 and 1982 was more than offset by declines in military enlistment. The total employment-to-population ratio for white teenagers fell by 1 percentage point over the period. Similarly, increases in civilian unemployment rates for whites over the past 20 years are smaller than the increase observed in *total* unemployment data.

The data for nonwhites reveal the opposite pattern. The wedge between total and civilian labor force statistics is greater in the postdraft era, as blacks came to account for a growing share of the Armed Forces population. As such, the decline in the nonwhite civilian employment-to-population ratio is greater than the decline in the employment-to-population ratio for the *total* population. Similarly, the increases in nonwhite civilian unemployment rates exceed changes in unemployment for the *total* labor force.

Thus, examination of data on the civilian labor force alone is insufficient in determining the relative labor market experience of white and nonwhite youth. More specifically, the racial gap in the *civilian* employment-to-population ratio

Table 3. Racial differences in the civilian and total labor force, 1963-82

Measure and year	Total	Civilian	Measure and year	Total	Civilian
Employment-to-population ratio¹			Unemployment rate²		
Ages 16 to 19:			Ages 16 to 19:		
1963	8.8	7.2	1963	11.2	11.4
1973	19.2	20.4	1973	12.7	14.5
1974	20.4	22.0	1974	15.5	17.9
1975	21.2	22.8	1975	14.1	16.8
1976	23.0	24.1	1976	15.7	18.3
1977	25.3	26.7	1977	19.2	21.7
1978	24.5	26.3	1978	18.0	20.6
1979	23.4	25.5	1979	14.9	17.4
1980	22.8	24.9	1980	15.3	18.1
1981	23.4	25.2	1981	16.8	19.7
1982	22.9	24.3	1982	19.4	22.3
Ages 20 to 24:			Ages 20 to 24:		
1963	5.0	4.3	1963	7.4	7.8
1973	8.3	9.4	1973	5.5	6.3
1974	9.4	11.0	1974	6.6	7.8
1975	11.7	14.0	1975	7.6	9.5
1976	12.5	14.9	1976	7.9	9.7
1977	15.2	17.7	1977	10.1	12.1
1978	15.8	18.6	1978	10.2	12.3
1979	12.8	15.4	1979	7.9	9.7
1980	13.4	16.5	1980	8.6	11.0
1981	15.4	19.0	1981	10.0	12.2
1982	15.8	19.5	1982	11.7	14.7

¹White rate minus nonwhite rate.

²Nonwhite rate minus white rate.

was smaller than the gap in the *total* employment-to-population ratio in the years before the volunteer force. After that time, the gap was greater in the civilian data. (See table 3.)

Between 1963 and 1982, changes in the composition of the military accounted for roughly 20 percent of the relative decline in the employment-to-population ratio for nonwhite male teenagers;⁹ for males ages 20 to 24, the corresponding number is roughly 30 percent. Similarly, changes in the military accounted for 25 percent of the relative increase in unemployment rates for nonwhite teenagers and 40 percent of the relative increase among nonwhites 20 to 24 years of age.

SIGNIFICANT CHANGES in the size and demographic composition of the military have taken place since the start of the all-volunteer Armed Forces in 1973. These changes have also had important implications for the interpretation of labor force statistics. The most significant change is that the share of the military made up by nonwhites grew rapidly in the years after the draft was phased out. Over the same period, the civilian labor market status of nonwhite teenagers and young adults in the civilian labor force deteriorated rapidly. A focus restricted to the civilian labor force, however, yields an exaggerated picture of the extent of this decline. Roughly 30 percent of the relative decline in the number of nonwhite teenagers and young adults in the civilian labor force can be attributed to changes in the demographic composition of the military. □

—FOOTNOTES—

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¹The Bureau has historically published total labor force figures for the overall population, including the military, and made them available for specific age groups.

²The last draft call was in December 1972. These men were inducted in 1973, resulting in the positive level of draftees after formal commencement of the volunteer force.

³*Statistical Abstract of the United States*, 1982, tables 593 and 596, p. 360.

⁴*Statistical Abstract*, table 594, p. 360.

⁵*Ibid.* In addition to blacks, the category nonwhite includes Asian Americans, American Indians, and others. It should be noted that the "Hispanic origin" category is not a racial classification. Persons in this group may appear in the white or black and other racial categories.

⁶Military Manpower Task Force, November 1982, pp. II-3-II-4.

⁷Recent noteworthy contributions to the research literature on this problem include: John Cogan, "The Decline in Black Teenage Employment, 1950-1970," *The American Economic Review*, September 1982, pp. 621-38; Dave O'Neill, "Racial Differences in Teenage Employment: A Note on the Trends," *Journal of Human Resources*, Spring 1983, pp. 296-306; David T. Ellwood and David A. Wise, *Youth Employment in the Seventies: The Changing Circumstances of Young Adults* (Cambridge, Mass., National Bureau of Economic Research, Inc., 1983), NBER Working Paper Series, 1055. See also the papers collected in Richard B. Freeman and David A. Wise, eds., *The Youth Labor Market Problem: Its Nature, Causes, and Consequences* (Cambridge, Mass., National Bureau of Economic Research, Inc., 1982).

⁸Total employment-to-population ratios are calculated by adding the Armed Forces population to employment and civilian population totals. Total unemployment rates are calculated by including the Armed Forces population in labor force totals.

⁹For example, the growth of the white or nonwhite difference in the total teenage employment-to-population ratio between 1963 and 1982 is 14.1 points (22.9 - 8.8). The corresponding figure for the civilian population is 17.1 points (24.3 - 7.2). Thus, roughly 20 percent of the divergence in the civilian employment-to-population ratio among teenagers can be attributed to changes in the composition of the military. Calculations for other groups are carried out in a similar manner.