

“Who Will Fight – The All-Volunteer Army after 9/11”

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Susan Payne Carter, Alex Apt Smith, and Carl Wojtaszek

United States Military Academy¹

I. Introduction

Since the founding of the nation, Americans have wrestled with the question of who would bear the burden of the nation’s wars. Two centuries ago, Benjamin Franklin wondered, “...whether it be just in a community, that the richer part should compel the poorer to fight in defen[s]e of them and their properties, for such wages as they think fit to allow, and punish them if they refuse?” (Franklin and Stueber, 1825). A similar sentiment was expressed during the Civil War and then later in the Vietnam War, when college draft deferments sparked protests declaring the conflict a “rich man’s war and a poor man’s fight.” This inequality of burden, real or perceived, ultimately drove America’s transition to an all-volunteer force (AVF) in 1973. While the AVF fundamentally altered the way in which America fills its military’s ranks, it is not immediately apparent that a voluntary force will better distribute the burden of war. We use detailed administrative data on enlisted soldiers in the U.S. Army during the conflicts in Iraq and Afghanistan to examine who now fights America’s wars.

As an AVF, the burden of combat in the U.S. Army falls on the eligible individuals that choose to join; and after joining, choose occupations that may deploy them to combat zones. An individual is only eligible to enlist in the Army if he has obtained a high school degree, scored

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above a minimum threshold on a cognitive test, and passed a medical exam.² Population averages of high school degree attainment and test scores suggest that this eligibility threshold is more likely to prevent enlistment for blacks and Hispanics and individuals from lower income backgrounds. However, these are also the groups with the least attractive civilian labor market options, leaving the military relatively attractive as a ladder of economic advancement.³

Before enlisting in the Army, a recruit chooses a military occupation from a set of options determined by aptitude test scores and the demands of the Army at that time. To serve in a specific occupation an individual must score above the relevant aptitude threshold, be offered it, and then choose it. This process of qualification and selection allows soldiers some, but not full, control over their level of exposure to combat. For example, recruits with similar aptitude scores can vary their level of combat exposure by selecting jobs that differ in their exposure – such as choosing to be an infantryman versus a mechanic. However, a recruit with a lower aptitude score may have fewer job choices. This could give him less opportunity to reduce combat risk, but it could also make him ineligible for high combat risk occupations.

In this paper, we find that as the wars in Iraq and Afghanistan increased the combat risk associated with enlistment, there was an increase in the fraction of active-duty Army enlistments that were white or from high-income neighborhoods and a decrease in the fraction that were black or from low-income neighborhoods. Among men, we find that the deployment and combat

² We limit our analysis to enlisted soldiers and exclude commissioned officers. Officers are required to have an undergraduate degree and complete a separate commissioning process.

³ For example, in 2005 the BLS reported that the unemployment rate for white teenagers (16-19 years) was 14.2%, while it was 33.3% for black teenagers and 18.4% for Hispanic teenagers.

injuries of white and Hispanic soldiers increased relative to black soldiers and the deployment and combat injuries of soldiers from high-income neighborhoods increased relative to those from low-income neighborhoods. Furthermore, controlling for the test scores that largely determine combat occupation eligibility, we find that white and higher income recruits are more likely to select combat occupations. This suggests that low-income and black men did not bear a disproportionate burden in the last decade of war.

II. Enlistments

We use military administrative data on enlisted soldiers entering the active-duty U.S. Army between 2000 and 2010. The data includes administrative and demographic information, including deployment frequency. In 2010, 83% of newly enlisted soldiers were high school graduates or GED holders and 17% had attended at least some college. Less than 1% were high school dropouts. Men composed 85% of the newly enlisted population in 2010. Among these men, 65% were white, 17% were black, and 12% were Hispanic, while among the newly enlisted men in combat occupations, 75% were white, 9% were black, and 11% were Hispanic. Compared to the national population of men between the ages of 18 and 35 with just a high school degree, black men were over-represented among the newly enlisted by 3 percentage points, but under-represented among those newly enlisted in combat occupations by 5 percentage points (2010 American Community Survey). Hispanic men were under-represented in both groups by 12 and 13 percentage points, respectively. Among women, blacks were drastically over-represented among the newly enlisted, constituting 33% compared to 16% in the national comparison group, but Hispanics were underrepresented, constituting 13% compared to 25% in the national comparison group (2010 American Community Survey).

In the analysis that proceeds, we restrict our sample to new enlistees who complete basic training and serve for at least a year. We define a soldier's neighborhood income decile by where her zip code at enlistment fell in the population-weighted distribution of zip code median family income from the 2000 U.S. Census. We also include information from the Armed Services Vocational Aptitude Battery (ASVAB) as a measure of cognitive ability. The Army uses sub-components of the test on math and verbal skills to create an Armed Forces Qualification Test (AFQT) score which we split into three categories: low scores (31-49), mid-level scores (50-64), and high scores (65-100). In our regressions, we also include controls for specific ASVAB sub-categories that determine combat jobs.

[Insert Figure 1]

Figure 1 examines trends of those enlisting in the Army from 2000 to 2010 based on race, income distribution, and AFQT separately for men (Panel A) and women (Panel B). After the start of the Iraq War in 2003 there is a rise in the percentage of white enlistees, a decrease in the percentage of black enlistees, and Hispanics remaining level. Meanwhile, the percentage of enlistees from the bottom decile of the income distribution fell from 2000 to 2010 and the percentage from the top income decile rose, especially during the U.S. recessionary period starting in 2008. Additionally, as the wars progressed and the Army expanded, there was an increase in the percentage of the population from the bottom quartile of AFQT. This trend corresponds to the Army's lowering of standards and increased use of waivers to meet recruiting goals during the war (Baldor, 2006). Although the levels differ for men and women because the female population in the Army is more diverse than the male population, the racial, income, and AFQT trends are largely the same for both men and women. These results are comparable to Watkins and Sherk (2008) who use a different methodology and population.

III. Job Choice

Beyond the voluntary choice to enlist during a time of war, recruits entering the Army also have the choice to select a specific occupation within the Army. However, different jobs have different ASVAB minimum thresholds and are subject to availability; thus, not all occupations will be offered to every individual. These minimum standards and restriction could cause pooling of certain demographics into occupations of higher or lower combat risk, generating an unequal distribution of the burden of war. We examine this for men only, as women during this time were restricted from serving in direct combat roles.

In Column 1 of Table 1, we show that demographic characteristics are related to job choice using an OLS regression of combat job choice on race and income quintiles. We include interactions between the ASVAB sub-categories for Combat Arms and Field Artillery interacted with enlistment year to control for eligibility.⁴ Our outcome is an indicator for enlisting in a combat job (infantry, armor, aviation, field artillery, engineers, special forces, or air defense). We find that white men (the omitted group) are the most likely to choose a combat job while black men are the least likely to choose a combat job (26 pp less than whites). Relative to the highest threshold (the omitted group), those from the lowest income zip codes are 7 pp less likely to select a combat job.

[Insert Table 1 Here]

IV. Deployment and Injury

Next we examine how the burden of deployment is distributed across demographics. Because some military occupations have small, but critical, populations, deployments are not equally

⁴ For example, see the qualifications for an Infantry soldier: <http://www.goarmy.com/careers-and-jobs/browse-career-and-job-categories/combat/infantryman-11x.html>

distributed across jobs. It is also unlikely that a recruit would know the average deployment rate of a particular occupation; meaning that the selection of a non-combat occupation may not result in fewer deployments. We calculate the fraction of those in an occupation who deployed in the previous year and regress it on enlistee characteristics: race, income, AFQT, and year of enlistment (Column 2 of Table 1).⁵ White men are again more likely to choose jobs with a higher deployment rate, but the magnitude is small with black men having, on average, a job with a 0.8 pp lower deployment rate. Income quintiles play almost no role with magnitudes lower than 1 pp.

In Figure 2 Panel A, we examine the likelihood of deployment based on race, income, and AFQT for men over time. In all graphs, there is a rise in likelihood of deployment for those enlisting between 2002 and 2008, which is not surprising given the start of the Iraq War and the surge in 2006. Hispanics are much more likely to deploy than either blacks or whites, and blacks are the least likely to deploy. In terms of income, the highest income are the most likely to deploy with the bottom income least likely to deploy. Finally, especially in the latter half of the decade, AFQT is not related to deployment likelihood.

[Insert Figure 2]

In Columns 3 and 4 of Table 1, we test whether these results hold when controlling for AFQT, income, and race together. We regress an indicator for deployment during the first five years of service on race, income quintile, AFQT score, and year of entry. Of men that enter the Army (Column 3), black men are 4 pp less likely to deploy and Hispanic men are 2.6 pp more likely to deploy. Men from the lowest income areas are 1.6 pp less likely to deploy. In Column 4,

⁵ These results hold even when we do not lag the outcome variable.

we add controls for tenure in the Army and include interactions between occupation x year of entry.⁶ These controls allows us to test for differential deployment within jobs for similar men. Black men and men of other races are marginally less deployed than whites (1.3pp and 0.8pp), and Hispanic men are more likely to deploy (1.7 pp and 1 pp). Once controlling for occupation and tenure, men from the lowest income decile are 1.8 pp less likely to deploy.

Finally, we examine the heaviest burden of war, casualties, and how war injuries are distributed across demographic groups. Figure 2, Panel B shows that white and Hispanic men had a higher rate of injuries than black men, and men from the highest income quintile had a higher rate of injuries than men from the lowest quintile. In our regressions, Table 1 Column 5 shows that all race categories are less likely to sustain a hostile injury compared to whites, with blacks being the least likely at 1.9 pp lower than whites. In Column 6, we again add controls for tenure in the Army and include interactions between occupation x year of entry. With this addition, only blacks remain less likely to sustain a hostile injury (lower by 0.4 pp). Looking across income there is a small, but significant, decrease in hostile injury for the lowest income deciles (Col. 5). However, when we add controls for tenure and occupation x year of entry (Col. 6), there is no apparent trend across income deciles or race.

V. Discussion

Today's AVF represents a diverse group of individuals serving for both patriotic and economic reasons. For those with fewer economic opportunities, steady employment may be the main motivation for enlistment; while for those with greater economic opportunity, service in a

⁶ When we regress the likelihood of staying 5 years on these same categories and occupation, non-whites, lower AFQT, and lower income individuals are more likely to stay through 5 years.

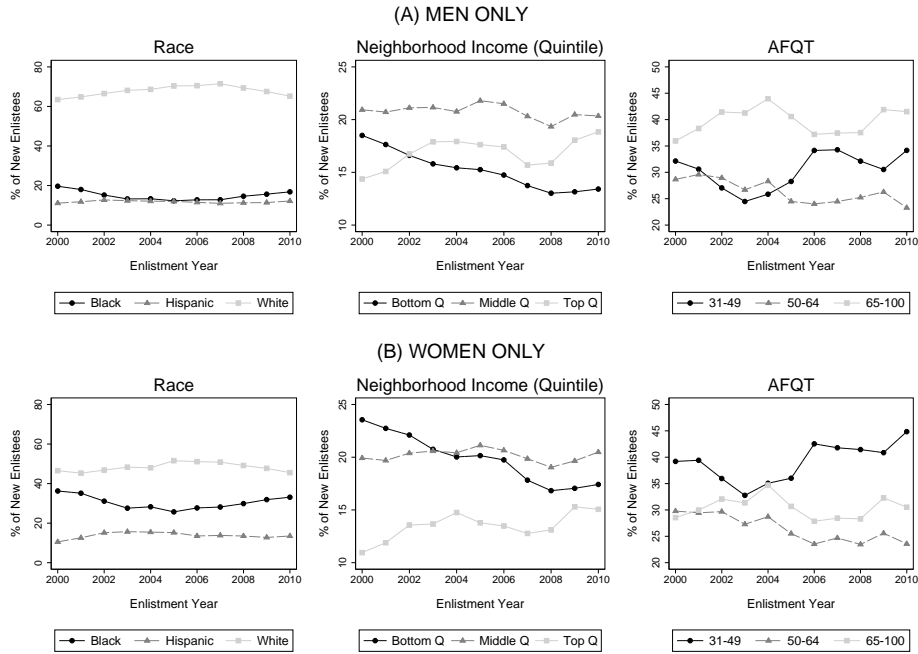
time of war may drive their enlistment decision. Insofar as these reasons are correlated with demographic characteristics, the AVF is susceptible to inequitably distributing the burden of war across demographic groups. While our analysis does not allow us to directly examine how motivations for enlistment differ between groups, we can observe the resulting enlistment decisions. We find that during the wars in Iraq and Afghanistan, the numbers of black and low-income enlistees decreased as fighting intensified and then the percentage of blacks rebounded while the percentage from low-income leveled-off when outside labor market opportunities diminished during the Great recession. Additionally, black and low-income men were less likely to choose jobs with high risk of combat. This evidence is suggestive that, among these groups, economic opportunity is driving enlistment decisions.

Were the first sustained conflicts of the AVF “rich man’s wars and a poor man’s fights”? We find evidence that contradicts this idea. Those with fewer outside opportunities are not, in fact, laden with disproportionate deployments or risk of combat injuries. If anything, white men and men from high-income backgrounds are more likely to be deployed and injured because they are more likely to select riskier occupations.

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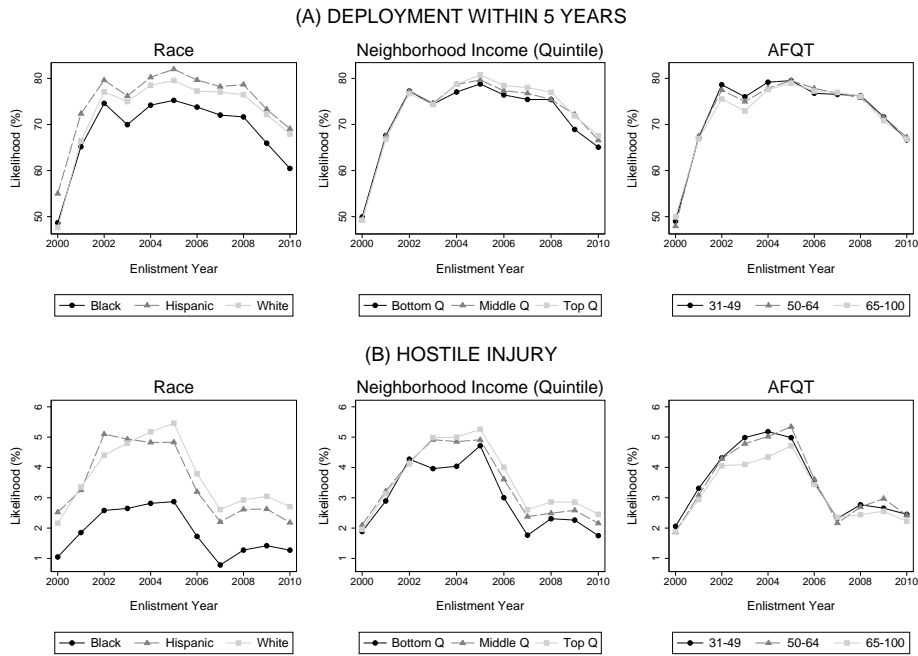
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Figure 1: Distribution of Newly Enlisted by Enlistment Year and Sex



Note: Neighborhood income decile is defined for the enlistee's home zip code using the population-weighted distribution of zip code median family income from the 2000 Census.

Figure 2: Deployment and Hostile Injury by Enlistment Year (Men Only)



Note: Neighborhood income decile is defined for the enlistee's home zip code using the population-weighted distribution of zip code median family income from the 2000 Census. Deployment in 5 years is an indicator equal to one if a soldier receives combat hazard pay within 5 years of enlistment.

Table 1: Explaining Variation in Deployment (Men Only)

	Combat Branch	Occupation Deploy Risk	Deploy within 5 Years		Hostile Injury	
	(1)	(2)	(3)	(4)	(5)	(6)
RACE:						
Black	-0.257 (0.002)	-0.008 (0.001)	-0.039 (0.002)	-0.013 (0.002)	-0.019 (0.001)	-0.004 (0.001)
Hispanic	-0.081 (0.002)	-0.009 (0.001)	0.026 (0.002)	0.017 (0.002)	-0.003 (0.001)	0.001 (0.001)
Other (Non-White)	-0.090 (0.003)	-0.008 (0.001)	-0.004 (0.003)	-0.008 (0.003)	-0.005 (0.001)	-0.001 (0.001)
NEIGHBORHOOD INCOME DECILE:						
1 (Poorest)	-0.072 (0.004)	-0.003 (0.001)	-0.016 (0.003)	-0.018 (0.003)	-0.005 (0.001)	0.001 (0.001)
2	-0.053 (0.003)	0.004 (0.001)	-0.008 (0.003)	-0.010 (0.003)	-0.003 (0.001)	0.002 (0.001)
3	-0.047 (0.003)	0.005 (0.001)	-0.010 (0.003)	-0.013 (0.003)	-0.001 (0.001)	0.003 (0.001)
4	-0.042 (0.003)	0.004 (0.001)	-0.007 (0.003)	-0.010 (0.002)	-0.002 (0.001)	0.002 (0.001)
5	-0.039 (0.003)	0.003 (0.001)	-0.005 (0.003)	-0.009 (0.003)	-0.002 (0.001)	0.001 (0.001)
6	-0.038 (0.003)	0.002 (0.001)	-0.001 (0.003)	-0.006 (0.002)	-0.002 (0.001)	0.001 (0.001)
7	-0.028 (0.003)	0.002 (0.001)	-0.001 (0.003)	-0.005 (0.003)	-0.002 (0.001)	0.001 (0.001)
8	-0.022 (0.003)	0.001 (0.001)	-0.001 (0.003)	-0.003 (0.002)	-0.000 (0.001)	0.002 (0.001)
9	-0.017 (0.003)	0.000 (0.001)	0.004 (0.003)	0.004 (0.002)	0.001 (0.001)	0.002 (0.001)
<i>Adjusted R²</i>	<i>0.04</i>	<i>0.47</i>	<i>0.04</i>	<i>0.28</i>	<i>0.00</i>	<i>0.03</i>
<i>Obs</i>	<i>532,208</i>	<i>496,247</i>	<i>541,681</i>	<i>501,024</i>	<i>541,681</i>	<i>501,024</i>
<i>Mean</i>	<i>0.45</i>	<i>0.24</i>	<i>0.72</i>	<i>0.73</i>	<i>0.03</i>	<i>0.03</i>
Enlistment Year FE	X	X	X	X	X	X
AFQT Category	X	X	X	X	X	X
ASVAB Combat Score x Enlistment Year	X	X				
ASVAB Field Artillery Score x Enlistment Year	X	X				
5 Year Tenure Measure				X		X
Occupation x Year FE				X		X

Note: Each column reflects a separate regression restricted to the sample of male new enlistees that remain in the Army at least one year. Neighborhood income decile is defined for the enlistee's home zip code using the population-weighted distribution of zip code median family income from the 2000 Census. Combat branches include: Infantry, Armor, Army Aviation, Field Artillery, Corp of Engineers, Special Forces, and Air Defense Artillery. Occupation deployment risk is defined as the fraction of soldiers in a given occupation that deployed in the previous year. Deployment in 5 years is an indicator equal to one if a soldier receives combat hazard pay within 5 years of enlistment.