Military Service and Civilian Labor Market Outcomes

Comparing Employment of Post-9/11 Veterans and Nonveterans

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Undergraduate Honors Thesis
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December 2015

Acknowledgements

I would like to express my deepest appreciation to all those who have helped make this thesis a reality. I am especially grateful to my advisors, Professor Amar Hamoudi and Professor Christina Gibson-Davis. Without their guidance and patience over the past year, this thesis would not have been possible. Their encouragement and feedback challenged me to take my research a step further.

I would like to thank my friends and family for their constant support throughout the process. I am indebted to Duke for their provision of resources, particularly the Sanford Honors Program and the Social Science Research Institute (SSRI).

Lastly, a special thank you to all the men and women who have served or are serving in the armed forces. Their courage and sacrifice are the inspiration behind this thesis.

Abstract

Veterans struggle to enter the civilian labor market following military service. Since the September 11 terrorist attacks, over 3.2 million Americans have served in the military. Upon returning home, these veterans are twenty percent more likely to be unemployed than nonveterans (7.2% vs 6%, respectively).

This study investigates the association between military service and employment outcomes (employment status and weekly earnings) for post-9/11 veterans, a heretofore understudied group. Data was obtained from the Current Population Survey (CPS) Veteran Supplement. Linear probability models and OLS regressions were utilized to compare employment outcomes between veterans and nonveterans of similar age, education and race/ethnicity ("veteran effect"). Findings suggest that the veteran effect on employment is negative while the veteran effect on earnings, given employment, is positive. This is likely because of selection bias; the most productive veterans find employment and therefore command higher wages. Veteran effects differ by race and ethnicity, length of military service and time since service. Policymakers should tailor transition programs to the most vulnerable veterans, such as long-term military personnel.

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Introduction

Approximately 21 million Americans are veterans with over 3.2 million having served since the September 11, 2001 terrorist attacks (Walker 2010). Following military service, these veterans struggle to reintegrate into society and enter the civilian labor market (Humensky, Jordan et al. 2012). They are twenty percent more likely to be unemployed than nonveterans (7.2% vs 6%, respectively) (BLS 2014). Many believe the government has an obligation to veterans on moral grounds, as veterans risk their lives to keep America safe. Notwithstanding moral arguments, veterans face excessive challenges upon transitioning to the civilian workforce. These challenges do not affect all veterans equally. Effective public policy to combat veteran unemployment will need to account for variation in demographics and military experience.

Research on the association between military service and employment outcomes of post-9/11 veterans is limited. However, similar studies on Vietnam, Korean and World War II veterans suggest that disadvantaged veterans (those that are minorities or have low education) benefit the most from military service; their post-service earnings are the same or more than comparable nonveterans (Browning, Lopreato et al. 1973). On the other hand, advantaged veterans (those that are white or have high education) benefit the least from military service; their post-service earnings are the same or less than similar nonveterans (Angrist 1990). These outcomes may be a result of inconsistencies in employer perceptions. In the absence of other qualifications, the military may be perceived positively for the disadvantaged as it develops discipline and a strong worth ethic (Cohany 1992). However, the military may be perceived negatively for the advantaged as many believe the most qualified professionals avoid military service (Schwartz 1986).

This study analyzes the substitutability of post-9/11 military service and the civilian labor market. In order to determine the association between military service and employment outcomes, the study compares veterans and nonveterans of similar age, education and race and ethnicity ("veteran effect"). Employment outcomes are measured by employment status and the log of weekly earnings. Given that employment outcomes differ by military experience and demographics, I break down the veteran effect by race and ethnicity, length of military service and length of time since service.

In order to accomplish this, data was obtained from the Current Population Survey (CPS) Veteran Supplement. The sample consists of male veterans who entered the military after 1997 between the ages of 18 and 27, and left the military after 2001. Male nonveterans of comparable age are also included in the sample. Females were not included due to insufficient sample size. The analysis uses regression analysis to control for confounding variables including race, ethnicity, age and education. Causation between military service and employment outcomes cannot be determined as many unobserved confounding factors still exist. The study does control for length of military service and length of time since service, a major limitation of previous studies (Berger and Hirsch 1983, Humensky, Jordan et al. 2012, Kleykamp 2013). The overall veteran effect masks important differences among the 3.2 million post-9/11 veterans. For example, a veteran who served for two years will likely have different employment outcomes than a veteran who served for fifteen years.

Theoretical Framework and Literature Review

Demographics of Veterans

Demographic differences between veterans and nonveterans do not fully explain the variation in unemployment rates. Post-9/11 veterans, as of 2014, have a higher unemployment

rate than nonveterans (7.2% vs 6%) (BLS 2014). The average male unemployment rate is eleven

percent higher for veterans than nonveterans (6.9% vs 6.2%). However, this difference is

significantly larger for males ages 25 to 34 (7.5% vs 6.3%). The average female unemployment

rate is forty-four percent higher for veterans than nonveterans (8.5% vs 5.9%) (BLS 2014). As

compared to the United States population, these veterans are disproportionately male (80%), ages

18 to 34 (65% vs 33%), and African-American (15% vs 12%) (BLS 2014). They are less likely

than nonveterans to have dropped out of high school (2% vs 14%) but also less likely to have a

4-year college degree (23% vs 27%) (Walker 2010). Significant differences in unemployment

still exist after controlling for these demographic differences.

Veterans are not representative of the United States population because of the military

selection process (Richard and Wilhite 1990, Angrist and Krueger 1994, Humensky, Jordan et al.

2012). Military selection occurs in two ways: who applies to join the military and who the

military accepts (Hirsch and Mehay 2003, Kleykamp 2013). In general, individuals with many

career opportunities tend to avoid military service while the military excludes individuals that do

not meet its mental and physical requirements (De Tray 1980). The most privileged individuals

(high socioeconomic background or education) will not enter the military while the most

disadvantaged individuals (low socioeconomic background or education) will not be accepted

into the military (Cohany 1992). As a result, military selection is partially responsible for the

divergence in employment outcomes among veterans and nonveterans.

Benefits and Disadvantages of Military Service for the Civilian Labor Market

Relative to nonveterans, military service may increase veterans' post-service employment

and earnings (Little and Fredland 1979, Angrist and Chen 2008). The military invests time and

money into training soldiers, both physically and mentally. This training may result in

transferable skills including a strong work ethic, leadership skills, discipline, and self-confidence (Cohany 1992, Humensky, Jordan et al. 2012). Certain military occupations, such as engineering, may develop a specialized skillset desired by the private sector. Even if transferrable skills are not developed, military experience may still send a positive signal to employers. In general, military service is well-respected by society and may be viewed positively in the absence of other qualifications (Berger and Hirsch 1983).

In addition to skills gained while serving in the military, post-service benefits are also available. The GI Bill provides veterans with financial assistance to pursue an education (De Tray 1980). Veterans are provided with medical benefits and job counseling services (Schwartz 1986). Furthermore, the VA Compensation program reduces the negative effects of disabilities by providing financial support to veterans (Savoca and Rosenheck 2000). A unique factor of this program is that veterans can return to work without an automatic reduction in their disability payments (Greenberg and Rosenheck 2007).

However, military service also may decrease employment and earnings for veterans post-service (Berger and Hirsch 1983). Some studies have found military service may not be, or may not be perceived as, a good substitute for civilian labor market experience (De Tray 1980). The skillset gained in the military is often related to combat and may therefore not be transferrable. Service may also send a negative signal to employers who believe the most qualified professionals avoid military service (Schwartz 1986). Furthermore, there may be discrimination against veterans that served in unpopular wars, such as the Afghanistan war (Cohany 1992). Employer discrimination may also exist due to the risk of PTSD and lost productivity, whether or not veterans suffer from this disorder (Humensky, Jordan et al. 2012, Kleykamp 2013). Smith,

Schnurr et al. (2005) found that PTSD among veterans is strongly associated with low employment and earnings.

In sum, employers have conflicting responses to veteran status. Military service may send a positive signal as it develops traits favorable to employment: a strong work ethic and discipline. On the other hand, service may send a negative signal due to nontransferable combat skills and the risk of PTSD. Veterans have higher unemployment rates than nonveterans (BLS 2014); however, whether these higher unemployment rates reflect negative demographic selection or employer bias is unclear.

Previous Analysis of Employment Outcomes for Veterans

Every war has resulted in different post-service employment outcomes for veterans depending on the content and context of the war. In other words, employment outcomes will differ based on the war itself (combat intensity and location) and how the war is received (popularity and economic situation). Despite differences between wars, general trends exist among employment outcomes for Korean, World War II, and Vietnam veterans. These trends inform expectations of employment outcomes for post-9/11 veterans as limited research is available on the Iraq and Afghanistan Wars.

Korean War and World War II

Initial studies on World War II and the Korean War indicated veterans earned more and had lower unemployment rates than nonveterans (Villemez and Kasarda 1976). Berger and Hirsch (1983) and Little and Fredland (1979) concluded that Korean and World War II veterans had an initial earnings penalty following military service, but an earnings premium between 3% and 10% in the long-term. This earnings premium relative to nonveterans was higher for

minority veterans than white veterans and was partly due to increased access to education through the GI Bill (Little and Fredland 1979, Teachman and Tedrow 2004).

However, after accounting for military selection, studies indicate that an earnings premium for Korean and World War II veterans did not exist (Schwartz 1986, Angrist and Krueger 1994). After controlling for nonrandom selection among WWII veterans, Angrist and Krueger (1994) determined that WWII veterans earned approximately 5% less than comparable nonveterans. Schwartz (1986) concluded that Korean veterans had similar earnings to nonveterans after controlling for demographic differences. Studies that reported a veteran earnings premium likely did not sufficiently account for demographic differences among veteran and nonveteran cohorts.

Vietnam War

Despite initial findings that male Vietnam veterans earned more than their nonveteran peers, more recent studies have concluded that earnings differed by race and educational attainment (De Tray 1980). White Vietnam veterans earned 15% and 1% less than comparable nonveterans according to Angrist (1990) and Hirsch and Mehay (2003), respectively. Angrist (1990) is likely more precise as he produced a rigorous study that uses the draft lottery to account for nonrandom selection into the military. This earnings differential fades over time (Angrist and Chen 2008). Among nonwhite veterans, some studies find no significant earnings differential between nonveterans (Berger and Hirsch 1983, Angrist 1990). Other studies do find an earnings premium for nonwhite veterans of at least 5% compared to nonveterans (Browning, Lopreato et al. 1973, De Tray 1980, Hirsch and Mehay 2003). Veterans earn more than comparable nonveterans at low educational attainment while veterans earn the same or less than nonveterans at high educational attainment (Cohany 1992, Schwartz 1986). In general, studies on

employment outcomes of Vietnam veterans support the conclusion that disadvantaged individuals, in terms of race and educational attainment, benefit from military service while advantaged individuals do not benefit from military service. However, this does not account for unobserved characteristics such as intelligence and employment prospects.

Civilian earnings of Vietnam veterans also differ by military experience. Veterans that served in combat roles earned approximately 10% less than veterans that did not serve in combat roles (Goldberg and Warner 1987, Cohany 1992). On the other hand, veterans that served in medical and technical occupations had comparable post-service earnings to nonveterans (Goldberg and Warner 1987). These differences are likely because combat skills are not transferrable to civilian employment while occupational skills are transferrable. Another explanation is that combat roles are more likely to cause PTSD, which is associated with lower earnings (Smith, Schnurr et al. 2005).

Post-9/11 Wars – Iraq and Afghanistan

Limited research on post-9/11 veterans indicates conflicting conclusions on employment outcomes. Veterans are more likely to be unemployed than comparable nonveterans, but have higher earnings if employed (Humensky, Jordan et al. 2012, Tennant 2012). Veterans may face lower employment due to a negative employer bias against veterans. However, veterans that gain employment despite this bias are particularly qualified and therefore command an earnings premium. Compared to nonveterans, veteran unemployment rates are higher for whites (10.9% vs 6.6%) and Hispanics (14.1% vs 8.3%), but lower for blacks (12.3% vs 13.7%). White, Hispanic and black veterans earn more, per hour, than their nonveterans counterparts ($16.5 vs $15.3, $15.9 vs $12.2 and $15.5 vs $13.1, respectively) (Kleykamp 2013).

Addressing Limitations of Previous Research

Analysis of previous wars (World War II, Korean War, Vietnam War) indicate that veteran employment outcomes differ by race, education and military experience. In general, following military service, white veterans earn the same or less than white nonveterans; however, any earnings gap appears to fade over time (Angrist 1990). Black veterans earn the same or more than black nonveterans; military service creates a "bridging environment" for minorities (Browning, Lopreato et al. 1973). In other words, military service provides minorities with new skills and creates a bridge to future employment and education. Similarly, military service is most advantageous for veterans without a college degree (Schwartz 1986). Veterans that have PTSD have lower earnings than comparable nonveterans but are also less likely to be in poverty due to the VA disability program (Cohany 1992, Savoca and Rosenheck 2000, Tennant 2012).

Studies on the association between military service and employment outcomes have generally failed to control for length of service and time since service. In addition to demographics, veterans differ by military experience. All 3.2 million post-9/11 veterans cannot be treated as one group of identical people. For example, a veteran with two years of military service will likely have different employment outcomes than a veteran with ten years of service. If the military skillset is not transferrable, it will be more difficult for long-term military personnel to transition to the civilian labor market. Length of time since military service will also affect employment outcomes. Veterans that recently exited the military will likely have the most difficulty finding employment as serving in the military is a very different experience from working in an office. On the other hand, veterans that exited the military ten years ago will have experience in the labor market and therefore know how to navigate the employment system.

Studies find that length of military service is negatively associated with civilian earnings while length of time since service is positively associated with civilian earnings (Goldberg and Warner 1987, Angrist 1990, Richard and Wilhite 1990).

This study addresses the limitations of previous research by controlling for military experience. Humensky, Jordan et al. (2012), Kleykamp (2013) and Berger and Hirsch (1983) cite the inability to control for length of military service and time since service as their major limitations. This study also analyzes labor market outcomes by employment and earnings, which convey conflicting stories. Most studies focus their analysis on earnings, conditional on employment. In addition, this study expands upon limited research on post-9/11 veteran employment outcomes. An analysis of post-9/11 veterans will better inform policy on veteran transition programs, as compared to outdated analysis from older wars.

Hypotheses and Observable Implications

I expect military service to be a disadvantage in the civilian labor market; post-9/11 veterans will have lower employment outcomes (weekly earnings and employment status) than nonveterans. Previous studies focus on earnings rather than employment. As a result, I assumed that earnings and employment always move in the same direction. This is logical as an individual with a low probability of employment is likely unqualified and will therefore have low earnings. An individual with a high probability of employment is likely qualified and will therefore have high earnings. Based on previous literature (Richard and Wilhite 1990, Angrist 1990), I expect the association between military service and employment to differ based on length of service, time since service and race and ethnicity.

Length of Service Hypothesis

I predict length of military service to be negatively associated with employment and earnings, after controlling for age, education, race and ethnicity. This prediction is based on previous studies by Richard and Wilhite (1990) and Goldberg and Warner (1987) in which longer military service was associated with lower earnings; it increases the difficulty of transitioning to a civilian job. The military skillset is likely not directly transferrable to the civilian labor market. The longer an individual spends in the military, the more unqualified that person is for the labor market.

Length since Service Hypothesis

I predict length of time since military service to be positively associated with employment and earnings, after controlling for age, education, race and ethnicity. This prediction is based on studies that determined veterans initially earn less than comparable nonveterans, but over time earn the same or more than nonveterans (Little and Fredland 1979, Berger and Hirsch 1983, Angrist 1990). This phenomenon likely occurs as veterans initially lack experience in the civilian labor market. However, over time through the GI Bill and other resources, veterans adjust to civilian employment and build skills so that earnings increase at a faster rate than nonveterans.

Race and Ethnicity Hypothesis

I predict the association between military service and employment outcomes to differ based on race and ethnicity, after controlling for age and education. Compared to nonveterans, historically advantaged races (white) will have lower employment outcomes for veterans while historically disadvantages races (Hispanic and black) will have higher employment outcomes for veterans. My hypotheses are based on literature from previous wars in which minority veterans

benefit from military service while majority veterans do not benefit (Browning, Lopreato et al. 1973, Angrist 1990).

Methods and Data

Research Design

This study analyzed the association between military service and employment outcomes (weekly earnings and employment status) of post-9/11 veterans. It also analyzed how employment outcomes of veterans varied with length of military service, length of time since service and among various demographic groups. Employment outcomes of comparable veterans and nonveterans were analyzed to determine the veteran effect.[1]

Data came from the Current Population Survey (CPS) Veteran Supplement through the IPUMS-CPS database. The CPS is a monthly survey of 60,000 U.S. households that is representative of the U.S. population and conducted by the U.S. Census Bureau and the Bureau of Labor Statistics. The data is well-suited for this analysis as it includes questions on employment status, military service and demographics including race and ethnicity, age and education.

The quantitative analysis consists of two parts and is conducted using Stata statistical software. The first part is descriptive statistics to describe the sample. The second part is regression analyses to determine the relationship between employment outcomes and military service while controlling for all other independent variables. The analysis utilizes CPS sample weights to correct for non-response.

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[1] "Veteran effect" is used for simplicity to define the association between military service and civilian employment outcomes. The term "veteran effect" refers to correlation and not causation. For example, a negative veteran earnings effect implies that veterans, on average, have lower earnings than nonveterans.

Sample and Variables

The CPS Veteran Supplement has been conducted in the summer biennially from 1995 to 2008 and annually from 2009 to 2013. The sample consists of eight surveys in 2003 or after: 2003, 2005, 2007, 2009, 2010, 2011, 2012 and 2013. The surveys are pooled in order to generate a sufficient sample size of post-9/11 veterans. The sample consists of male veterans who entered the military after 1997 and left the military after 2001. All veterans entered the military between the ages of 18 and 27. Comparable nonveterans were included in the sample by restricting on age and survey year. For example, in survey year 2012, nonveterans were restricted to between the ages of 18 and 41. The maximum age is 41 because a veteran who entered the military in 1998 at the age of 27 cannot be older than 41 in 2012. I then dropped 18 and 19 year olds from the sample as very few left the military and are considered veterans (.86%) while many are nonveterans (10.38%). This restriction resulted in more comparable veteran and nonveteran cohorts. Women were excluded because there were too few female veterans (n=711 or 18.6% of veterans) to provide a meaningful sample size.

I constructed two samples, one for employment status and one for weekly earnings. The employment sample (n=121,097), as restricted above, measures employment status of veterans (n=3,112) and nonveterans (n=117,985). The earnings sample (n=22,308) measures weekly earnings of veterans (n=565) and nonveterans (n=21,743), conditional on employment. The earnings sample is a random subset of the employment sample. It is less than one-quarter the size of the original sample as weekly earnings were only collected from respondents in two out of the eight rotation groups and excludes self-employed individuals. Rotation groups refer to when the individual is interviewed by the CPS. Missing data for weekly earnings was dropped from the earnings sample (n=98,789 or 81.6% of employment sample).

The dependent variables were employment status and weekly earnings. Employment status indicates whether an individual is in the labor force (employed or unemployed) or not in the labor force. Not in the labor force (NILF) was segmented into whether the individual was in school during the previous week. This segmentation is important as education, such as through the GI Bill, is a more favorable outcome than not being in the labor force. Four dichotomous indicator variables were used as dependent variables: employed; unemployed; NILF, in school; and NILF, not in school. Weekly earnings are measured as the average dollar amount earned per week at the respondent's current job, before deductions. Earnings are conditional on employment and are adjusted for inflation to constant 2013 dollars. Weekly earnings less than five dollars were excluded due to likely error (25 observations). A log transformation was taken of weekly earnings to create a normal distribution.

The independent variables were length of military service, length of time since service, service-connected disability, combat exposure, educational attainment, age, race and ethnicity, and marital status. Length of time served in active duty is measured by number of years and is coded as follows: 0 years (non-veteran; omitted category), less than 2 years, 2 to 4 years, 5 to 9 years, 10 or more years, and unknown. Unknown for length of service refers to individuals that are veterans but did not respond to the question. Amount of time since service is the number of years since the veteran last served in the military and is coded as follows: 0 years (non-veteran; omitted category), less than 2 years, 2 to 4 years, 5 to 8 years, 9 or more years, unknown. Unknown for time since service refers to individuals that are veterans but did not respond to the question. Educational attainment is a categorical variable measuring the highest education that the respondent achieved and is coded as follows: less than high school, high school graduate, some college, Bachelors or more (omitted category). Age is measured as the number of years old

at the time of the survey. Race and ethnicity is coded as follows: non-Hispanic white (omitted category), non-Hispanic black, Hispanic, and other. Service-connected disability and combat exposure are coded as yes, no or unknown. Service-connected disability indicates whether the US Veterans Administration has assigned the veteran a disability rating. Combat exposure indicates whether veterans were exposed to combat during military service. Finally, marital status is coded as married, separated or divorced, and single. Service-connected disability, combat exposure and marital status were utilized in the descriptive statistics but not in the regression analysis. Although these variables would create a more accurate prediction model of employment outcomes, the focus of this paper is on the veteran effect rather than prediction.

Data Analysis

After utilizing descriptive statistics to summarize the sample data, regression analysis was conducted to understand the relationship between employment outcomes and military service while controlling for other factors. Four different linear probability models were utilized to analyze the relationship between employment and military service, unemployment and service, NILF, in school and service and NILF, not in school and service. Despite having a binary dependent variable, logistic regression was not used as the analysis does not extrapolate outside of the sample. Furthermore, I conducted logistic regressions and confirmed the marginal effects from logistics regressions are equivalent to my results. Ordinary least squares (OLS) regression was used to analyze the relationship between log weekly earnings and military service. All regression models utilize robust standard errors to account for heteroscedasticity.

Linear probability model and OLS regression were conducted to model the dependent variable (employment and earnings, respectively) as a function of veteran status, controlling for the other independent variables (age, education, race and ethnicity). The linear probability model

utilizes the employment sample while the OLS regression utilizes the earnings sample. Although

the analysis focuses on employment and earnings, regressions were also conducted in which the

dependent variable was unemployment, NILF, in school or NILF, not in school. A piecewise

linear spline was used to estimate the relationship between the dependent variable and age. The

spline has three knots at the 25th (24), 50th (29) and 75th (34) percentiles of the age distribution

(see Figure 1). The age spline is a more accurate representation than a simple function because

employment outcomes increase significantly at lowers ages and level off at higher ages.

The base regression model for both employment and earnings measures the average

veteran effect after controlling for age, education, race and ethnicity. The reference group is a

white, college-educated nonveteran. The model reads as follows:

$$Y_i = B_0 + B_1 \text{Veteran}_i + f(age_i) + B_6 \text{Black}_i + B_7 \text{Hispanic}_i + B_8 \text{RaceOther}_i + B_9 \text{LessHS}_i$$
$$+ B_{10} \text{HSgrad}_i + B_{11} \text{SomeCollege}_i + \varepsilon_i$$

where:

$$f(age) = B_2 * \max\{0, \min\{age_i, 24\}\} + B_3 * \max\{0, min\{age_i - 24, 5\}\} + B_4$$
$$* \max\{0, min\{age_i - 29, 5\}\} + B_5 * \max\{0, min\{age_i - 34, 8\}\}$$

Regressions were run for five different dependent variables: employed, unemployed, NILF, in

school, NILF, not in school and log weekly earnings. Regressions are also conducted utilizing

the base model but replacing veteran status with length of service or length of time since service.

The reference group remains non-veterans in order to decompose the overall veteran effect by

military experience. Finally, separate regressions were conducted for employment and earnings

conditional on race (white, black or Hispanic) and controlling for age and education.

Empirical Findings

Descriptive Statistics

The earnings sample was conditional on employment and a representative subset of the employment sample; both samples have similar characteristics (Table 1 and 2). Below, l only describe the distribution of veterans and nonveterans in the employment sample.

The employment sample had differing demographics among veterans and nonveterans. The average age of both veterans and nonveterans is approximately 29. However, a plurality of veterans are 27 to 33 years old (49%) while most nonveterans are 20 to 26 years old (40%). Non-Hispanic whites are 9 percentage points more prevalent among veterans than nonveterans. Non-Hispanic blacks are 1 percentage point more prevalent among veterans than nonveterans. On the other hand, Hispanic veterans are underrepresented by 8 percentage points as compared to nonveterans. Veterans are significantly less likely than nonveterans to be without a high school degree (1% vs 13%), but also less likely to have a four-year college degree (18% vs 26%). Veterans are, however, more likely than nonveterans to have some college experience and/or a two-year degree (48% vs 30%). A plurality of veterans are married (48%) while a plurality of nonveterans are single (55%). Finally, the modal category among veteran experiences are two to four years length of service (46%), a service-related disability (65%) and combat exposure (43%) (see Table 2). Due to non-response, between 15 and 24 percent of veterans did not respond to questions related to military experience: length of service, time since service, disability and combat exposure.

Employment and weekly earnings of veterans and nonveterans describe a conflicting story. Nonveterans are more likely than veterans to be employed (80% vs 77%). However, of those that are employed, veterans earn $39 more per week than nonveterans (p-value = .000). Of

those that are not employed, veterans are more likely than nonveterans to be unemployed (9% vs 8%; p-value = .022) and not be in the labor force or school (11% vs 9%; p-value = .005). On the other hand, veterans are less likely to be not in the labor force but in school (3% vs 4%; p-value = .052).

Employment and earnings between veterans and nonveterans differ even more among race and education. White and Hispanic veterans are less likely to be employed by 4 and 7 percentage points, respectively. However, while white veterans earn $29 less than white nonveterans, Hispanic veterans earn $305 more than Hispanic nonveterans. Black veterans are both more likely to be employed (7 percentage points) and to earn more ($63) than black nonveterans. At all levels of education, veterans are less likely to be employed than nonveterans. The veteran effect is most pronounced for individuals without a high school diploma (56% vs 73%), although both groups have similar earnings. Veterans that graduate high school or have some college experience have higher earnings than nonveterans ($105 and $111, respectively). On the other hand, veterans with at least a four year college degree have lower earnings than nonveterans by $111.

Regression Analysis

Simple Regression of Veteran Effect

There is a negative association between employment and military service without controlling for other variables (Table 5, Model 1). A bivariate regression model yields a veteran status coefficient of -.026 (p-value = .004). On average, veterans are employed at rates 2.6 percentage points lower than nonveterans (77% vs 79.6%).

While veteran status is negatively associated with employment, it is positively associated with the log of weekly earnings (Table 8, Model 1). An OLS simple regression determined that

the average veteran earns approximately 11.1 percent more than the average nonveteran ($857.3 vs $818.5) (p-value = .000).

Controlling for Age, Race and Education (Base Model)

A more robust model to describe the relationship between veteran status and employment outcomes controls for age, education and race and ethnicity. This is the base model for which the veteran effect of log earnings and employment is measured. Other regressions will be a variation on this model (Tables 5 and 8, Model 2). As compared to the bivariate regressions, controlling for demographics decreases the employment and earnings veteran effects.

Results suggest a negative association between veteran status and employment of 5.1 percentage points, controlling for age, education and race and ethnicity (Table 5, Model 2). Controlling for these demographic variables depicts a veteran effect that is 96% more negative than the bivariate model (p-value = .000).

Results for the employment control variables conform to expectations. As age increases from 20 to 42 years old, employment increases at a decreasing rate. As age increases, the slope between each knot of the age splice decreases and is eventually negative (B = -.001) between the ages of 35 to 42. With non-Hispanic whites as the reference category, non-Hispanic blacks have significantly lower employment (B = -.147) while Hispanics have higher employment (B = .038). With a four-year college degree as the reference category, lower levels of education decrease employment. The largest decrease in employment occurs among individuals without a high school degree (B = -.152). All coefficients, except age between 30 and 42 years old, are significant at the 99% confidence level.

Findings indicate a positive association between veteran status and log weekly earnings (Table 8, Model 2). Veterans earn approximately 5.8% more than nonveterans of similar age,

race and education (p-value = .039). This veteran earnings effect is 50% lower than the bivariate model after controlling for demographic variables.

Results for the weekly earnings control variables conform to expectations. Earnings increases as age increases but at a decreasing rate over the age splice. With whites as the reference group, both blacks and Hispanics earn significantly less ($B = -.211$ and $B = -.142$, respectively). With a four-year college degree as the reference group, individuals with less education earn significantly less. The relationship between earnings and education decreases at a decreasing rate. All coefficients, except for other races, are significant at the 99% confidence level.

Decomposing the Veteran Effect by Length of Service

Length of military service is negatively associated with employment, after controlling for age, education and race and ethnicity (Table 5, Model 3). A linear probability model was used to decompose the negative employment veteran effect of 5.1 percentage points by length of military service. The veteran effect is negative 2.3 percentage points for veterans that served less than two years in the military (p-value = .310), negative 6.6 percentage points for veterans that served between two and four years (p-value = .000) and negative 6.3 percent for veterans that served between five and nine years (p-value = .003). For veterans that served ten or more years, the veteran effect is negative 13.1 percentage points (p-value = .008). This negative association implies a lack of, or perceived lack of, transferrable skills between military service and civilian employment. However, the large negative veteran employment effect for those that served ten or more years is at least partially described by early military retirement; veterans generally retire earlier than nonveterans.

Length of military service is positively associated with earnings, after controlling for age, race and ethnicity, and education (Table 8, Model 3). An OLS regression was used to decompose the average weekly earnings veteran effect of 5.8 percent by length of military service. Veterans that serve less than two years earn approximately 2.1% more than similar nonveterans (p-value = .744). This difference increases to 4.3% for service length of two to four years (p-value = .308), 8.7% for five to nine years (p-value = .201) and 16.2% for ten plus years (p-value = .261). Even though the results are not statistically significant at conventional levels, there is a positive earnings trend as service length increases. The relationship between military service and earnings is contrary to the relationship between service and employment. The positive association infers that, among those that are employed, veterans with longer military careers are perceived to be more valuable as compared to nonveterans.

Decomposing the Veteran Effect by Time since Military Service

Length of time since military service is positively associated with employment, after controlling for age, education and race and ethnicity (Table 5, Model 4). A linear probability model was used to decompose the negative employment veteran effect of 5.1 percentage points by time since service. The veteran effect is negative 14.9 percentage points for veterans that have been out of the military for less than two years (p-value = .000) but only negative 5.2 percentage points for veterans that have been out of the military for two to four years (p-value = .003). The veteran effect for time since service of five to nine years is negative .7 percentage points (p-value = .631). Veterans that have been out of the military for ten or more years have a negative veteran effect of 3.8 percentage points (p-value = .250). This may again be due to early military retirement.

Length of time since military service is negatively associated with earnings, after controlling for age, race and ethnicity, and education (Table 8, Model 4). An OLS regression was used to decompose the average weekly earnings veteran effect of 5.8 percent by time since service. The earnings veteran effect is 13 percent for veterans that have been out of the military for less than two years (p-value = .029) but only 2.1 percent for veterans that have been out of the military for two to four years (p-value = .724). The veteran effect for five to eight years and nine or more years since service is 8.9 percent (p-value = .098) and negative 6 percent (p-value = .599), respectively. The veteran effect trends downward despite decreasing, then increasing and decreasing again. This again contradicts the employment veteran effect in which the disadvantage of military service essentially disappears over time.

Decomposing the Veteran Effect by Race

The negative veteran employment effect of 5.3 percentage points (p-value = .000) differs greatly by race and ethnicity, after controlling for age and education (Table 4). Among whites, the veteran effect for employment is negative 6 percentage points (p-value = .000). Blacks have a slightly positive, but insignificant, veteran effect of .8 percentage points (p-value = .796). Finally, among Hispanics, the veteran effect is negative 9.2 percentage points (p-value = .001). Two interaction models are conducted to include an interaction between veteran status and being black or Hispanic. These interaction models indicate a significant difference between the employment veteran effect among whites and blacks (B = .077; p-value = .012) as well as among whites and Hispanics (B = -.068; p-value = .017). In other words, the employment veteran effect does differ between whites and Blacks, and whites and Hispanics.

Linear probability models of unemployment, not in the labor force, in school and not in the labor force, not in school for different races informs our understanding of employment

outcomes (Table 4). While Hispanics have the largest negative employment veteran effect, they also have the largest positive veteran effect for individuals that are in school (2.1% points). On the other hand, the veteran effect of whites that are in school is only .6 percentage points. Black veterans are more likely to be employed and unemployed (1.2% points) than nonveterans of similar age and education. Black veterans are actually less likely to be in school than black nonveterans (-1.3% points).

The positive log weekly earnings veteran effect of 6.8 percent (p-value = .016) differs greatly by race and ethnicity, after controlling for age and education (Table 4). Conditional on employment, white veterans earn approximately .8 percent less than nonveterans of similar age and education (p-value = .812). On the other hand, black and Hispanic veterans earn 12.4 and 32.4 percent more, respectively, than similar nonveterans (p-value = .159 and .000). Two interaction models are conducted to include an interaction between veteran status and being black or Hispanic. These interaction models indicate no significant difference between the earnings veteran effect among whites and blacks (B = .130; p-value = .167) but a significant difference among whites and Hispanics (B = .309; p-value = .000). In other words, it is unclear whether the earning veteran effect differs between whites and blacks. The earnings veteran effect does differ between whites and Hispanics.

Summary of Veteran Effects

Overall, results indicate that veterans, relative to non-veterans, are less likely to be employed, but conditional on employment, have higher earnings (Table 3). The employment rate of veterans is 5.1 percentage points less than nonveterans of similar age, race and education. However, among those that are employed, veterans earn approximately 5.8 percent more than similar nonveterans.

Length of military service is negatively associated with employment. The veteran employment effect changes from negative 2.3 percentage points for less than two years of service to 13.1 percentage points for ten or more years of service. On the other hand, length of military service is positively associated with the log of weekly earnings. The veteran earnings effect changes from 2 percent for less than two years of service to 16 percent for ten or more years of service.

Time since military service is positively associated with employment. The veteran employment effect changes from negative 14.9 percentage points for less than two years since service to 3.8 percentage points for nine or more years since service. On the contrary, time since military service is negatively associated with log earnings. The veteran earnings effect changes from 13 percent for less than two years since service to negative 6 percent for nine or more years since service.

Veteran effects also differ by race and ethnicity (Table 4). White veterans are less likely to be employed by six percentage points and those that are employed earn .8 percent less than nonveterans of similar age and education. Black veterans are more likely to be employed by .8 percentage points and those that are employed earn 12.4 percent more than similar nonveterans. Hispanic veterans are less likely to be employed by 9.2 percentage points but those that are employed earn 32.4 percent more than similar nonveterans.

Policy Implications and Further Research

Veterans face subpar employment outcomes upon their transition to the civilian labor market. Although causality could not be established, evidence indicates that employment outcomes differ by length of military service, length of time since service and race and ethnicity. The federal government should tailor veteran transition programs by race and military

experience. Veterans are especially vulnerable during the transitional years immediately following military service. To mitigate this, programs should target veterans before they leave military service. Programs should also target long-term military personnel as they are disproportionately disadvantaged upon transitioning to the labor market. Demographic groups also experience the transition differently which raises important questions for research and policy.

Further research should be conducted before making policy changes. This study is limited by its sample size and a lack of available data within the CPS Veteran Supplement. The sample size of veterans that served post-9/11 was small. This is especially true for the earnings sample as it was a subset of the employment sample. This increased the standard errors of the regression coefficients and made the estimates noisier. The lack of available data made it difficult to compare identical groups of veterans and nonveterans. For example, other factors determine employment outcomes such as the socioeconomic status of an individual's parents. In addition, educational attainment is difficult to interpret because we care about educational attainment before and after military service. Since we only have educational attainment after military service, we do not know who benefited from the GI bill. Finally, this study only analyzes males due to the small sample size of females. However, as females become a larger proportion of the military, the government should understand the challenges that they face as well as their employment outcomes. Descriptive statistics indicate a larger negative veteran employment effect among females than males.

Conclusion

Throughout history, veterans have struggled to transition from military service into the civilian labor market. This problem holds true for post-9/11 veterans returning from the Iraq and

Afghanistan wars just as it held true for Korean, Vietnam, and World War II veterans. Historically, white veterans face the same or lower employment outcomes as white nonveterans (Angrist 1990). On the other hand, black veterans face the same or better employment outcomes than black nonveterans. Military service creates a "bridging environment" for minorities in that it provides previously unattainable employment outcomes (Browning, Lopreato et al. 1973). In 2014, the unemployment rate of veterans was significantly higher than nonveterans (7.2% vs 6%, respectively). This study served to further analyze the difference in employment status and weekly earnings among veteran and nonveterans. By understanding how the veteran effect changes with length of service, time since service and race and ethnicity, more effective public policy can be developed to combat this problem.

Through linear probability models and OLS regression, this study analyzed employment outcomes (employment status and log weekly earnings) as a function of veteran status while controlling for other independent variables (age, education, race and ethnicity). Evidence indicated a negative veteran employment status of 5.1 percentage points and a positive veteran earnings status of 5.8 percent. Breaking down the veteran effect by length of service revealed a negative association with employment and a positive association with earnings. Breaking down the veteran effect by time since service revealed a positive association with employment and a negative association with earnings. All three employment veteran effects conformed to expectations, based on previous literature, while the three earnings veteran effects did not conform to expectations (Walker 2010, Cohany 1992, Angrist 1990). Finally, analyzing the veteran effect by race produced results that were generally expected. The veteran effect among whites is negative for both earnings and employment. Among blacks, the veteran effect is positive for both earnings and employment. I did not expect Hispanics to have a significant

negative veteran effect for employment and a significant positive veteran effect for earnings. This makes sense as there is a perception that whites that enter the military had no other career opportunities available while minorities enter the military in order to progress their career (and are not expected to have other opportunities available). Further research is needed to understand this disparity.

Although this analysis has its limitations, it adds value to the general literature on veteran employment outcomes. Overall, post-9/11 veterans are at a disadvantage in the civilian labor market despite government programs. However, veterans that are employed command higher wages suggesting they are more productive or there is a selection bias. Furthermore, the average veteran effect hides important heterogeneity among veterans, notably length of service and time since service, that previous studies do not account for. Further research on the association between military service and employment outcomes should be aimed at understanding why these differences in veteran effects occur. Additional research should study unobserved characteristics, such as ambition, between veterans and nonveterans as well as focus on females.

Tables and Figures

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A) *Descriptive Statistics*

Table 1. Veteran and Nonveteran Characteristics, Employment and Earnings Samples

Characteristic	Employment Sample [1]		Earnings Sample [2]	
	Veteran	**Nonveteran**	**Veteran**	**Nonveteran**
Employment Outcomes				
Employed[3]	.77	.80	–	–
Unemployed	.09	.08	–	–
Not in Labor Force - School	.03	.04	–	–
Not in Labor Force - No School	.11	.09	–	–
Mean - Weekly Earnings if Employed	–	–	$ 857.30	$ 818.49
(SE)	–	–	(24.32)	(4.50)
Mean - Age	29.45	28.83	29.70	29.13
(SE)	(.10)	(.02)	(.24)	(.04)
Age				
20 to 26 years	.30	.40	.28	.37
27 to 33 years	.49	.36	.49	.38
34 to 42 years	.21	.24	.23	.25
Race				
Non-Hispanic White	.68	.59	.72	.60
Non-Hispanic Black	.13	.12	.12	.10
Hispanic	.13	.21	.10	.22
Other	.06	.08	.06	.08
Education				
Less than High School	.01	.13	.01	.12
High School	.33	.31	.35	.30
Some College	.48	.30	.44	.30
4 Year Degree or More	.18	.26	.20	.29
Marital Status				
Married	.48	.39	.51	.43
Separated/Divorced	.13	.06	.12	.06
Single	.39	.55	.37	.51
Sample Size	3,112	117,985	565	21,743

Notes. Statistics refer to proportion of respondents (weighted) unless otherwise indicated
1. Employment Sample measures employment status (n = 121,097)
2. Earnings Sample measures weekly earnings in 2013 dollars given employment (n = 22,308)
3. Employed includes Armed Forces for nonveterans

Table 2. Veteran Characteristics, Employment and Earnings Samples

Characteristic	Employment Sample	Earnings Sample
Mean - Length of Service (years)[1]	2 to 5	2 to 5
Mean - Time Since Service (years)	3.93	3.86
(SE)	(0.07)	(0.16)
Length of Service		
Less than 2 years	.15	.15
2 to 4 years	.46	.43
5 to 9 years	.16	.16
10+ years	.04	.04
Unknown	.19	.23
Time Since Service		
Less than 2 years	.18	.16
2 to 4 years	.27	.27
5 to 8 years	.24	.24
9+ years	.06	.04
Unknown	.24	.29
Disability		
No	.65	.63
Yes	.20	.18
Unknown	.15	.19
Combat Exposure		
No	.40	.38
Yes	.43	.39
Unknown	.17	.23
Sample Size	3,112	21,743

Note. Statistics refer to proportion of respondents (weighted) unless otherwise indicated
1. Length of Service not reported as continuous variable (unable to determine mean and SE)

B) *Summary of Analysis*

Table 3. Employment and Log Earnings Veteran Effects (Summary)

	Model 1		Model 2		Model 3		Model 4	
	(a) Employ[1]	(b) Ln Earn[2]	(a) Employ	(b) Ln Earn	(a) Employ	(b) Ln Earn	(a) Employ	(b) Ln Earn
Veteran Status (Ref: Non-vet)	-.026 **	.111 **	-.051 **	.058 *				
(Standard Error)	*(.009)*	*(.030)*	*(.009)*	*(.028)*				
(Non-Veteran)					–	–		
					–	–		
Length <2 yrs					-.023	.021		
					(.023)	*(.063)*		
Length 2-4 yrs					-.066 **	.043		
					(.013)	*(.043)*		
Length 5-9 yrs					-.063 **	.087		
					(.021)	*(.068)*		
Length 10+ yrs					-.131 **	.162		
					(.049)	*(.144)*		
Unknown					-.009	.072		
					(.019)	*(.062)*		
(Non-Veteran)							–	–
							–	–
Time <2 yrs							-.149 **	.130 *
							(.024)	*(.060)*
Time 2-4 yrs							-.052 **	.021
							(.017)	*(.059)*
Time 5-8 yrs							-.007	.089
							(.015)	*(.054)*
Time 9+ yrs							-.038	-.060
							(.033)	*(.113)*
Unknown							-.022	.043
							(.017)	*(.053)*
Sample Size	118,827	22,308	118,827	22,308	118,827	22,308	118,827	22,308

Notes. Ommitted categories are indicated in parentheses. Models 2, 3, 4 control for age, education and race (no controls for Model 1).
*p < .05 **p < .01
1. Employ is a linear probability model of employed individuals
2. Ln Earn is an OLS regression on the log of weekly earnings (2013 $), conditional on employment

Table 4. Employment Status and Log Earnings Veteren Effects by Race (Summary)

	Model 1	Model 2	Model 3	Model 4	Model 5	Interaction Terms (Ref: White)	
						Model 6	Model 7
	Overall	White	Black	Hispanic	Other	Vet*Black	Vet*Hispanic
Employment	-.053 **	-.060 **	.008	-.092 **	-.008	.077 *	-.068 *
(Standard Error)	(.009)	(.010)	(.029)	(.027)	(.034)	(.031)	(.028)
Unemployed	.021 **	.022 **	.012	.026	.017	-.012	.016
	(.006)	(.007)	(.023)	(.018)	(.024)	(.024)	(.019)
NILF (school)	.004	.006	-.013	.021	-.002	-.021 *	.019
	(.004)	(.004)	(.009)	(.013)	(.015)	(.010)	(.014)
NILF (no school)	.028 **	.032 **	-.006	.045 *	-.007	-.044	.032
	(.007)	(.008)	(.022)	(.019)	(.025)	(.024)	(.021)
Earnings (among employed)	.068 *	-.008	.124	.324 **	.214 *	.130	.309 **
	(.028)	(.033)	(.088)	(.078)	(.096)	(.094)	(.083)
Sample Size (Emp. Status)	118,827	77,870	10,851	20,351	9,755	88,721	98,221
Sample Size (Earnings)	22,308	14,983	1,768	3,793	1,764	16,751	18,776

Notes. Ommitted categories are indicated in parentheses. All regressions control for age and education.
*p < .05 **p < .01

Figure 1. Age Spline of Veteran and Nonveteran Employment (controls: age, education and race)
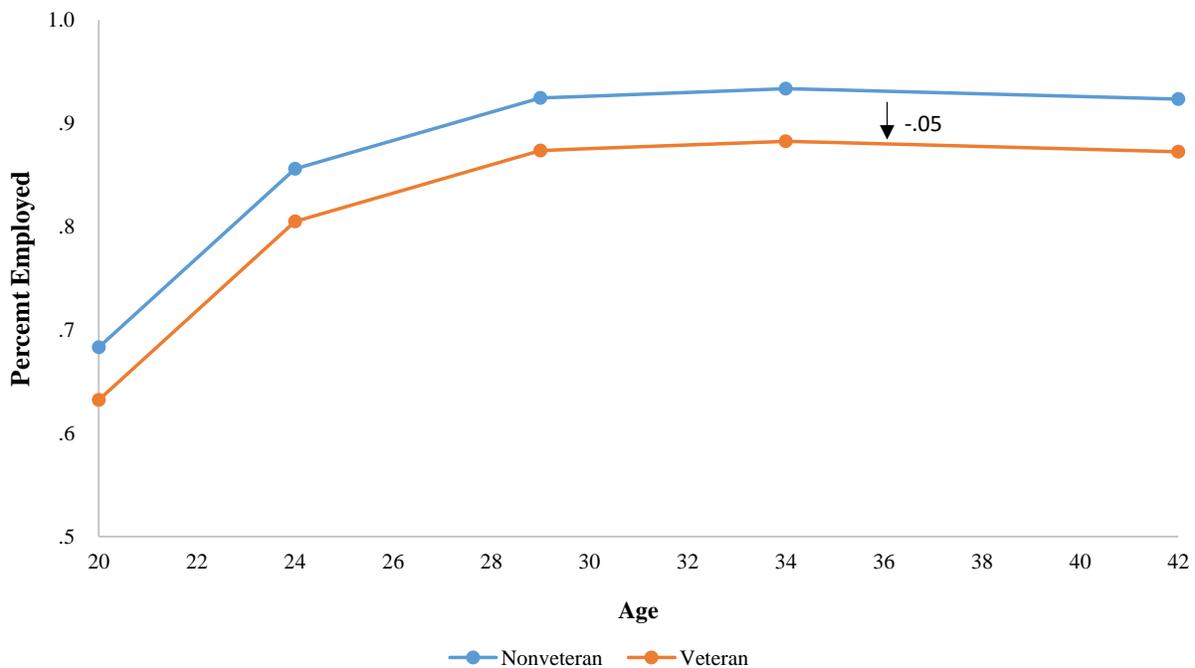
Note. Reference group for age spline is college-educated and white.

C) Employment Status Regressions

Table 5. Linear Probability Model of Employed Veteran Effect (Employment Sample)

	Model 1		Model 2		Model 3		Model 4	
	b	SE	b	SE	b	SE	b	SE
Veteran Status (Ref: Non-vet)	-.026 **	(.009)	-.051 **	(.009)				
(Non-Veteran)					–	–		
Length of Service <2 yrs					-.023	(.023)		
Length 2-4 yrs					-.066 **	(.013)		
Length 5-9 yrs					-.063 **	(.021)		
Length 10+ yrs					-.131 **	(.049)		
Unknown (Length)					-.009	(.019)		
(Non-Veteran)							–	–
Time since Service <2 yrs							-.149 **	(.024)
Time 2-4 yrs							-.052 **	(.017)
Time 5-8 yrs							-.007	(.015)
Time 9+ yrs							-.038	(.033)
Unknown (Time)							-.022	(.017)
Age: 20 to 24			.043 **	(.002)	.043 **	(.002)	.043 **	(.002)
Age: 25 to 29			.014 **	(.001)	.014 **	(.001)	.013 **	(.001)
Age: 30 to 34			.002	(.001)	.002	(.001)	.002	(.001)
Age: 35 to 42			-.001	(.001)	-.001	(.001)	-.001	(.001)
(Non-Hispanic White)			–	–	–	–	–	–
Non-Hispanic Black			-.147 **	(.005)	-.147 **	(.005)	-.147 **	(.005)
Hispanic			.038 **	(.004)	.039 **	(.004)	.038 **	(.004)
Other Race/Ethnicity			-.075 **	(.005)	-.075 **	(.005)	-.075 **	(.005)
Less than High School			-.152 **	(.005)	-.152 **	(.005)	-.152 **	(.005)
High School			-.082 **	(.003)	-.082 **	(.003)	-.082 **	(.003)
Some College			-.057 **	(.003)	-.057 **	(.003)	-.057 **	(.003)
(4 Year Degree or More)			–	–	–	–	–	–
Constant	.796 **	(.001)	-.181 **	(.041)	-.182 **	(.041)	-.184 **	(.041)
Sample Size	118,827		118,827		118,827		118,827	

Note. Ommitted categories are indicated in parentheses
*p < .05 **p < .01

Table 6. Linear Probability Model of Employed/Unemployed Veteran Effect by Race (Employment Sample)

	Employed						Unemployed					
	Model 1 (White)		Model 2 (Black)		Model 3 (Hispanic)		Model 4 (White)		Model 5 (Black)		Model 6 (Hispanic)	
	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Veteran Status (Ref: Non-vet)	-.060 **	(.010)	.008	(.029)	-.092 **	(.027)	.022 **	(.007)	.012	(.023)	.026	(.018)
Age: 20 to 24	.042 **	(.002)	.036 **	(.006)	.048 **	(.004)	-.003 *	(.001)	.003	(.004)	-.008 **	(.003)
Age: 25 to 29	.011 **	(.001)	.020 **	(.004)	.009 **	(.002)	-.005 **	(.001)	-.009 **	(.003)	-.003	(.002)
Age: 30 to 34	.002	(.001)	.002	(.004)	.003	(.002)	.000	(.001)	-.003	(.003)	-.001	(.002)
Age: 35 to 42	-.001	(.001)	-.001	(.004)	-.003	(.002)	-.001	(.001)	.001	(.002)	.001	(.001)
Less than High School	-.219 **	(.008)	-.362 **	(.018)	-.023 *	(.009)	.085 **	(.006)	.132 **	(.015)	.025 **	(.006)
High School	-.074 **	(.004)	-.166 **	(.013)	-.031 **	(.009)	.040 **	(.003)	.065 **	(.010)	.037 **	(.006)
Some College	-.050 **	(.004)	-.092 **	(.013)	-.045 **	(.010)	.012 **	(.002)	.026 **	(.010)	.021 **	(.007)
(4 Year Degree or More)	–	–	–	–	–	–	–	–	–	–	–	–
Constant	-.146 **	(.049)	-.101	(.130)	-.292 **	(.091)	.122 **	(.031)	.052	(.097)	.254 **	(.062)
Sample Size	77,870		10,851		20,351		77,870		10,851		20,351	

Note. Ommitted categories are indicated in parentheses

*p < .05 **p < .01

Table 7. Linear Probability Model of NILF-S/NILF-NS Veteran Effect by Race (Employment Sample)

	Not in Labor Force - School						Not in Labor Force - No School					
	Model 1 (White)		Model 2 (Black)		Model 3 (Hispanic)		Model 4 (White)		Model 5 (Black)		Model 6 (Hispanic)	
	b	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Veteran Status (Ref: Non-vet)	.006	(.004)	-.013	(.009)	.021	(.013)	.032 **	(.008)	-.006	(.022)	.045 *	(.019)
Age: 20 to 24	-.037 **	(.001)	-.038 **	(.004)	-.029 **	(.003)	-.003	(.001)	-.001	(.004)	-.010 **	(.003)
Age: 25 to 29	-.007 **	(.001)	-.012 **	(.002)	-.006 **	(.001)	.001	(.001)	.001	(.003)	.000	(.002)
Age: 30 to 34	.001 **	(.000)	.003 **	(.001)	.001 **	(.000)	-.003 **	(.001)	-.002	(.003)	-.003	(.002)
Age: 35 to 42	.000 **	(.000)	-.001	(.001)	.000	(.000)	.003 **	(.001)	.001	(.003)	.003	(.002)
Less than High School	-.020 **	(.003)	-.027 **	(.007)	-.018 **	(.003)	.153 **	(.007)	.257 **	(.016)	.015 *	(.007)
High School	-.023 **	(.001)	-.026 **	(.005)	-.016 **	(.003)	.058 **	(.003)	.127 **	(.010)	.010	(.007)
Some College	.020 **	(.002)	.029 **	(.006)	.029 **	(.004)	.017 **	(.003)	.037 **	(.009)	-.005	(.007)
(4 Year Degree or More)	–	–	–	–	–	–	–	–	–	–	–	–
Constant	.909 **	(.034)	.963 **	(.089)	.724 **	(.058)	.115 **	(.033)	.086	(.101)	.313 **	(.061)
Sample Size	77,870		10,851		20,351		77,870		10,851		20,351	

Note. Ommitted categories are indicated in parentheses

*p < .05 **p < .01

D) Log Earnings Regressions

Table 8. OLS Regressions of Log Earnings Veteran Effect (Earnings Sample)

	Model 1		Model 2		Model 3		Model 4	
	b	SE	b	SE	b	SE	b	SE
Veteran Status (Ref: Non-vet)	.111 **	(.030)	.058 *	(.028)				
(Non-Veteran)					–	–		
Length of Service <2 yrs					.021	(.063)		
Length 2-4 yrs					.044	(.043)		
Length 5-9 yrs					.087	(.068)		
Length 10+ yrs					.162	(.144)		
Unknown (Length)					.072	(.062)		
(Non-Veteran)							–	–
Time since Service <2 yrs							.130 *	(.060)
Time 2-4 yrs							.021	(.059)
Time 5-8 yrs							.089	(.054)
Time 9+ yrs							-.060	(.113)
Unknown (Time)							.043	(.053)
Age: 20 to 24			.094 **	(.006)	.095 **	(.006)	.095 **	(.006)
Age: 25 to 29			.054 **	(.004)	.054 **	(.004)	.054 **	(.004)
Age: 30 to 34			.025 **	(.003)	.025 **	(.003)	.025 **	(.003)
Age: 35 to 42			.018 **	(.003)	.018 **	(.003)	.018 **	(.003)
(Non-Hispanic White)	–	–	–	–	–	–	–	–
Non-Hispanic Black			-.211 **	(.016)	-.211 **	(.016)	-.212 **	(.016)
Hispanic			-.142 **	(.013)	-.142 **	(.013)	-.142 **	(.013)
Other Race/Ethnicity			-.055	(.019)	-.055	(.019)	-.055 **	(.019)
Less than High School			-.675 **	(.016)	-.675 **	(.016)	-.675 **	(.016)
High School			-.462 **	(.012)	-.461 **	(.012)	-.461 **	(.012)
Some College			-.429 **	(.012)	-.429 **	(.012)	-.429 **	(.012)
(4 Year Degree or More)	–	–	–	–	–	–	–	–
Constant	6.480 **	(.005)	4.434 **	(.132)	4.434 **	(.132)	4.432 **	(.132)
Sample Size	22,308		22,308		22,308		22,308	
Adjusted R^2	.001		.313		.312		.312	

Note. Ommitted categories are indicated in parentheses

*p < .05 **p < .01

Table 9. OLS Regressions of Log Earnings Veteran Effect by Race (Earnings Sample)

	Model 1 (White)		Model 2 (Black)		Model 3 (Hispanic)	
	b	SE	b	SE	b	SE
Veteran Status (Ref: Non-vet)	-.008	(.033)	.124	(.088)	.324 **	(.078)
Age: 20 to 24	.093 **	(.007)	.097 **	(.022)	.088 **	(.012)
Age: 25 to 29	.066 **	(.004)	.044 **	(.011)	.028 **	(.007)
Age: 30 to 34	.027 **	(.004)	.011	(.011)	.023 **	(.008)
Age: 35 to 42	.018 **	(.004)	.030 **	(.011)	.009	(.008)
Less than High School	-.639 **	(.025)	-.710 **	(.064)	-.704 **	(.038)
High School	-.421 **	(.014)	-.525 **	(.042)	-.512 **	(.039)
Some College	-.387 **	(.014)	-.457 **	(.040)	-.478 **	(.043)
(4 Year Degree or More)	–	–	–	–	–	–
Constant	4.411 **	(.158)	4.234 **	(.500)	4.573 **	(.276)
Sample Size	14,983		1,768		3,793	
Adjusted R^2	.305		.266		.204	

Note. Ommitted categories are indicated in parentheses

*p < .05 **p < .01

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