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Abstract

This paper used microdata from the 2013-2015 American Community Survey to examine differences in federal government, state and local government, private sector, and self-employment among employed veterans and non-veterans. U.S. federal and state governments have hiring preferences to benefit veterans, especially disabled veterans. Other factors may also push veterans toward public sector employment. I found that veteran status substantially increased the likelihood of federal employment, with the largest magnitudes for severely disabled veterans. Differences in state and local government employment were modest and exhibited heterogeneity by disability severity.

Keywords: Veteran; Disability; Public sector; Employment; Federal government
JEL Classification: J20; J45

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1. Introduction

Military veteran employment and well-being are important concerns (Berger & Hirsch, 1983; Angrist, 1990). The United States federal government gives special hiring preferences to veterans and even larger preferences for disabled veterans. As expected, veterans have been much more likely than non-veterans to be employed in federal government (Blank, 1985; Angrist & Chen, 2011; Lewis, 2013). The current paper used the 2013-2015 American Community Survey (ACS) to document employment differences in federal government, state and local government, the private sector, and self-employment by veteran status and veteran disability rating.

U.S. veteran disability benefits require examination by the Department of Veterans Affairs (VA) to determine whether the condition is connected to the veteran's military service and whether it impairs the veteran's ability to work (U.S. Department of Veterans Affairs, 2016). If a condition is determined to be service-connected, the VA computes a disability rating based on the severity of impairment. Service-connected disabilities make a veteran eligible for disability compensation and provide additional priority in health insurance, housing benefits, and public sector employment.

On the traditional 100-point federal civil service exam, veterans receive a five point bonus and disabled veterans receive a ten point bonus. Veterans are also given additional priority in the case of ties, e.g., a disabled veteran with a raw score of 90 is ranked ahead of a non-veteran with a perfect 100. Furthermore, disabled veterans with a 10% or higher service-connected disability rating go to the top of the ranking even with raw scores as low as 70 (Lewis, 2013). States also give veterans hiring preference with typically larger preferences for disabled veterans, though there is some variance across states (Lewis & Pathak, 2014).

Until recently U.S. census and labor market surveys did not regularly ask veterans to report their VA service-connected disability rating. However, the ACS recently began asking this information for veterans.[1] This allowed the current paper to examine the relationships between veteran status and disability rating with type of employment. As expected, veterans were more likely than non-veterans to work in federal government. However, the main contribution of this paper is to document and quantify the extent to which disabled veterans differed from non-disabled veterans in public sector employment. To my knowledge, this is the first study to examine VA service-connected disability rating relationships with public sector employment.

2. Data

The American Community Survey (ACS) is an annual survey of one percent of the U.S. population that includes information on employment, demographics, veteran status, and a number of other variables. I used the pooled 2013-2015 ACS microdata files to examine employment differences by veteran status and disability rating.[2] The ACS grouped disabled veterans into six categories with varying severity. I limited the sample to U.S. born persons ages 18-61 who worked for pay during the reference week, excluding active duty military and unpaid family workers. I defined workers as employed in one of four categories: federal government, state and local government, self-employment, and private sector employment.[3]

[1] The Current Population Survey (CPS) also recently began asking veterans their VA disability rating in the August Supplement. However, CPS samples are much smaller than the ACS, hindering estimate precision.
[2] I pooled three years of data to increase sample size; results were qualitatively robust to using these years individually. The data were extracted from the Integrated Public Use Microdata Series (IPUMS); see Ruggles et al. (2017).
[3] The age range was chosen to be somewhat broad yet exclude older workers who have reached early retirement age (62) for Social Security benefits. I limited the sample to workers for simplicity to focus on the choice among the four employment categories. Notably, other outcomes such as labor force participation, unemployment, retirement,

I first reported in Table 1 sample sizes by veteran status and disability rating group. 6.6 percent of the sample were veterans. Among all veterans, 82.8 percent indicated having no service-connected disability rating. The remaining 17.2 percent of veterans included those with a service-connected disability with a 0% disability rating, those with a service-connected disability but an unreported rating, and those with a reported disability rating of 10% or higher. A 0% disability rating indicated that a condition existed and was service-connected but did not impair the ability to work at the time. The small number of veterans with unreported ratings indicated having a disability rating but did not report the exact rating, perhaps because they were unsure, were in the process of appealing their rating, or were applying for an adjustment. Disability ratings were defined by the VA in increments of 10%.

I also reported in Table 1 the percent employed in the four categories for each veteran status and disability group. All employment rates and the regression analysis below used individual survey weights to make estimates representative of the U.S. population, since the ACS was administered via stratified random sampling. Only 2.0 percent of non-veterans worked in federal government, but 11.4 percent of veterans with no disability rating worked in federal government. Disabled veterans had even higher rates of federal government employment with rates increasing with the severity of disability. Veterans with unreported ratings and those with 0% ratings had federal employment rates of 15.8% and 19.3%, respectively. The federal employment rate was 20.1%, 25.1%, 27.4%, and 31.2% for veterans with disability ratings of 10-20%, 30-40%, 50-60%, and 70+%, respectively.

Among workers, higher federal employment rates for veterans and disabled veterans reduced employment in at least one of the three other categories. State and local (S&L)

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and schooling may be related to veteran status and disability rating in important ways, possibly warranting future research.

government employment was modestly related to veteran status and disability rating. However, self-employment and private sector employment rates were much lower for disabled veterans than for non-veterans and veterans with no disability rating.

3. Methods

The employment rates in Table 1 did not account for differences in age, sex, race, ethnicity, or other factors possibly correlated with differences by veteran status and disability rating. I next estimated linear probability models (LPM) of the form:

$$P(Y_i = 1) = \gamma VetGroup_i + \beta X_i$$

, where Y_i was a binary dependent variable for employment in a particular category. I estimated the regression for each of the four employment categories as separate dependent variables. The main variables of interest were the vector $VetGroup_i$, which included dummies for each of the veteran status and disability rating group categories. The omitted category was non-veterans, so that all groups of veterans were compared to non-veterans. The vector X_i controlled for individual characteristics with a large set of dummy variables for single year of age, education, sex, race, Hispanic ethnicity, state of birth, and survey year. I used LPM for ease of interpretation and comparison with the employment rates in Table 1. Logistic regressions were also estimated to confirm that results were qualitatively similar; these were included in the appendix.

The $VetGroup_i$ dummy coefficients provided reduced form differences in employment types across the groups. Of course, workers were not randomly assigned into military service or disability status, so the results were ultimately descriptive. These coefficients were shaped by the combined forces of hiring preferences by employers, job preferences of workers, productivity

differentials, and network effects, so we could not precisely identify the contribution of any particular mechanism. However, there are still insights to be gained.

4. Results

LPM regression results with heteroscedasticity robust standard errors were reported in Table 2. I also illustrated the coefficients graphically in Figure 1. Column 1 of Table 2 used a federal government employment dummy as the dependent variable. The pattern of regression coefficients was the same as the raw employment rates in Table 1 and the implied differences with non-veterans were nearly identical to Table 1. Veterans with no disability rating were 9.2 percentage points more likely to be employed in federal government than non-veterans. Disabled veterans had even higher probabilities of federal employment, and the coefficients increased with severity of disability and became large in magnitude. Veterans with a 70% disability rating or higher were 28.5 percentage points more likely to be federal employees than non-veterans.

The results for federal employment were consistent with hiring preferences for veterans and disabled veterans in particular. However, federal hiring preferences were likely only part of the story. Familiarity with federal employment during prior military service may have altered workers' preferences and made post-military federal employment especially attractive. Furthermore, federal employment veteran preferences were roughly equal among those with a 10% disability rating and above, yet the federal employment rate continued to rise with higher disability ratings. This rise likely reflected some combination of job preferences, network effects, and worse alternative employment options for higher disability ratings. In particular,

workers with substantial disabilities may have had very limited private sector employment opportunities.

LPM coefficient estimates for state and local government employment were relatively modest and only statistically significantly different from non-veterans for four of the seven veteran groups. Coefficient estimates were positive for veterans with no or minimal impairment and negative for veterans with the most severe disabilities. This pattern differed from federal employment.

LPM estimates for being self-employed were significantly negative for all veteran groups relative to non-veterans. Thus, conditional on the control variables, all veterans were significantly less likely to be self-employed than non-veterans. The coefficient magnitudes were largest for those with disability ratings of 10% or more, with these disabled groups conditional self-employment rates more than five percentage points lower than similar characteristic non-veterans. These self-employment magnitudes were even larger than those implied in Table 1, primarily because veterans were older and more likely to be male, both characteristics associated with higher rates of self-employment. LPM regression coefficients for the probability of being a private sector employee were also significantly negative for all veteran groups compared to non-veterans. The magnitudes also strongly increased with severity of disability and became quite large for veterans with substantial impairments.

5. Conclusion

Using American Community Survey microdata for employed veterans and non-veterans, this paper documented large differences in U.S. federal employment rates by military veteran status and disability rating. Veterans with no disability were five times as likely as non-veterans

to work in federal government. Veterans with the highest disability rating had federal employment rates 15 times that of non-veterans. These differences were minimally altered by using regression methods to control for individual characteristics. I also examined differences in employment in state and local government, the private sector, and self-employment. Veteran status and disability rating had modest relationships with state and local government employment. All veteran groups had lower conditional probabilities of self-employment and private sector employment than non-veterans, and the rates generally decreased with the severity of disability.

The observed differences in federal employment likely reflected a combination of forces including federal hiring preferences for veterans, job preferences of workers, worker productivity, and peer networks. Some veterans, especially disabled veterans, may have had reduced human capital and physical abilities due to their service that lowered their productivity in many types of jobs, especially in the private sector. Receiving hiring preferences in federal employment likely made it an especially desirable and attainable option for many veterans. Of course, possible handicaps from military service may have also reduced productivity in public sector employment.

The strength of veteran preferences in federal hiring criteria along with the large disparities in federal employment rates suggests that many federally employed veterans might not have been the most qualified applicants available at the time of their hiring. Veteran preferences distort the hiring process in favor of veterans, especially disabled veterans. This may have both good and bad normative aspects, with the net efficacy in the eye of the beholder. Some observers argue that the hiring preferences for veterans create lower productivity in the federal sector and have sizable hidden costs. A more straightforward policy might instead rely

more heavily on directly compensating veterans for their service and any employment disadvantages via cash payments.

Alternatively, a more nuanced policy might recognize that many veterans gained skills from their military service that improved employment prospects, while others were disadvantaged. This line of thinking might call for increased efforts to identify and assist veterans who were most significantly disadvantaged by military service including physically, psychologically, and in human capital accumulation. This viewpoint might further suggest that veterans with no disadvantage from service may warrant little or no preference in federal employment.

Finally, some citizens and policymakers argue that the current system of veteran preferences is useful because greater access to federal employment can substantially improve the lives of military veterans who have sacrificed their own well-being in service of their country, and the benefit may go beyond the financial aspects. Access to employment can improve self-worth and sense of purpose. These stakeholders believe that their nation owes military veterans preferential treatment to help improve their lives, and that the benefits of the current system are worth the costs. Taking sides on the normative debate is beyond the scope of the current study. However, documenting the large differences in federal employment by veteran status and disability rating helps inform the debate and increases understanding of the role that federal employment plays in the lives of military veterans, especially disabled veterans.

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Table 1: Sample Sizes and Employment Group Distribution by Veteran Status and Disability Rating

	Sample Size	Pct. Federal Government	Pct. S&L Government	Pct. Self-Employed	Pct. Private Employee
Non-veteran	2,914,423	2.0	12.3	8.1	77.6
Veteran with no disability rating	170,673	11.4	12.2	7.3	69.2
Veteran w/ disability rating not reported	1,586	15.8	12.5	5.4	66.3
Veteran with 0% disability rating	2,445	19.3	14.0	6.4	60.3
Veteran with 10-20% disability rating	13,137	20.1	14.0	5.7	60.2
Veteran with 30-40% disability rating	7,825	25.1	12.5	5.1	57.3
Veteran with 50-60% disability rating	5,021	27.4	12.5	5.0	55.1
Veteran with 70+% disability rating	5,404	31.2	13.1	4.4	51.4

Note: the sample included U.S. born workers ages 18-61 employed during the reference week excluding active duty military and unpaid family workers.

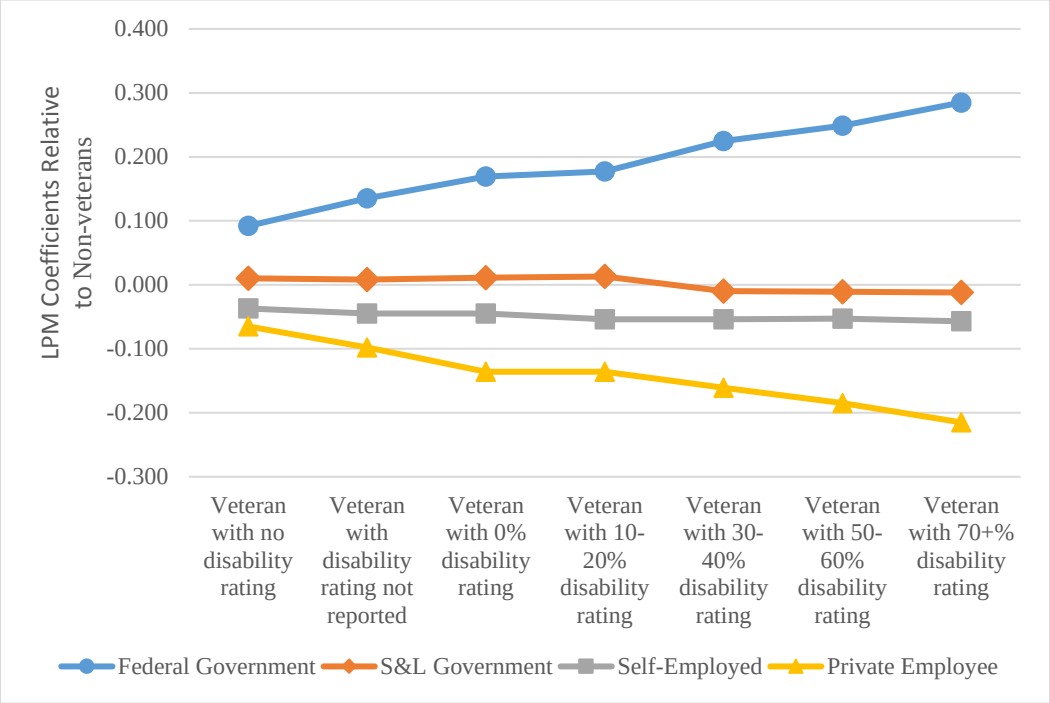
Table 2: LPM Estimates of Veteran Status and Disability Rating on Federal and Other Employment

	(1) Federal Government	(2) S&L Government	(3) Self-Employed	(4) Private Employee
Veteran with no disability rating	0.092	0.010	-0.037	-0.065
	(0.001)**	(0.001)**	(0.001)**	(0.002)**
Veteran w/ disability rating not reported	0.135	0.008	-0.045	-0.098
	(0.012)**	(0.011)	(0.007)**	(0.015)**
Veteran with 0% disability rating	0.169	0.011	-0.045	-0.136
	(0.010)**	(0.009)	(0.006)**	(0.012)**
Veteran with 10-20% disability rating	0.177	0.013	-0.054	-0.136
	(0.004)**	(0.004)**	(0.003)**	(0.005)**
Veteran with 30-40% disability rating	0.225	-0.010	-0.054	-0.161
	(0.006)**	(0.005)*	(0.003)**	(0.007)**
Veteran with 50-60% disability rating	0.249	-0.011	-0.053	-0.185
	(0.008)**	(0.006)	(0.004)**	(0.009)**
Veteran with 70+% disability rating	0.285	-0.012	-0.057	-0.215
	(0.008)**	(0.006)*	(0.003)**	(0.008)**
Controls	Yes	Yes	Yes	Yes

Notes: Results came from LPM regression. The omitted base group was non-veterans. Standard errors in parentheses were heteroscedasticity robust. Each regression included 3,120,514 observations.

* $p<0.05$; ** $p<0.01$.

Figure 1: LPM Coefficient Estimates for the Four Employment Categories



Notes: Coefficients are the same as Table 2; non-veterans are the omitted category.

APPENDIX

Appendix Table A: Logistic Regression Results for Veteran Status and Disability Rating

	(1) Federal Government	(2) S&L Government	(3) Self-Employed	(4) Private Employee
Veteran with no disability rating	6.128	1.107	0.613	0.709
	(0.082)**	(0.011)**	(0.007)**	(0.005)**
Veteran w/ disability rating not reported	8.299	1.070	0.515	0.610
	(0.761)**	(0.112)	(0.070)**	(0.043)**
Veteran with 0% disability rating	10.555	1.121	0.546	0.522
	(0.726)**	(0.086)	(0.057)**	(0.028)**
Veteran with 10-20% disability rating	11.001	1.134	0.472	0.523
	(0.321)**	(0.038)**	(0.022)**	(0.012)**
Veteran with 30-40% disability rating	14.105	0.913	0.450	0.470
	(0.496)**	(0.042)*	(0.030)**	(0.014)**
Veteran with 50-60% disability rating	15.900	0.898	0.457	0.424
	(0.662)**	(0.051)	(0.040)**	(0.016)**
Veteran with 70+% disability rating	18.097	0.888	0.406	0.377
	(0.712)**	(0.049)*	(0.032)**	(0.014)**
Controls	Yes	Yes	Yes	Yes

Notes: Coefficient estimates report differences in odds ratios from logistic regression. The omitted base group was non-veterans. Standard errors in parentheses were heteroscedasticity robust. Each regression included 3,120,514 observations.

* $p<0.05$; ** $p<0.01$.