Financial Well-Being Among Veterans, Dependents, and Civilians:

A Natural Experiment

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There are 18.2 million veterans in the United States. Former servicemen and women form a large and relatively homogenous group of consumers with special training and demands. To put this into perspective, the subpopulation of veterans represents more than twice the number of people in New York City. However, veterans as consumers are critically understudied and little is known about the impact of joining and leaving the military on their financial well-being compared to those who have never served. The current study proposes a natural experiment among 759 veterans, 387 of their dependents, and 5,085 civilians to assess the impact of their veteran status on financial well-being. A non-parametric nearest neighbor matching was utilized to estimate the average treatment effect of being a veteran on a comparable set of civilians, veteran family members, and the servicemen and women themselves. The results indicate that joining and leaving the military would not improve financial well-being across the entire population. However, veterans and their dependents significantly benefit from their status compared to a counterfactual world in which they had never joined the army. It is argued that these benefits arise from the specialized training that this subpopulation received during their service.

Objective and Significance

With 18.2 million former servicemembers, the United States has one of the largest veteran population on the planet (CNN 2019). In other words, if all veterans were in a common geographic location, it would be the third largest city in the world, only slightly smaller than the capital of China (Sawe 2018). However, unlike residents of an urban area, former servicemembers share a common identity as US veterans with access to specialized services (e.g., the Department of Veterans Affairs with a proposed annual budget of more than $220 billion in 2020 (CNN 2019)). Prior research suggests that servicemen and women outperform the national average in terms of making ends meet, planning ahead, and objective financial knowledge (FINRA IEF 2012). Furthermore, they may be better off when it comes to salary and benefits (Hosek and Wadsworth 2013). This extends to younger military personnel aged 18 to 25 who have a higher income compared to their civilian peers (Lipari 2006). That being said, servicemembers might also incur more credit card debt and may not be as skilled as civilians when it comes to the utilization of financial products (Elbogen 2014, FINRA IEF 2012).

Nevertheless, a common shortcoming of these studies is that they simply control for military status and compare servicemembers to a civilian baseline group. This assumes that these individuals are drawn from the same underlying population. However, servicemembers have a greater propensity to have veterans in their family (Lipari 2006). Similarly, the aforementioned studies ignore endogeneity issues that arise from the benefits that veterans directly or indirectly receive from the military or from the Department of Veterans Affairs. Lastly, it ignores the very nature of service with an increased risk of physical and emotional damage due to deployment and combat experiences (Lang et al. 2010). Consequently, this study utilizes a different approach. It treats military status as natural experiment, examining veterans and their families and comparing them to a group of similar civilians. This is achieved through a non-parametric matching using a nearest neighbor algorithm (Stuart 2010). These matches are then analyzed using parametric average treatment and average treatment on the treated models to shed light on the isolated effect of being a former servicemember on financial well-being (Angrist and Imbens 1995). The latter construct was chosen because financial well-being represents the ultimate goal of financial training and formal financial education (Prawitz et al. 2006). The results robustly suggest that veteran status would not necessarily lead to higher overall financial well-being across the representative sample of US consumers. However, the status does improve financial well-being for those who actually went through military training and became veterans. The same can be said about their dependents if there are matched with a comparable set of non-military individuals. This suggests that while being a veteran is not a cure-all to improve financial well-being, it does help a

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subpopulation who would have been worse off without the "treatment" of going through service. These findings are significant because, as previously mentioned, causality is a major obstacle when comparing veterans or active servicemembers to civilians. Experimental settings cannot ethically or feasibly put participants through a lifetime of experiences in the military. The utilized approach bypasses this issue by estimating counterfactual situations in which veterans would have not gone through service and/or civilians who would have chosen to serve. The insights can inform policymakers, military personnel, and financial practitioners regarding the financial well-being of a substantial group of US consumers who are former servicemembers.

Data and Method

Data were drawn from a nationally representative sample consisting of 6,394 US consumers (47.58% female, 53 median age) with 999 of whom are from an oversampled subpopulations aged 62 and older (CFPB 2017). Table 1 describes the central tendencies of key variables.

All analyses were executed in Stata 15.1. Regressions were fitted with heteroskedasticity robust Eicker-Huber-White standard errors (rSE) (Eicker 1967; Huber 1967; White 1980). Average treatment effect models were modeled with nearest neighbor matching using Mahalanobis distance metric on age, ethnicity/race, disabilities, financial socialization, and geographic region with exact matches on gender, draft age during the Vietnam War, and whether parents received college education. All models were adjusted for large sample size to account for any bias in the reported estimates. Goodness of fit and Euclidian distance were assessed post-estimation in order to guarantee model adequacy and a smooth normal distribution and an absence of inappropriately distant matches (Stuart 2010). Robustness of the presented models was checked using average treatment and average treatment on the treated models with linear regression matching which relies less heavily on advanced modeling but commonly suffers from unreasonable assumptions (e.g., multivariate normality on the specified matching dimensions). The results of these models are briefly discussed below.

Table 1: Consumer Sample Descriptive Statistics

Variable	n	Mean (SD)	Quantiles				
			Min	0.25	Mdn	0.75	Max
Veteran	5844	0.13 (0.34)	0.00	0.00	0.00	0.00	1.00
Dependent	5472	0.07 (0.26)	0.00	0.00	0.00	0.00	1.00
Age	6394	51.69 (18.13)	18.00	35.00	53.00	67.00	94.00
Female	6394	0.48 (0.50)	0.00	0.00	0.00	1.00	1.00
Some College Edu.	6394	0.30 (0.46)	0.00	0.00	0.00	1.00	1.00
Bachelor+	6394	0.38 (0.48)	0.00	0.00	0.00	1.00	1.00
Married	6394	0.60 (0.49)	0.00	0.00	1.00	1.00	1.00
Inc less $50,000	6394	0.36 (0.48)	0.00	0.00	0.00	1.00	1.00
Inc $50,000 - $99,999	6394	0.33 (0.47)	0.00	0.00	0.00	1.00	1.00
Inc $100,000+	6394	0.31 (0.46)	0.00	0.00	0.00	1.00	1.00

Black/Non-Hisp.	6394	0.11 (0.31)	0.00	0.00	0.00	0.00	1.00

Results

First, a naïve regression model, predicting financial well-being for veterans, controlling for the aforementioned demographic variables, was fitted. It strongly suggests that, ceteris paribus, veterans have substantially higher financial well-being than their civilian peers ($\beta=1.81$, rSE=0.55, $p<0.001$). This confirms previous findings but suffers from the same shortcomings that were initially outlined. Next, average treatment effects were estimated for the entire population; no significant increase of financial well-being could be detected ($\beta=1.13$, rSE=1.11, $p>0.3$). This indicates that veteran status would not automatically improve overall financial well-being. However, when testing the average treatment effect on the treated, it seems that being veteran significantly increases financial well-being for this group compared to a counterfactual world in which they had not gone through military service ($\beta=2.01$, rSE=0.78, $p<0.01$).

A similar argument can be made for dependents of veterans. That is, being a veteran family member would not improve overall financial well-being among a comparable civilian population ($\beta=-0.37$, rSE=1.31, $p>0.7$) but it does significantly improve their financial well-being compared to not having received the "treatment" of being a dependent of a former servicemember ($\beta=2.22$, rSE=0.89, $p<0.01$). Robustness checks using linear matching derive sufficiently similar results and come to the same conclusion.

The findings indicate that former members of the military and their dependents financially benefit from the experience, their training, and possibly the mindset that is shared within and among veteran families.

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