Measuring the Effects of Post-9/11 GI Bill Changes on Veteran Education Benefit Usage

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Abstract

The purpose of this paper is to examine shifts in veteran educational benefit usage following changes in GI Bill legislation over the past decade. The main focus is on analyzing how the level of annual benefit usage has changed from the Montgomery GI Bill to the Post-9/11 GI Bill. In addition, we will look at state-level benefit programs, such as the Illinois Veterans Grant, and state-level policies which grant in-state tuition status for all veterans, to see how these impact overall benefit usage. The findings suggest that the passing of the Post-9/11 GI Bill resulted in an approximate 70.56% increase in annual benefit usage, and that state-level veteran education programs and policies have a negligible impact on federal benefit usage rates.

Keywords: Post-9/11 GI Bill, Veterans, Higher Education

1. Introduction

The United States military is one of the world's preeminent all-volunteer military forces. To maintain this force, a number of recruitment and retention incentives are utilized. One of these incentives, the GI Bill, has proven useful not only in attracting high-quality recruits, but also as a means of stimulating economic growth through increasing educational achievement (Angrist 1993, Simon et al. 2010, Stanley 2003). The GI Bill has seen several changes in recent decades, including the most recent update, the Post-9/11 GI Bill. The Post-9/11 GI Bill is the most generous educational benefit for military members to date, and an understanding of its effect on enlistment, retention, and educational achievement is quite important. This paper attempts to quantify how the Post-9/11 GI Bill has effected annual benefit utilization levels among veterans. Furthermore, it will look at the existence of state-level benefit programs, such as the Illinois Veterans Grant or Texas' Hazelwood Act, to see if these programs impact benefit usage. Finally, we will examine how state-level policies for providing veterans with in-state tuition effect benefit usage.

Many laws have been passed that grant educational benefits to veterans of the United States Armed Forces. One of the first, and perhaps one of the most groundbreaking, was the Serviceman's Readjustment Act of 1944 – also known as the GI Bill (Public Law 78-346). The GI Bill has a contentious history, involving mass protests in Washington DC by veteran groups demanding bonus compensation for time served overseas, and a cavalry response led by General MacArthur that used tear gas on the protesters and burnt their makeshift campsites to the ground (Hindley 2014).

When the GI Bill was eventually enacted on June 22, 1944 – just two short weeks after D-Day – it provided comprehensive benefits for home, farm, and business loans, unemployment compensation of $20 a week for unemployed veterans, and educational benefits. The education benefits amounted to $500 each year, for up to four years, for tuition assistance, as well as a monthly stipend of $50 for single veterans and $75 for married veterans. These educational benefits proved to be very popular: by 1947, veterans accounted for 49% of college admissions and by 1956, 7.8 million of the 16 million WWII veterans had used their educational benefits to participate in an educational program (Congressional Digest 2012). Overall, the VA estimates that 50.5% of eligible veterans used at least some of their GI Bill benefits (Horan 1990).

In 1952 the Veterans' Readjustment Assistance Act, also known as the Korean GI Bill, was enacted. This program operated slightly differently from the original GI Bill, and paid less in benefits. Under the original GI Bill, tuition and fees were paid directly to the school and the veteran received a monthly stipend for living and other expenses. Under the Korean GI Bill, single veterans were paid $100/month, veterans with one dependent received $135/month, and veterans with two or more dependents received $160/month (CQ Almanac 1952). From this amount, students were to pay tuition, fees, and living expenses. Additionally, benefits under the Korean GI Bill lasted only 36 months – 12 months less than the original program. The Korean GI Bill also allowed schools to charge veterans $1.50 per month in administration fees, and $10 per month for schools that didn't otherwise charge tuition.

To compare the two, let's imagine a single veteran utilizing the maximum benefit amount, which under the original GI Bill was worth a total of $4,400 in 1944. The Korean GI Bill had a maximum benefit amount of $3,546 in 1952 dollars, which is equivalent to only $2,355 in 1944 according to Bureau of Labor Statistics CPI data. Perhaps unsurprisingly, the participation rate (calculated as the percentage of veterans who used some part of their benefits

out of the total number of eligible veterans) in this program was roughly 7 percent lower than under the original GI Bill, at only 43.4% (Horan 1990).

1966 gave birth to a new GI Bill, the Veterans' Readjustment Benefits Act of 1996, also called the Cold War GI Bill. For the first time under this bill, service members who had not been involved in combat were able to receive benefits. Those benefits, however, were reduced from former levels with the expectation that veterans were now supposed to contribute to the cost of their own educations (Boulton 2005). Under this bill, single veterans attending school full-time would receive $100 per month, with an extra $25 per month per dependent for up to two dependents. Benefits under this bill were paid at the rate of one month of benefits for every one month served, up to a maximum of 36 months.

The Cold War GI Bill was updated only a year later. The new bill, filed under Public Law 90-77, increased the base benefit amount to $130 per month, with $155 for veterans with one dependent, and $175 for veterans with two or more dependents. This version of the GI Bill also extended educational benefits to pay for apprenticeships, farm cooperatives, flight training, and on-the-job training (Veterans Benefits Administration 2007).

Another update came in 1968, under Public Law 90-631, that increased the benefit level from one month of benefits for every month served to one and a half months of benefits. Boulton (2005) points out some interesting aspects of this new bill, and its failings: namely that by providing benefits to non-combat troops as well as Vietnam veterans, the net overall benefit level had to be lowered compared to a bill that would provide benefits to combat veterans only. Vietnam veterans therefore received a lower level of benefits than Korean or WWII veterans.

The next iteration of the GI bill became law on July 1, 1985 and came to be known as the Montgomery GI Bill (MGIB). The bill was championed by Gillespie "Sonny" Montgomery, a retired Major General and Chairman of the House Veterans' Affairs Committee – to whom the moniker "Montgomery" GI Bill pays tribute. Under the MGIB, veterans who served for three or more years were eligible for 36 months of educational benefits. These benefits were paid directly to the veteran, and were initially set at $300 per month. Rates varied based on enrollment level, and a student was required to be enrolled full-time in order to receive the maximum benefit amount (pro-rated benefits amounts were paid to students enrolled less than full-time). These benefits are still available to veterans today, and the full-time benefit amount as of October 2016 was $1,857 per month (Department of Veterans Affairs 2016).

Under the MIB, the Army, Navy, and Marine Corps had additional College Fund programs, known as "kickers", that could be employed to provide additional recruitment incentives. Under this system, eligible recruits were able to contribute an additional $600 towards their MGIB benefits. This extra contribution would result in higher benefit levels once the service member began schooling. If a service member contributed the full $600, benefits would be increased by $150 each month. Each service branch administered this benefit independently, and adoption therefore was quite varied. For example, 29% of incoming Army recruits received a kicker in 1991, whereas only 7% of Army recruits joining in 1999 received a kicker (Simon, Negrusa, and Warner 2010).

The single largest overhaul of veteran educational benefits took effect on August 1, 2009 and became known as the Post-9/11 GI Bill. This program provided retroactive benefits for service members who served on active duty after September 10, 2001. To receive the full 36-months of benefits, a service member is required to have served for at least 36 months, with partial benefits paid to service member with less time served[1] (Department of Veterans Affairs 2012). The benefits provided under this program are extensive, and can be used at colleges, universities, and trade schools, as well as for on-the-job training, apprenticeships, and flight schools. The Post-9/11 GI Bill will also pay for tutoring, licensing fees, and certification tests. The benefit window was also extended to 15 years, compared to 10 years with the Montgomery GI Bill.

When using Post-9/11 GI Bill benefits for post-secondary education, the beneficiary will receive tuition and fees (paid directly to the school), up to the maximum in-state tuition rate in the state where the veteran is attending school. For students who physically attend training in a "brick-and-mortar" school, a monthly housing allowance (MAH) is also paid directly to the veteran, equivalent to the military pay rate of E-5 with dependents. This rate varies based on the zip code of the school, and is adjusted for cost-of-living. For veterans attending school completely online, the MAH received is equal to one half of the national average. While attending school overseas, veterans receive an MAH equal to the national average (Department of Veterans Affairs 2012). Finally, all beneficiaries receive a yearly book allowance of $1,000.

[1] Exceptions to the 36-month duty requirement exist for service members who were injured and subsequently medically retired from duty prior to reaching the 36-month mark.

One provision of the Post-9/11 GI Bill that has had a surprisingly large impact is the ability to transfer benefits to dependents. Under this provision, a Post-9/11 veteran is able to transfer any portion of their benefits to any number of dependents, provided that the total number of months transferred don't exceed 36. This transfer can only be completed while the service member is still on active duty, and generally requires an additional service commitment. There existed a relatively less popular quasi-equivalent to this transfer clause, when in 2006 the US Army started a pilot program which allowed select MGIB recipients to transfer up to 18 of their 36 months of MGIB benefits to a spouse (but not other dependents). This program was used as a reenlistment incentive for select individuals in high-demand roles, and required an additional four-year contract extension (U.S. Department of Veterans Affairs 2006). The program saw relatively small uptake: for fiscal year 2009, the Veterans Benefits Administration (2009) reported 591 eligible participants and 195 beneficiaries. In contrast, during fiscal year 2015, a total of 137,509 beneficiaries transferred their Post-9/11 benefits (99,980 to children and 37,619 to spouses)[2] , which constitutes 16.3% of all Post-9/11 beneficiaries that year – a not insignificant number (Veterans Benefits Administration 2016). To date, no empirical studies have analyzed the effects of this aspect of the Post-9/11 GI Bill on enlistment, retention, or benefit utilization. A table with benefit transfer statistics is included in Appendix Table 1.

When it first became available, the Post-9/11 GI Bill paid the full tuition and fees for any in-state student. This resulted in unexpectedly excessive costs for certain programs, such as flight school. The following year, the program was altered and tuition and fee caps were established for each state. Students already enrolled in high-cost programs in the seven states impacted (AZ, MI, NH, NY, PA, SC, TX) were grandfathered in to the higher reimbursement rate.[3]

During the 2014 academic year, the maximum tuition and fee payment under the Post-9/11 GI Bill was $20,235.02, with an additional $1,000 for books, and a mean living stipend of $1,509 per month[4] (Department of Veterans Affairs 2014b). Assuming traditional two-semester enrollment for a total of nine months, this means a total net benefit amount of $34,816. For a

[2] These figures, provided in the Annual Benefit Report, apparently contain a minor arithmetic error on the order of 90 beneficiaries.

[3] This grandfather clause issue was accounted for in the regression model with the *StateTuitionDifferential* dummy variable.

[4] These are the rates that a student attending school overseas would receive, and are based on national averages. Benefits will vary based on the state of enrollment and cost of living.

student using the MGIB, the monthly benefit was $1,717 for a total nine-month net benefit amount of $15,453 (Department of Veterans Affairs 2014a).

One final change that occurred under the Post-9/11 program is the Veterans Access, Choice, and Accountability Act, which became law on July 1st, 2015. Under the Veterans Choice Act, as it is commonly called, public postsecondary institutions must offer veterans and their dependents tuition at the in-state rate, regardless of their residency status (Fulton and Sponsler 2015). Institutions that don't comply with this rule will be disallowed from receiving VA tuition reimbursement.

2. Literature Review

Many studies exist that evaluate the impact of educational subsidies on enrollment, both for typical college students and military veterans. Dynarski (2000) and Cornwall, Mustard, and Sridhar (2006) looked at Georgia's HOPE scholarship and its impact on college attendance, finding that each $1,000 increase in aid resulted in a four to six percentage point increase in college attendance. Seftor and Turner (2002) found that the introduction of the Pell grant program increase enrollment of nontraditional students by 1.5 percentage points for men and 1.3 percentage points for women. Kane (1995) performed a state fixed effects analysis and found that each $1,000 decrease in college tuition costs resulted in an approximate four percentage point increase in enrollment.

Focusing on veteran responsiveness to GI bill benefits, Simon, Negrusa, and Warner (2010) analyzed the effect of GI Bill changes on educational benefit usage during the MGIB era, using data from 1988-2005. They found that a $1,000 increase in MGIB benefits would increase the number of Army veterans who used their benefits within 2-years of separation by about 0.5 percent. Findings for the other service branches were similar, if slightly smaller. They then extended this finding to the Post-9/11 GI Bill, and estimated an increase in benefit usage of about 20%.

Barr (2015) analyzed the effects of the Post-9/11 GI Bill using a difference-in-differences approach to compare veterans with non-traditional students, which was defined as individuals aged 23-28 with at least a high school diploma (or equivalent), but no bachelor's degree. His findings suggest an increase of at most one percentage point per $1,000 increase in benefits. This study provides valuable data about veterans as non-traditional students, but the age

restrictions eliminate a significant portion of the beneficiary population. Cate (2014) found that approximately 42.8% of Post-9/11 GI Bill using veterans were younger than 20 or older than 30.[5] Cate also found that approximately 72.5% of veterans had already earned a bachelor's degree prior to using their Post-9/11 benefits. By focusing on overall state-level benefit usage, my study aims to analyze the Post-9/11 beneficiary populace in its entirety, which has not previously been done.

3. Model

The formal analysis utilizes a fixed effects model to measure changes in the number of beneficiaries in each state between the periods 2000 and 2015. The effects are characterized by

$$(1) \qquad Ln(Y_{it}) = \beta_0 Ln(VetPop_{it}) + \beta_1 Ln(MilPop_{it}) + \beta_2 UnempRate_{it} + X'_{it} + \varepsilon_{it}$$

where Y_{it} is the number of beneficiaries for state *i* in year *t;* X'_{it} is a vector of the dummy variables *Post911Active*, *StateBenefitProgram*, and *StateTuitionDifferential*; and ε_{it} is the error component. The *Post911Active* dummy variable is set to 1 after August 1st, 2009 and is 0 otherwise. *StateBenefitProgram* indicates if the state offers an educational benefit program that provides four years of tuition benefits to its resident veterans. *StateTuitionDifferential* indicates if, for a particular year, the state's public institutions were required to charge out-of-state veterans at the in-state tuition rate. The dataset consists of 16 years of benefit usage for 50 states and the District of Columbia, forming a balanced panel with N = 816, n = 51, and T = 16.

4. Data

4a. Data Sources

Veteran Population Data

For the purposes of this study, we focused on the population of Gulf War Era veterans, defined as those having served after August 2, 1990. This figure is used to proxy the pool of eligible GI Bill recipients. Although research has shown that 95% of Post-9/11 GI Bill beneficiaries are under the age of 40 (Cate 2014), using the veteran population projections for veterans under 40 will provide an underestimate of eligible Post-9/11 beneficiaries, as it does not

[5] Cate's Million Records Project looks only at veteran enrollment (excluding benefits used by dependents) and segments the ages differently (under 20, 20-24, 25-29, 30-39, and 40+) so the percentage of beneficiaries excluded is actually higher than 42.8%.

include spouses and dependents who might use transferred benefits. In fact, the data reveal that in West Virginia in 2015, there were 20,861 MGIB and Post-9/11 beneficiaries, but only 22,509 veterans under 40 – underscoring the importance of considering dependents as potential benefit users.

The Gulf War Era veteran population data were obtained from the Department of Veterans Affairs (VA) population projection models. These models are actuarial projections developed by the Office of the Actuary (OACT), and integrate record-level data and survey data from VA, Department of Defense, U.S. Census Bureau, Internal Revenue Service, and the Social Security Administration (Department of Veterans Affairs 2015). The models provide forward-looking projections that account for veterans newly separated from active or reserve duty, intra-state migration amongst veterans, and veteran mortality. Data are provided from the county level up to the national level: in this study, state level data are used.

These population models are reevaluated every few years by the VA, who subsequently releases new versions of the model using the most up-to-date information. Therefore, in this study we've used data from the VetPop2007 model for the years 2000-2009, the VetPop2011 model for 2010-2012, and the VetPop2014 model for 2013-2015. It is of note that these models generally do not provide validation of past projections; in fact, the VetPop2007 model is the only population model used that provides data from years prior to its release. Although using multiple versions of the model for our population data will invariably change the estimates, it is our hope that this will make the population data more accurate, especially regarding inter-state migration.

Active-Duty Military Population Data

Data on the active duty military population were obtained from the Defense Manpower Data Center Department of Defense Personnel, Workforce Reports & Publications "Military and Civilian Personnel by Service/Agency by State/Country". It is important to note that these data do not necessarily represent the overall strength of the US military forces, which increased following September 11th, 2001, and then later decreased with the draw down. Rather, only data pertaining to active duty personnel stationed within the United States (or afloat) was considered.

Veteran Educational Benefit Usage Data

Veteran educational benefit usage data were provided by the VA National Center for Veterans Analysis and Statistics. The VA includes a caveat with the data, stating that veterans might have used their benefits in more than one state during a particular fiscal year, and therefore the total figures will over represent the number of unique beneficiaries[6]. This effect was fairly small: in 2013, the total number of beneficiaries was 1,120,383 and the number of unique beneficiaries was 1,091,044, so approximately 2.69% of beneficiaries used federal benefits in more than one state. Therefore, after consideration, these data were still used. Due to the focus of this research being on state-level differences between benefit usage, the number of unique beneficiaries is irrelevant, since at the state level they are not overcounted.

Unemployment Rates

Unemployment rates were gathered from the Bureau of Labor Statistics Local Area Unemployment Statistics for each state, as well as the District of Columbia. Seasonally-adjusted unemployment rates were used to compute a two-year moving average of unemployment for each state. A two-year average was used due to the rigid nature of military reenlistment. While a civilian worker might be free to switch jobs at will, military members are bound by contractual enlistment periods of up to several years. Additionally, application to traditional four-year colleges and universities is often run in cycles, where the student must apply up to a year in advance. I therefore hypothesize that military members likely make future college investment decisions based on past labor market conditions.

4b. Summary Statistics

Graph 1 provides an overview of the mean state-level benefit usage over the time period 2000-2015. It is clear that a significant jump in benefit usage occurred after the implementation of the Post-9/11 GI Bill. But since this event coincided with the 2008 recession, one of the research goals is to remove any effects that increased unemployment might have had on the number of educational beneficiaries.

[6] The most likely scenario in which this would apply would be for veterans who transferred to an institution in another state mid-way through the academic year.

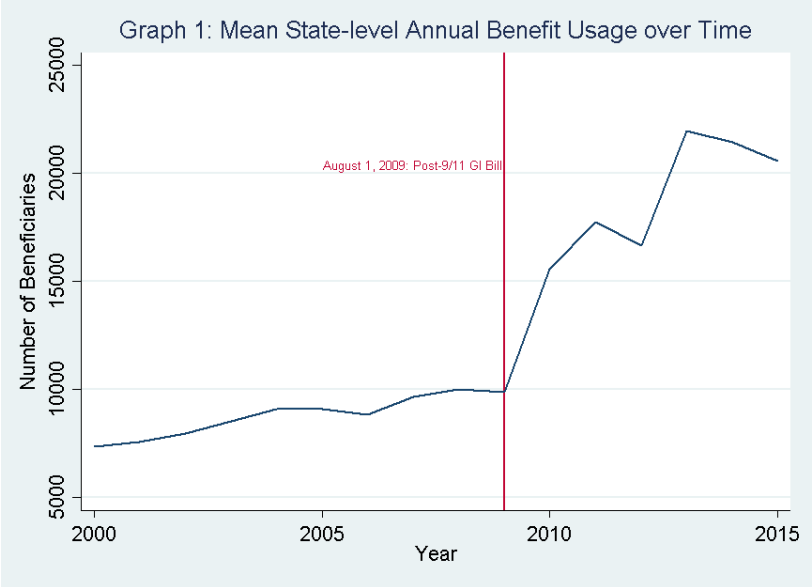
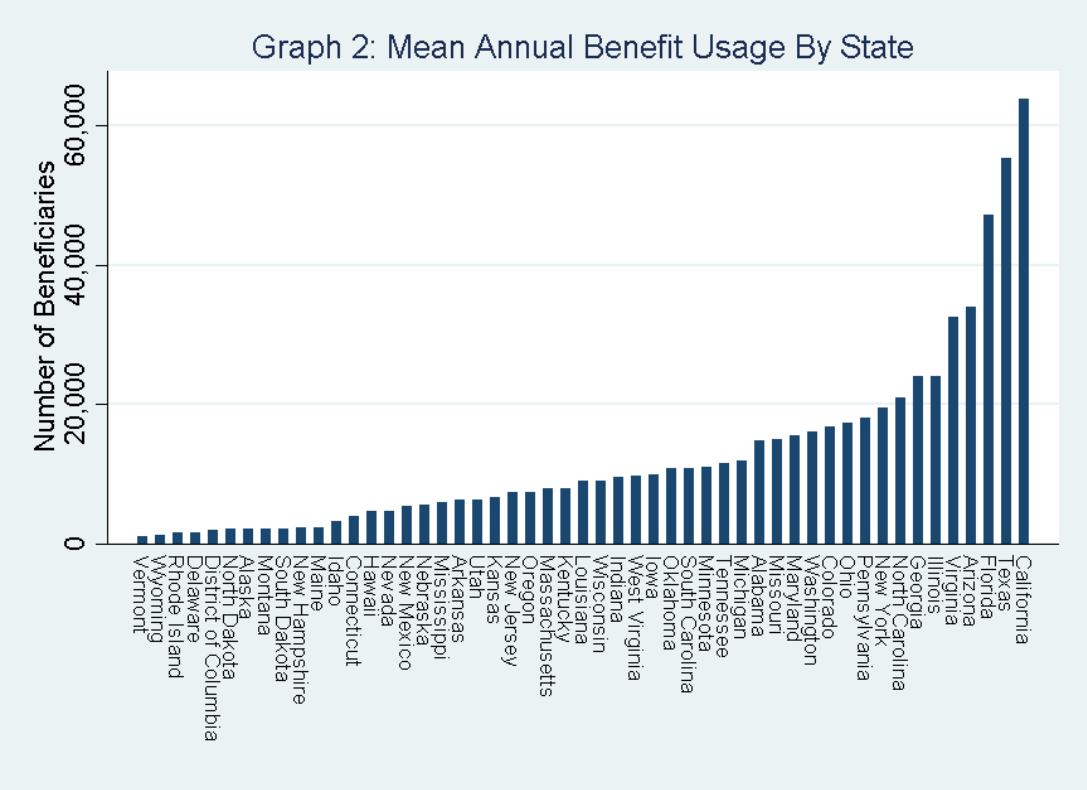


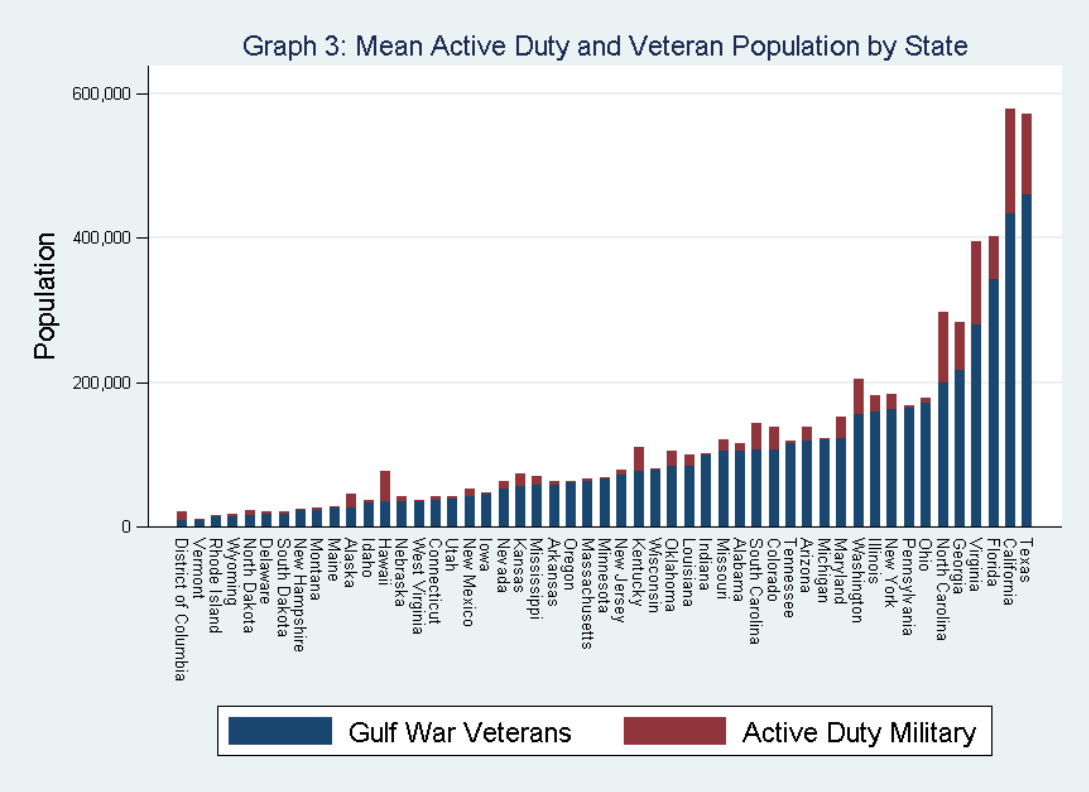
Table 1 Summary Statistics

Variable		*Mean*	*Std. Dev.*	*Min*	*Max*
Total Educational	Overall	12623.19	15440.0	509	112838
Benefit Usage	Between		13363.5	1082.1	63798.7
	Within		7943.3	-12060.5	61662.5
Active-Duty	Overall	21717.33	32598	52	160473
Military	Between		32570.8	96.8125	145549.9
Population	Within		4615.3	-30504.5	44093.5
Gulf War	Overall	98938.22	105114.8	5178	678970
Veteran	Between		99894.8	8351.1	459884.5
Population	Within		35409.1	-87797.3	318023.7
Two Year	Overall	5.8180	1.9612	2.5087	13.222
Unemployment	Between		1.0935	3.3060	7.7014
Rate	Within		1.6349	1.7775	11.906
In-State Tuition	Overall	0.1207	0.3246	0	1
Differential	Between		0.1685	0	0.7500
	Within		0.2783	-0.6293	1.0582
Post 9/11 GI Bill	Overall	0.3750	0.4844	0	1
Active	Between		0	0.3750	0.3750
	Within		0.4844	0	1
State Benefit	Overall	0.0919	0.2891	0	1
Program	Between		0.2656	0	1
Available	Within		0.1198	-0.5331	0.5919

Observations: N = 816; n = 51; T = 16

The rather large standard deviations for benefit usage, active duty population, and gulf war veteran population can be explained by the differences between states. The following two graphs shed light on the rather vast differences between states for those three statistics.





Part of the goal of this research was to determine whether state-level benefit programs effect the usage of federal education benefits. Between fiscal years 2000-2015, there were six states that offered benefit programs that paid for four years of tuition and fees at their state's public institutions: Connecticut, Illinois, New York (2008-2015), Texas, Wisconsin (2006-2015), and Wyoming (2007-2015). The programs in Connecticut, Illinois, and Texas were in effect during the entire period, while the other programs were implemented part-way through. (See Appendix Table 2 for complete dates and legislative sources.)

The final research goal was to determine the impact of in-state tuition policies on education benefit usage. This is especially relevant with the passing of the Veterans Choice Act in 2014, which forced all public institutions to offer veterans in-state tuition rate (noncompliance would make the institution ineligible to receive payments from the VA). 25 states preceded this act with their own requirements for in-state tuition, although the timing of these laws varied considerably. They therefore provide an ideal natural experiment to observe the potential effects of the Veterans Choice Act. Appendix Table 3 has a complete listing of the states, implementation date, and regulations.

5. Results

The preferred specification is the full model, depicted as Model #1 in Table 2. These results demonstrate a significant positive relationship between the gulf war veteran population and federal benefit usage, indicating that for a one percent increase in gulf war veteran population, federal benefit usage will increase by 0.55 percent. There is also a significant positive relationship between the Post-9/11 GI Bill being active and federal benefit usage. To calculate this effect, we must reverse the log transformation on benefit usage, meaning that the presence of the Post-9/11 GI Bill increased federal benefit usage by $e^{0.5339}$, or 70.56%.

Table 2 Fixed Effects Model Estimations

Variable		*Estimated Coefficients*		
		Model #1	Model #2	Model #3
Log of Active-Duty Military Population		0.0321 (0.0615)		0.0258 (0.0641)
Log of Gulf War Veteran Population		0.5503*** (0.0672)	0.5502*** (0.0672)	0.5500*** (0.0671)
Two Year Unemployment Rate		-0.0118 (0.0095)	-0.0111 (0.0098)	
In-State Tuition Differential		-0.0293 (0.0563)	-0.0285 (0.0570)	-0.0160 (0.0533)
Post 9/11 GI Bill Active		0.5339*** (0.0461)	0.5327*** (0.0470)	0.5002*** (0.0289)
State Benefit Program Available		-0.1258 (0.0740)	-0.1234 (0.0750)	-0.1195* (0.0702)
R^2	Within	0.8522	0.8519	0.8513
	Between	0.9326	0.9380	0.9334
	Overall	0.8783	0.8708	0.8783

Robust standard error in parentheses.
*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

The model also demonstrates an interesting effect with regard to unemployment. Frankly, the negative coefficient on unemployment is somewhat unintuitive: one would expect that worsening labor market conditions would cause more veterans to return to academia in order

to increase their labor market competitiveness, as well as in response to a decreased opportunity cost of education. And indeed, a number of studies have found that higher unemployment leads to increased college enrollment (Gustman and Steinmeier 1981, Hillman and Orians 2013, Lehr and Newton 1978). The issue lies in a multicollinearity between unemployment and active duty military population. Higher unemployment rates have been seen to increase military retention (Hogan et al. 2005, Glaser 2011), which in turn increases benefit usage, but not by as much as it would if those service members were to separate from the military and enroll in schooling full-time. Alternate model specifications were used that omit first active duty military population and then unemployment, but ultimately the initial specification was determined to be the most accurate representation and the multicollinearity was accepted (the "do nothing" approach of Gujarati and Porter (2009)).

It was Sonny Montgomery who first proposed the idea that educational benefits such as the GI Bill could be used as a recruitment tool, not just as a reward for service (reference). Likewise, state-level educational programs are also recruitment tools, aimed at attracting highly qualified individuals to live and work in a particular state. But have these tools been effective?

States that provided veterans with an in-state tuition rate saw decreased levels of federal benefit usage, although the effect was insignificant. If this benefit was effectively incentivizing veterans to attend school in that state, we would expect to see an increase in benefit usage as more veterans return to the state for schooling. This effect, however, was not observed. It is possible that veterans did return to these states, but were able to afford the lower cost of tuition through other scholarships, grants, or by working part-time – thereby offsetting the increased federal benefit usage and allowing veterans to save their GI Bill benefits for a higher degree. In the Million Record Project, Cate (2014) found that 20.8% of veterans who initially earned a bachelor's degree later went on to earn a graduate or doctoral degree, which might support this hypothesis. It is also possible that these states do attract more veterans, but if many of them use state benefits rather than federal benefits the net effect to federal benefit usage would remain relatively constant.

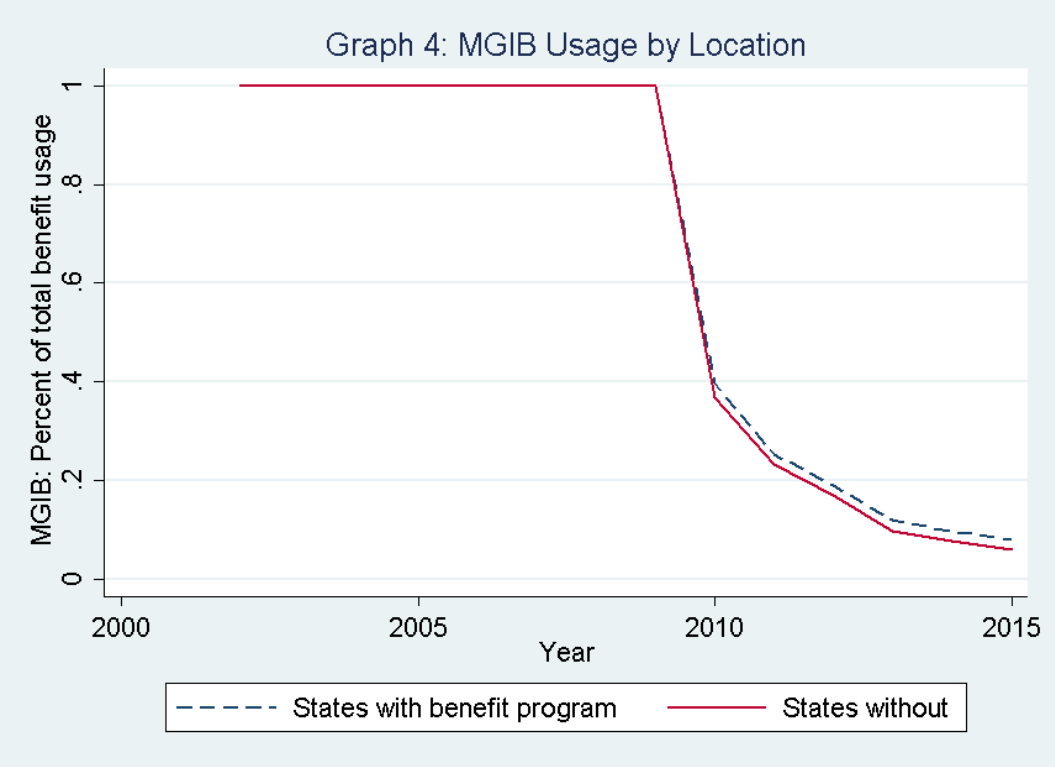
When it comes to evaluating a veteran's choice between using federal GI Bill benefits or using state-level benefits, some idiosyncrasies in the policies must be addresses. First, consider that most state level programs will not "stack" with the Post-9/11 GI Bill; that is, since Post-9/11 benefits are paid directly to the school, the combined use of both federal and state benefit

programs will not exceed the cost of tuition and fees. The Montgomery GI Bill, however, pays students directly, and therefore a student is able to use both the state program and Montgomery GI Bill simultaneously to potentially receive a higher combined benefit level. Also consider that the housing allowance paid by the Post-9/11 GI Bill scales based on the cost of living in a particular area, whereas the Montgomery benefit level is fixed nation-wide.

Therefore, a utility maximizing student would likely take one of three routes: (1) in high cost of living areas, where the sum of the Post-9/11 GI Bill's monthly living stipend and annual book allowance is greater than the sum of the Montgomery GI Bill's monthly payments, the student would receive greater benefits by using the Post-9/11 program and the state program simultaneously; (2) in lower cost of living areas, where Montgomery GI Bill benefits are greater, the student will receive greater benefits by using the Montgomery and state programs simultaneously; (3) regardless of cost of living, student wishing to pursue more than four years of education would likely use one benefit program first, and once that source of funding has been exhausted, switch to the other program[7]. This third use case is not observable in the dataset, so we'll limit ourselves to analyzing the first two.

We observe in the data that states with benefit programs experienced a higher mean proportion of MGIB usage to total beneficiaries than did states without benefit programs, as depicted in Graph 4.

[7] An argument could be made that graduate education sometimes comes with funding, and so a veteran might use both state-level and federal benefits on their undergraduate degree, then rely on other funding sources (TA, RA, fellowship, etc) for the cost of the graduate degree. This case seems unlikely, given that as an undergraduate, the student would not know which school he/she will be attending, much less the certainty of funding.



6. Conclusion

Simon et al (2010) estimated that the Post-9/11 GI Bill would increase educational benefit usage by about 20%, factoring in both the increase in benefit amount and the expansion of the benefit usage window from 10 to 15 years. My finding of 70.56% is significantly higher, and can be explained, at least in part, by the transferability of Post-9/11GI Bill benefits to dependents. In fact, Simon et al predicted that such an increase would likely result from the transfer clause.

I also find that states with their own veteran educational benefit program experience higher rates of MGIB usage relative to total benefit usage than do states without benefit programs. While Leporte (2013) claimed that veterans might not switch from MGIB to the more lucrative Post-9/11 due to confusion or apathy, this finding seems to indicate that veterans are able to calculate which program is most beneficial and switch accordingly. This utility optimization is likely aided by online tools such as the VA's GI Bill Comparison Tool[8], which

[8] This tool is available at https://www.vets.gov/gi-bill-comparison-tool. Full documentation of the tool is available at http://www.benefits.va.gov/gibill/comparison_tool/about_this_tool.asp.

enables veterans to calculate the benefits they'll receive at a particular school under both the MGIB and Post-9/11 programs.

If veterans can easily see which program pays more, and they do in fact switch programs in order to receive the maximum cash benefit amount, there is an underlying implication for policymakers in states that offer or are thinking of offering veteran education benefits. First, states need to identify specific goals that they are trying to achieve through offering veteran education benefit programs, such as increasing educational achievement, longevity, degree completion rate, etc. Instead, the listed goals are often vague, such as "keeping our promise to our heroes", or "Our honored veterans fought so that we can be free. It is our duty to provide them with the opportunities and care that they rightfully deserve when they return home" (Office of the Governor 2011). Unfortunately, such goals do not easily lend themselves to empirical assessment and evaluation.

Once the goals are identified, they should be weighed against the program's cost. For example, due to state budget issues the Illinois Veterans Grant has had funding shortfalls since 2002, and schools have borne the entire cost of the program since fiscal year 2013. This has amounted to $114 million in waived tuition and fees between 2013 and 2016 at Illinois' public universities and community colleges (Illinois Student Assistance Commission 2017).

There are, however, alternative approaches that don't place such a heavy burden on schools. One such approach is used by the Wisconsin GI Bill, where recipients are required to utilize Post-9/11 funding (if eligible) before becoming eligible for state benefits (Wisconsin Technical College System 2009). For those students who would receive a higher monthly payment under the Montgomery GI Bill, they are paid an additional stipend equal to the difference. This ensures that universities receive funding for veteran education, while also enabling veterans to receive a college education without incurring debt, and minimizing the cost to taxpayers.

7. References

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8. Appendix

Appendix Table 1: Benefit Transfers to Dependents

Year	*Total Benefits Transferred (% of total Post-9/11 beneficiaries)*	*Children (% of total transfers)*	*Spouse (% of total transfers)*
2010	51,658 (14.1%)	Not provided	Not provided
2011	114,411 (20.6%)	82,269 (71.9%)	32,142 (28.1%)
2012	147,875 (22.9%)	93,508 (63.2%)	54,367 (36.8%)
2013	135,159 (17.9%)	94,559 (70.0%)	40,600 (30.0%)

2014	137,030 (16.8%)	96,937 (70.7%)	40,093 (29.3%)
2015	137,509 (16.3%)	99,890 (72.6%)	37,619 (27.4%)

Source: Department of Veterans Affairs Annual Benefit Report, 2010-2015

Appendix Table 2: State-level Educational Benefit Programs

State	*Effective Date*	*Program name and legislation*
Connecticut	1970s	Connecticut Veterans Tuition Waiver (Connecticut Office of Higher Education 2017)
Illinois	1970s	Illinois Veterans Grant 110 ILCS 947/40
Minnesota †	2007	Minnesota GI Bill Minnesota Statutes §197.791
New York	2008	Veterans Tuition Awards
Texas	1943	Hazlewood Act TAC 40-15-461
Wisconsin	2006	Wisconsin GI Bill Wis. Stats. §36.27(3p)
Wyoming*	2007	Overseas Combat Veteran Tuition Waiver Wyoming Statue 19-14-106

† This program does not offer full tuition and fees, but is a "top up" benefit that covers tuition and fees in excess of other funding sources. Total benefits are limited to $1,000 per term for undergraduate students with a maximum lifetime benefit amount of $10,000. As such, it was not included in this study.
**Veteran must have an overseas deployment to be eligible. This program has ended, as of Spring Semester 2017.*
Source: Author's research

Appendix Table 3: States with In-State Tuition Policies

State	*Effective Date*	*Legislation or Reference*
Alabama	2014	Act 2013-423, HB424
Alaska	2010	(Ripley 2009)
Arizona	2012	A.R.S. 15-1802
Colorado	2010	HB 1039
Florida	2015	HB 7015
Idaho	2011	SB 1367

Illinois	2014	HB 2353
Indiana	2014	SEA 177
Kentucky	2012	HB 425
Louisiana	2013	La. R.S. 17:2137(E)
Maryland	2012	SB 167
Michigan	Spring Semester 2014	(Presidents Council State Universities of Michigan 2013)
Minnesota	2007	
Mississippi	2004	
Missouri	2014	SB 117
Nevada	2014	
New Hampshire	2015	HB624
New Mexico	2010	SB 136, chapter 123
North Dakota	2010	SB 2085
Ohio	2010	HB 450
Oregon	2014	HB 2158 & 2787
South Dakota	2013	SB 80
Texas	Spring Semester 2012	
Utah	2015	House Bill R124
Virginia	2012	HB 1861

Source: Author's research

Appendix Table 4: Maximum Benefit Rates by Year

Year	*Max Benefits under MGIB*	*Max Benefits under Post-9/11*	*Difference*
2008	$11,889.00	ǂ	
2009	$12,497.51	ǂ	
2010	$12,879.50	ǂ	
2011	$12,820.51	$29,614.74	$16,794.23
2012	$13,386.01	$29,850.81	$16,464.80
2013	$13,893.99	$30,968.55	$17,074.56
2014	$14,233.79	$32,069.09	$17,835.30
2015	$14,801.79	$33,259.57	$18,457.78

ǂ*: Data not available for this year.*

All figures assume nine months of educational enrollment and are provided in 2008 dollars, according to the BLS CPI Inflation calculator. Post-9/11 figures assume the national average housing allowance and the national maximum for tuition and fee reimbursement.

Source: Department of Veterans Affairs Montgomery GI Bill and Post-9/11 GI Bill Rate Tables, 2008-2015