
The G.I. Bill:

A Case Study in Behavioral Economics

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“Human behavior flows from three main sources: desire, emotion, and knowledge.”

- Plato

In pursuit of public welfare, the federal government supports a range of programs designed to encourage desirable behavior. Though for centuries lawmakers have strived to account for irrational actors and ultimately produce effective policy, behavioral economics has only entered the discussion recently as a means to accomplish these ends. The G.I. Bill provides a unique opportunity to examine behavioral economic principles as they relate to a long-standing, well-developed program. Introduced in 1944, the G.I. Bill provides tuition assistance and other educational benefits to support US military veterans pursuing a postsecondary credential. Benefit usage rates remain high and relatively stable in the decades since the legislation’s enactment, suggesting that educational incentives may serve as powerful motivators for veterans continuing their education. However, low college completion rates amongst veterans that choose to use G.I. Bill benefits limit the program’s true effectiveness. This case illustrates both the benefits and the limitations of applying behavioral economics concepts in policy design, particularly as demands on the G.I. Bill program continue to evolve.

INTRODUCTION

As stated in the United States Constitution, the purpose of our federal government is to “establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity.” In accepting this charge, the government maintains a national military, grants authority to a national court, and extends voting and other liberties to its citizens. Promoting general welfare, however, is a more difficult charge. Though the dictionary definition of “welfare” remains unchanged, its application is often subjective and sometimes controversial. Some desired social behaviors are required by law (e.g., social security), while most, like the pursuit of a postsecondary credential, are encouraged through economic “nudges” that capitalize on the principles of behavioral economics. There are many examples of such motivators; however, this paper will focus specifically on the G.I. Bill as a case study in behavioral economics and policy formulation.

This article will begin with a brief history of the G.I. Bill and its observed impact, followed by a discussion of the connection between behavioral economics and educational incentives. It will continue with an examination of behavioral economics as it relates specifically to the G.I. Bill, concluding with potential considerations for future iterations of the program.

A BRIEF PROFILE OF THE ARMED FORCES

As of September 2016, 2.4 million men and women serve in the United States Armed Forces in an active duty, reserve, or National Guard capacity (Department of Defense 2016, iii). While military personnel make up about one percent of the total population of the United States, their numbers exceed the populations of 106 of the world’s smallest nations (Central Intelligence Agency 2017). Of those serving, almost 1.3 million are in active-duty force, meaning they are employed full-time by the military and may be deployed at any time (Department of Defense 2016, 13). Thirty-seven percent of all active-duty military personnel serve in the Army, followed by the Navy, Air Force, and Marine Corps at 25, 24, and 14 percent, respectively (14). The number of active-duty forces has steadily declined since 2010, when they boasted nearly 1.4 million troops (16).

The US military is overwhelmingly male-dominated at 82.8 percent, with the percentage of women growing slightly from 15.4 percent in 2000 to 17.2 percent in 2016 (Department of Defense 2016, 6). About a third (31.4 percent) of all active-duty military personnel identify as racial or ethnic minorities, wherein African Americans comprise a slightly larger portion than their overall share of the U.S. population at 17.4 percent (23). Additionally, nearly half (40 percent) of all U.S. military personnel are 25 years old or younger (9). Though all 50 states are represented in the Armed Forces, Florida and Maine are significantly overrepresented with more than seven enlisted personnel per 1,000 18-24 year olds. Furthermore, southern states contributed a disproportionate 41 percent of military recruits in 2003 (Kane 2005). Per the Median Household Income map produced by the US Census Bureau in 2016, 83 percent of southern states fall below \$50,000 in median income. Thus, regional trends suggest that a significant number of enlistees are from mid-to-low income households (United States Census Bureau 2016). Overall, enlisted American troops represent the young, the diverse, and the low-income. These defining characteristics

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have significant implications for the health of the United States economy. Postsecondary education provides an avenue for improving the economic outcomes of this population.

ECONOMIC IMPACT OF HIGHER EDUCATION

The effect of postsecondary education on long-term individual outcomes is clear when examining economic data. Per data analyzed by The College Board, people with a bachelor's degree can expect to earn 66 percent more income in their lifetimes than those with only a high school diploma. Individuals with an associate's degree may earn as much as 24 percent more. Furthermore, even those who do not complete a degree but attend some amount of college may expect to earn 13 percent more than their counterparts with only a high school diploma (The College Board 2017). These statistics suggest that postsecondary education substantially impacts a person's economic outcomes over his or her lifetime.

More broadly, higher education also contributes to decreased unemployment rates and increased median incomes (Department of Treasury 2012). As discussed by economist Ilhan Ozturk in his article "The Role of Education in Economic Development: A Theoretical Perspective," human capital investment in the form of basic education, job training, and other such programs contributes to improved productivity, increased innovation, and better family outcomes. Additionally, increased learning may be associated with improved export industries and more success in international markets (Ozturk 2001). Given that the positive outcomes associated with education extend beyond the individual, many advocate for increased spending on educational incentive programs.

The aforementioned income gaps are particularly salient with regards to the Armed Forces. Strikingly, 91.2 percent of active-duty enlisted military personnel have completed high school, but only 6.9 percent hold a bachelor's degree (Department of Defense 2016). While a portion of enlisted service members are considered "career" military, many will separate at a given point to pursue a civilian lifestyle. At that time, those without a postsecondary credential may face a significant economic disadvantage. The G.I. Bill is intended leverage the benefits of postsecondary education to mitigate the discrepancy.

HISTORY OF THE G.I. BILL: *Serviceman's Readjustment Act of 1944*

The Serviceman's Readjustment Act of 1944, contemporarily referred to as the G.I. Bill program, targeted servicemen and women returning to the United States after serving in World War II. An initiative of President Franklin D. Roosevelt, the legislation established the first educational benefit program specifically for military veterans. G.I. Bill benefits covered tuition at some of the nation's traditionally more expensive universities and colleges. (Bound and Turner 2002). The program offered open eligibility and represented a significant improvement in veteran benefits. The bill also pre-emptively stipulated that veterans of the Korean War and the Vietnam War would receive educational benefits.

The effects of the program on veteran higher education were profound, with veterans accounting for 49 percent of college admissions in 1947. The benefits under the Serviceman's

Readjustment Act ended on July 25, 1956. By this time, nearly half (7.8 million) of the 16 million total World War II veterans in the United States had enrolled in some sort of formal education or training program (U.S. Department of Veterans Affairs 2013). Though one cannot reliably estimate how many of these men would have pursued formal education without the G.I. Bill, the above statistics suggest that the funds were a powerful motivator for World War II veterans.

Montgomery G.I. Bill (MGIB)

The Montgomery G.I. Bill (MGIB) updated the Serviceman's Readjustment Act in 1985 and remained in place until 2009. The MGIB did not offer open eligibility to all service members. To qualify, servicemen and women had to remain on active duty through the duration of their contract (at least three years) and agree to 12 months of \$100 reductions in pay (Barr 2015). Though slightly more generous than the earliest form of the G.I. Bill, the benefits included in the MGIB cover only a minimal amount of the total cost of college attendance in 2018. Unfortunately, this remains the only educational benefit for anyone who separated from the military prior to September 10, 2001 (U.S. Department of Veterans Affairs 2017).

Post-9/11 G.I. Bill

The Veterans Educational Assistance Act of 2008, more commonly known as the Post-9/11 G.I. Bill, introduced the most generous educational benefits for veterans since the program's inception. Under the provisions of the Post-9/11 G.I. Bill, eligible veterans receive full tuition and fees at any public college or university in their state of residence, a benefit valued up to \$15,000 in some states. In most cases, student veterans also receive an additional stipend for books and continue to receive Base Allowance for Housing (BAH) pay to cover living expenses. Unlike the Montgomery G.I. Bill, most active duty service-members entering the Armed Forces after September 11, 2001 are eligible for these benefits (Barr 2015).

CURRENT G.I. BILL USE AND EXPENDITURES

Although there was an observed increase in veteran enrollment immediately following the most recent updates to the G.I. Bill, a regression to the mean of sorts may occur as more motivated young people enlist in the Armed Forces as a means of financing their educations. This trend has noteworthy implications for policymakers as they consider the future of the program.

The Department of Veterans Affairs reported \$12.3 billion in educational benefit payout to 1.01 million veteran beneficiaries in fiscal year 2015, averaging \$11,000 per student (Veterans Benefits Administration 2016, 10). This represents a 7 percent decrease in the number of beneficiaries as compared to fiscal year 2014 (8). Assuming students are graduating at a standard pace of 4 to 6 years for a bachelor's degree, policymakers may expect an average investment of \$44,000 to \$66,000 per degree earned. Using these figures, the average total cost to taxpayers of a degree earned under the G.I. Bill is roughly equal to one year of tuition at private universities like George Washington University and Georgetown University.

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The characteristics of the students taking advantage of Post-9/11 G.I. Bill benefits differ in many ways from the larger composition of the force. Women make up roughly 16 percent of the military, however they comprised 22 percent of military undergraduates from 2011-2012. Further, the average age of a military student was 34 in those same years, suggesting that younger veterans are opting out of using the educational benefits or are choosing to serve longer tenures in the military. While approximately one third of beneficiaries were unmarried with no dependents, another third were married with dependents (Radford, Bentz, Dekker, & Paslov 2016). Although the authors did not provide information on race or socioeconomic status of veteran students, the aforementioned demographics are surprising in the context of the larger population. Consequently, the financial implications of a program this large extend well beyond the expected increases in economic stability for its beneficiaries. Particularly, if the program is not effectively reaching those who could not access education without such benefits, the policy may need to be adapted in order to better achieve intended outcomes.

Behavioral economics provides a powerful framework for designing an educational incentive program that achieves the desired outcome - completion of a postsecondary credential. It may also help avoid unintended consequences, like failure to persist to degree completion or use educational benefits all together. However, as the coming sections will illustrate, achieving an optimal programmatic outcome requires a new approach to incentivizing education, wherein irrational behavior is more effectively addressed, either through improved information sharing or consequences of some kind for failure to persist to degree completion.

BEHAVIORAL ECONOMICS

Though government has long attempted to influence the behavior of citizens, the rise of behavioral economics in pursuit of this influence is relatively recent. The tenants of behavioral economics can be traced as far back as classical economist Adam Smith in 1759, though it can be debated that the field was established in the 1950s (Oliver 2015). Richard Thaler, currently a professor of economics at the University of Chicago, is often credited with establishing the field and received the Nobel Prize for Economics in October 2017. He promulgated the notion “that people are predictably irrational,” a premise with significant implications for economic theory (Appelbaum 2017). Consequently, an understanding of the relationship between human behavior and economic decision-making is profoundly valuable in the policymaking process.

Behavioral Economics and Public Policy

A 2015 article by Raj Chetty discusses the implications of behavioral economics for policy in three domains: policy tools, improved prediction of policy effect, and new implications for welfare (Chetty 2015, 1-2). The research is centered on how individuals make significant decisions around work, finances, and living, and the role policymakers play to positively influence these decisions. Ultimately, Chetty argues that “incorporating behavioral features into economic models can have substantial practical value in answering certain policy questions” (Chetty 2015, 3). This relationship is especially evident when examining the evolution and outcomes of the G.I. Bill over the course of its nearly 75-year existence.

While behaviors like discounting, probability transformation, and utility certainly have been leveraged in policymaking (Oliver 2015), this analysis will focus on relevant motivators in educational policy. As outlined by Laibson and List (2015) in their summation of behavioral economics, “people care (in part) about how their circumstances compare to reference points.” This notion of comparative outcomes as driving forces in economic decision-making may be especially applicable when considering postsecondary enrollment of veterans. Income disparities are often readily and outwardly observable amongst peers, suggesting that competition may motivate veterans to pursue any possible social equalizer. The government takes advantage of this behavior by providing G.I. Bill benefits to encourage increased educational attainment and ultimately close achievement gaps. This desire is evidenced by military recruiters’ regular use of the G.I. Bill’s benefits to entice young people to enlist directly out of high school in lieu of enrolling in college. Results of the program, however, have been mixed and have varied over time.

THE IMPACT OF THE G.I. BILL THROUGHOUT HISTORY

As the G.I. Bill program evolved, the benefits and conditions of eligibility have also gradually changed. The measured impact of the program appears to correlate with the generosity of the benefits and the ease with which veterans may access them. Further, observing historical usage trends provides a helpful illustration of the interactions between the various economic motivators being leveraged by the program.

Post-World War II

As discussed previously, veterans returning to the United States after World War II received the first educational benefits specifically for military personnel. An estimated 2.2 million veterans attended college under the G.I. Bill following World War II, accounting for one eighth of all returning personnel (Bound and Turner 2002). It is worth highlighting that this figure is almost identical to the current number of all military personnel, active and reserve, illustrating the magnitude of the surge of returning labor to U.S. markets after the war.

Benefit use was substantial but not equal across demographics. G.I. Bill benefit usage was greatest amongst veterans born in 1925 at 54 percent, followed closely by those born in 1923 with 51 percent usage. These veterans were roughly 15 and 17 respectively at the onset of war in 1940. Bound and Turner note that veterans who turned 18 before the war were less likely to return to school after the war’s conclusion compared to veterans who turned 18 sometime during the war. The authors present three explanations for this trend, including age, likelihood of education disruption, and previous employment. (Bound and Turner 2002). Such high usage rates, particularly amongst the youngest veterans, suggest some influence of age on postsecondary enrollment upon return to the United States.

Though the first iteration of the G.I. Bill went into effect well before the rise of behavioral economic principles, it serves as a valuable base case to examine their effectiveness. Limited access to higher education in the 1940s presumably means that few veterans had relatives or friends with postsecondary credentials. However, high usage rates suggest that the benefits of postsecondary attainment were relatively well-known.

Following the Implementation of the MGIB

Unlike the Servicemen's Readjustment Act, the MGIB did not offer open eligibility, rather it required self-selection into the program. This required "opting in" leaves any analysis of the program's impact vulnerable to selection biases, as veterans who chose to enter the program were likely more intrinsically motivated to pursue postsecondary education to begin with. That said, changes in benefit usage that correspond with changes in available benefits may illuminate some of the MGIB's overall impact on college attainment.

Motivated by the seemingly unmethodical management of the program, a 2009 study conducted by Simon Curtis, Sebastian Negrusa, and John Warner sought to estimate the effect of a substantial increase in MGIB benefits on military enlistment, military retention, and veteran pursuit of postsecondary credentials (1009). Unsurprisingly, they estimated an increase in benefit usage as the benefits themselves increased. Despite rising college tuition costs, "...the real value of MGIB benefits, which did not change in nominal terms between 1985 and 1992, declined at about a 7% annual rate in real terms over that period" (1011-1012). Thus, the buying power of the bill declined until Congress approved a 20 percent benefit increase in 1992 to reverse this trend (1012). However, observed benefit usage rates over the course of the MGIB's tenure as the primary educational program for veterans tell a different story. Nearly identical to the younger users of the post-World War II G.I. Bill, usage rates across all services were steady between 49 percent and 51 percent of eligible veterans (1013). The trend suggests that the changes to the program had little to no effect on overall veteran postsecondary attainment.

Unlike previous iterations of the program, the MGIB required veterans to opt into receiving educational benefits, presenting significant implications for its effectiveness. A 2004 study by Eric Johnson and Daniel Goldstein examined the impact of 'opt in' versus 'opt out' policies, specifically as they pertain to organ donation in Europe (1713). In a controlled study, about twice as many respondents agreed to organ donation when given the option to opt out as compared to individuals who were prompted to opt into donation. The observations were consistent with reported organ donation rates across Europe, with nearly 100 percent of individuals agreeing to donate organs in countries with 'opt out' systems.⁹ Conversely, less than a quarter of individuals in most 'opt in' countries agreed to act as organ donors (1715). Though decisions around health and education are fundamentally different, the trends observed across Europe suggest that the 'opt in' requirement in the MGIB likely correlated with lower benefit usage. This may explain, to some degree, the seemingly null impact of increasing the benefits available to veterans.

Further, lessened benefit usage during this period may produce a sort of ripple effect that affects future cohorts. As stated by Laibson and List (2015), individuals also "...care about the actions, intentions, and payoffs of others." This notion of "follow the leader" suggests that veterans who observe peers taking advantage of educational benefits may be more inclined to participate. Where benefit usage decreases or remains stagnant, there are fewer opportunities for exposure.

Laibson and List also note in Principle Six that, "...heavy-handed paternalism has a mixed track record and is often unpopular" (Laibson and List 2015). While incentivizing

postsecondary education may draw on a veteran's inherent desire to equalize their economic outcomes, mandating postsecondary education could potentially have the opposite effect. The MGIB's observed outcomes suggest that policymakers did not successfully balance actor irrationality with freedom of choice, resulting in sub-optimal output.

These motivators for taking advantage of educational benefits are complementary. A lack of reference points limits opportunities for comparison, reducing the likelihood that an individual will opt to take advantage of the available benefits. Following the success of the Serviceman's Readjustment Act, the MGIB in many ways appears to be a failed attempt at improving the program in accordance with the principles of behavioral economics.

Immediate Impact of the Post-9/11 G.I. Bill

The Post-9/11 G.I. Bill represents a substantial increase in educational benefits for veterans, covering the full cost of four years of in-state public education. There are few limitations on eligibility beyond dates of service, allowing for relatively free usage of these benefits by veterans of all ages, races, and socioeconomic statuses. The negative effects of optional enrollment are noticeably absent from the Post-9/11 G.I. Bill.

Due to the generosity of the program and the active promotion of its benefits as a means of military recruitment, estimations of the impact of the Post-9/11 G.I. Bill are markedly susceptible to selection biases. To account for this, Andrew Barr (2015) conducted a study of college enrollment rates among veterans shortly after the program's implementation such that there was not sufficient time for the subjects to have selected into military service because of the educational benefits (591). Using a difference-in-difference model, he estimated a rough increase in enrollment of two percentage points for all veterans, all else constant (591-592). This increase was highly statistically significant at the 0.01 level (594). While this increase may appear relatively modest, this translates to an additional 46,000¹ veterans enrolling in college assuming the current force size of 2.3 million personnel and excluding veterans who had already separated at the time of the study. The observed increase jumped to 4.5 percentage points (also statistically significant at the 0.01 level) specifically for veterans who had separated from the military (593). The larger change in use among separated veterans illustrates a notable increase in interest in postsecondary education that likely was not present at the time of separation given the lack of enrollment prior to the program's updates. It is possible, however, that the spike in enrollment will flatten when moving further away from the bill's implementation in 2009.

CONSIDERATIONS FOR THE FUTURE

Like any economic incentive, the provision of educational benefits under the G.I. Bill comes at an indirect cost to taxpayers as state and federal dollars are disbursed. Increasing tuition rates will present increased public financial burden to maintain the program at its current level. Further, as more young people choose to serve in the military solely to pursue an

¹⁰ Estimate extrapolated using previously cited data on current force size and Barr's (2015) estimated two percent growth rate.

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education, it is reasonable to expect growth in the population of benefits-eligible individuals. Accordingly, policymakers ought to consider the benefits and tradeoffs associated with incentivizing postsecondary attainment for the nation's veterans.

A 2014 review of veteran academic achievement conducted by the Million Records Project found that the sample of veteran students graduated with a credential at roughly the same rate as non-veteran students – around 52 percent (Cate 2014). This implies that nearly 50 percent of students receiving educational funding are not graduating. Consequently, any funds paid to these students will provide minimal, if any, return on investment. Using expenditures reported in 2015, this suggests that approximately \$5.76 billion in unrecoverable educational benefits are paid out and lost to non-completers each year, representing a significant public financial burden.

Alternatively, a degree is better than no degree and some college is better than no college. Completion of any number of college credits is associated with an improvement in economic outcomes, though the increase pales in comparison to the wage gap between those with a college degree and those with only a high school diploma. Those that enroll and do not complete a degree still may expect to earn 13 percent more in their lifetimes (The College Board 2017), likely correlating with an increase in consumer activity that benefits the larger economy.

Furthermore, veteran status may act as a proxy variable for other factors that strongly influence postsecondary attainment. As stated by Amy Lutz in her 2008 article “Who Joins the Military?: A Look at Race, Class, and Immigration Status,” “those with lower family income are more likely to join the military than those with higher family income.” This trend supports the idea that (particularly since the implementation of the Post-9/11 G.I. Bill) young people use the military as a means of financing their degrees. It is highly likely that without the financial support of the G.I. Bill, these students would not be able to obtain any sort of postsecondary credential. This could have broader negative implications for the individual, his or her family, and the total economy. The G.I. Bill may contribute to closing the achievement gap that exists for minority students and students of low socioeconomic status, improving overall rates of postsecondary attainment in the United States and contributing to increased consumption, production, and general economic activity.

Ultimately, the government may not compel students to finish a degree upon receiving educational benefits. Though the benefits of postsecondary attainment are extremely well-known providing innumerable reference points, “people have self-control problems” (Laibson and List 2015). Students receiving G.I. Bill benefits are susceptible to the same temptations and distractions that plague all college students. In light of this, the objectives of the program ought to be carefully considered as it evolves. If indeed the ultimate purpose of the G.I. Bill is to encourage veterans to not just pursue but to obtain a postsecondary credential, recruiters and military leadership alike must improve communication about the true benefits of persisting to degree. Pursuant to the principles of behavioral economics, greater information about the potential personal gains from higher education should theoretically contribute to improved completion rates and reduced loss of return on investment for the federal government and American taxpayers.

The potential economic benefits of a well-designed educational incentive program for veterans are immense. As the cost of higher education continues to rise and increasing numbers of students choose the military as a means to an educational end, the program must be designed and marketed much more intentionally to take advantage of the well-known economic motivators at play.

CONCLUSION

Public welfare and incentivizing desirable behavior are a tale as old as time for the federal government. The G.I. Bill provides powerful evidence in support of policy informed by the principles of behavioral economics. Though the Armed Forces in the United States represent only a small portion of the nation's total population, service-members represent America's young, minority, and poor communities. Since its inception in 1944, the G.I. Bill has served as a gateway to postsecondary education for these communities by way of military service. Usage rates of G.I. Bill benefits suggest that this is a viable way to increase overall postsecondary attainment in the United States. As implied by the principles of behavioral economics, continuing to provide this economic incentive may entice veterans to pursue a postsecondary credential that in turn contributes to better economic outcomes at individual, familial, communal, and national levels. However, future success of the program requires improved incentivizing not just of college attendance, but of college completion. Though the tenants of behavioral economics may provide a powerful framework for policymaking, they must be leveraged carefully and intentionally to avoid unintended negative outcomes. Summarily, though the G.I. Bill program has been largely successful over the course of its 74-year existence, lawmakers must proceed carefully and with the principles of behavioral economics in mind to account for evolving demands on the program in future years.

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