

Economics and the All-Volunteer Force

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INTRODUCTION

An important case in the last half century where the “economic way of thinking” contributed to a major government policy change in the United States was the decision to terminate conscription as the means of staffing the bulk of the U.S. armed forces. After an acrimonious public debate that lasted five years, conscription was ended in 1973. Economists played an important role in the draft debates and in the decision to terminate it, and, since then, in the management of the All-Volunteer Force (AVF). While their recommendations have not always been heeded, economists, and the economic way of thinking they have advanced, have helped shape effective military personnel.

THE ROLE OF ECONOMICS IN ENDING THE DRAFT

From World War II until July 1973, the draft was a given for male youth in America. Economists said surprisingly little about the draft prior to the mid-1960s, but that changed with the escalation of the Vietnam War in 1966 and the public debate about it that ensued. Over the next five years, economists produced a substantial volume of research about the draft and the feasibility of an AVF. Perhaps the major contributor to this effort was Walter Oi. As an economist working in the Department of Defense (DOD) in 1964, he authored an internal report that pointed to the feasibility of a volunteer force. Although this report was not made public, in subsequent publications Oi refined and expanded on his original work (Oi, 1967a and 1967b). Other works by economists included W. Lee Hansen and Burton A. Weisbrod (1967), Stuart H. Altman and Alan E. Fechter (1967), Anthony C. Fisher (1969), and Altman and Robert J. Barro (1971). In 1968, a group of University of Virginia graduate students wrote a remarkable collection of essays advocating a volunteer army (Miller, 1968). This collection included essays by economists David Johnson, Matt Lindsay, Mark Pauly, Robert Tollison, and Tom Willett, as well as (political scientist) Joe Scolnick and Jim Miller.¹

¹ Milton Friedman and John Kenneth Galbraith both endorsed the book and its conclusions; this was perhaps the only public policy issue about which they ever agreed.

As well as contributing formal analyses, economists were participating in the political arena. One of these was Martin Anderson, then a faculty member at Columbia University and now at the Hoover Institution. Anderson broached the possibility of ending conscription with the Nixon presidential campaign.² Impressed by his arguments, Nixon advocated the end of conscription in a speech delivered on October 17, 1968. Some observers believe that this speech was the margin of difference in the 1968 presidential election. Once elected, President Nixon established the President's Commission on an All-Volunteer Armed Force (known as the Gates Commission after its chairman Thomas Gates) to study the economic feasibility of an AVF. Milton Friedman, already known for his strong views on the draft (Friedman, 1962,1967), became one of the most influential members of the commission. Other prominent members included W. Allen Wallis, President of the University of Rochester, and future Federal Reserve chairman Alan Greenspan. The commission assembled an impressive research staff. William Meckling, Dean of Rochester's School of Business, served as its Executive Director. Research directors included David Kassing, Walter Oi and Harry Gilman; staff members included Robert Barro and future Deputy Secretary of Defense John White.

In November 1970, the Gates Commission unanimously recommended abolition of the draft and implementation of a volunteer force. At the time of the report, the Gates Commission members and the economists working on the issue were in the minority; with few exceptions, Members of Congress and persons in influential positions within DOD – military and civilian – remained skeptical of the viability of a volunteer force.

Reasons for a Volunteer Force

The economists writing during the late 1960s used five arguments to conclude that a volunteer force would be more efficient than a draft force. The first is that the opportunity costs of the personnel comprising a volunteer force will always be less than or equal to the opportunity costs of the personnel serving in a mixed force of equal size. Opportunity costs of military personnel consist of their alternative wages plus their net non-pecuniary preferences for civilian life. Volunteers enter military service when the military wage exceeds their opportunity costs, but such is not the case for conscripts. Indeed, individuals are conscripts precisely because the military wage does not meet their opportunity cost. There are several special cases in which the opportunity cost of a conscripted force equals the opportunity cost of a volunteer force.³ But in a draft based on random selection from the pool of youth who meet military entrance standards, the opportunity cost of a conscripted force clearly exceeds the opportunity cost of a volunteer force, at least when military service is not universal.

The second source of relative efficiency of a volunteer system derives from the fact that when conscription is imposed, individuals expend resources to evade conscription, and the state must expend resources to prevent evasion (Warner and Negrusa, 2005). These costs are avoided in

² Anderson (2004) recounts these events.

³ Warner and Asch (2001) show that a Least Value Drafted First (LDVF) system, such as prevailed in World War I, results in approximately the same people serving who would serve in a volunteer system. The same people also serve when draftees are allowed to buy their way out of service by hiring substitutes or paying a commutation fee to the government, as happened on both sides during the Civil War.

a purely volunteer system.

A third efficiency flows from the lower opportunity costs for volunteers in the aggregate: a volunteer force has higher retention, lower turnover, and consequently less annual demand for new personnel. To lower the burden of conscription, draftees have typically been required to serve for short periods (2 years during Vietnam). Volunteers serve longer terms (now about 4.5 years, on average) and reenlist at much higher rates. Longer initial tours increase the proportion of deployable, trained personnel in the force. The Gates Commission estimated that just reducing personnel in training would permit a 6 percent reduction in force size without a loss of readiness and would reduce per-capita training costs. Moreover, experience growth in the volunteer force brought about by higher retention would further increase the differences in force effectiveness due to the fact that, other things the same, more experienced personnel are more productive. Force size differences are further accentuated by the increased complexity of military equipment.

Fourth, efficiency gains from a volunteer force arise from better incentives for personnel and for force managers. Since pay is low in a draft system, performance incentives must necessarily be negative: threats of court-martial, imprisonment, and bad conduct discharge, all of which penalize personnel after they depart service. Volunteer systems, with positive performance incentives, are likely to produce better results.

Finally, the apparent cheapness of conscripts encourages substitution of conscripts for equipment, resulting in a socially inefficient mix of the two. Once military equipment is in place, it tends to be used in fixed proportions with personnel. But the rise in the cost of junior enlisted personnel that accompanied the end of conscription has, over time, encouraged the development and adoption of equipment that requires fewer operators and is easier to operate and repair.

Although economists tend to focus on efficiency issues, the question of who should bear the burden of national defense occupied center stage in the U.S. debate about conscription during the 1960s. Advocates of conscription and advocates of a volunteer force had very different concepts about what constitutes equity in the provision of a military force. In Europe, the long-time view was that all citizens had a moral obligation to defend the state and that such obligations outweighed individual freedoms and rights within the state. Balancing the broad concepts of individual freedom and obligation to the state involves ethical judgments beyond the scope of economics. But economics does offer insights about the consequences of conscription and volunteerism for the distribution of income and for who pays for national defense.

Conscription promotes a less equal distribution of income and tends to place the burden of paying for national defense on lower-income groups. Benjamin Franklin recognized this point two centuries ago: "But if, as I suppose is often the case, the sailor who is pressed and obliged to serve for the defence of this trade at the rate of 25s. a month, could have £3.15s, in the merchant service, you take from him 50s. a month; if you have 100,000 in your service, you rob that honest part of society and their poor families of £250,000 per month, or three million per year."⁴ Implicit in Franklin's statement is the regressive nature of the conscription tax. This tax is particularly regressive when conscription selects for service the same individuals who would have served in the volunteer system and thereby reduces the extent of direct (and probably progressive) taxation of the general populace.

⁴ Quotation from the Gates Commission report (pp. 23-24); original source not provided.

The move in recent drafts to limit exemptions and deferments and conscript by lottery derives from the regressivity of the draft tax. A lottery is not a panacea, however. Families with daughters, families without children, and recipients of capital income can avoid the conscription tax but not a general income tax. And although a lottery draft is more equitable *ex ante* than other forms of conscription, random assignment of a tax burden isn't fair either, *ex post*. The *ex post* inequity obviously increases as the number to be drafted falls in relation to number available for conscription. Advocates of conscription have proposed solving this inequity by requiring youth to participate in national service. Economists have unreservedly criticized such schemes.⁵

Elimination of the conscription tax has forced more explicit consideration of the cost of military manpower in defense decision-making and arguably in public decision-making about military action.

Finally, Franklin's observation about the equity effects of the draft raises questions of public choice and the decisions of nations to use their forces. The Gates Commission devoted attention to the question of whether a volunteer force would encourage military adventurism abroad (Chapter 12). The Gates Commission said no; analyses by Wagner (1972) and Tollison (1972) supported this conclusion. Wagner modeled the decisions of democracies to engage in military action and predicted that democracies with conscription are more likely to initiate military action due to a lower tax price for the median voter under conscription. Furthermore, his analysis indicated that they are more likely to continue military action when they experience adversity on the battlefield. Tollison (1972) reasoned that with the cost of conscription being borne much more by a small minority of voters, those in the majority are more likely to vote in favor of military action, since they realize the benefits but bear less of the cost.

Reasons to Draft

For reasons given above, the social cost of an AVF tends to be lower than the social cost of conscription. Recent analysis has shown, however, that the analytical case for a volunteer force is not airtight. Work by Lee and McKenzie (1992), Ross (1994), Warner and Asch (1996) and Warner and Negrusa (2005) shows that a volunteer force does not always have lower social cost. When the military force size expands, the military wage bill increases and the government must increase taxes to pay the larger bill. But private sector distortions, or deadweight tax losses, caused by federal taxation amount to around 30-40 cents per dollar of federal revenue (Browning, 1987). Deadweight losses rise at a faster rate under a volunteer force than under conscription due to faster payroll cost growth as force size increases (since pay must be increased under an AVF but not under a draft).⁶ When the force size becomes large enough, it is possible for the excess deadweight tax loss of the AVF to swamp the other savings from it.⁷

⁵ Milton Friedman and Congressman Pete McCloskey engaged in a heated debate about national service that is documented in Anderson (1982).

⁶The rate of payroll cost growth varies inversely with the elasticity of supply of military personnel since the less elastic is supply, the more pay needs to be raised to reach a given desired force size.

⁷Friedman (1967, p. 202-203) recognized this point when he wrote that "And to rely on volunteers under such conditions would then require very high pay in the armed services ... It might turn out that the implicit tax of forced service is less bad than the alternative taxes that would be used to finance a volunteer army."

At the time of the draft debate, officials inside DOD and Members of Congress expressed skepticism of the volunteer concept. One concern was about force quality, which critics thought would decline under an AVF. Some thought the volunteer force would attract lower-ability individuals than the military would be able to obtain through compulsion. Critics also worried that force quality would decline due to a lack of political support for an AVF. When confronted with competing demands for federal dollars, politicians would permit military pay to decline over time, forcing the armed services to reduce force size or lower entry standards. A third reason was that the higher personnel budget in the volunteer regime would crowd out military research and development and military hardware.

The threat of being drafted kept the nation's reserve forces well manned during the draft era, as youth subject to the draft joined the reserves. The risk of conscription also induced college students to join officer training programs while in college. Critics worried that elimination of conscription would lead to deterioration of reserve forces and the officer corps.

Still another concern was about the social representation of a volunteer force. Fear was expressed that minorities would become over-represented in the volunteer force, and the armed forces would become less representative of the society at large. Because minorities tend to score lower on the Armed Forces Qualification Test (AFQT), they would be concentrated in the war-fighting skills such as infantry and would be more exposed to death or injury in wartime.

Finally, some observers supported conscription on public choice grounds, claiming (for example) that the U. S. would not have undertaken military action in Vietnam if a random draft had been in effect. The notion is that under a random draft with no deferments (or with the extreme of universal service) the perceived cost of military action, to both voters and politicians, would be higher with a draft than with an AVF because everyone's offspring would be at risk, not just the progeny of volunteers. Whether such intergenerational effects would outweigh the opposing effects analyzed by Wagner and Tollison is an open question.

The Final Decision to Terminate Conscription

The Gates Commission submitted its report to President Nixon on February 21, 1970. It recommended not only an increase in pay and an improvement in living conditions for military personnel as well as a standby draft. This was important inasmuch as the major vehicle for reform proved to be the need to extend the draft, which was set to expire on July 1, 1971.

Not all of Nixon's advisers were as sanguine about the feasibility of an AVF as the Commission (Rostker 2006, 87-96). Secretary of Defense Melvin Laird expressed misgivings about the will of Congress to come up with the necessary funds. Former Selective Service Chief General Lewis Hershey, who had been relieved of his position and reassigned as an advisor to the President on military manpower issues, used his influence to oppose any reduction in reliance on conscription. Members of Congress opposed the AVF for a variety of reasons. John J. Ford, staff director of the House Armed Services Committee at the time, said that "a substantial percentage of the members of Congress at that time were veterans of military service ... They had lived with the Selective Service law in effect virtually all their adult life. They had a sense of the *moral rightness*, if you will, of service to your country, or at least being liable for such service. This feeling of moral rightness is probably also what informed proposals for universal military service that were advanced all through the time of the Selective Service System and continue to be

offered in every Congress up to the present time” (Ford, 2004).

On April 23, 1970, President Nixon requested Congress to move toward an AVF while extending the draft. He rejected the timetable for ending the draft recommended by the Gates Commission but supported the goal. The House Armed Services Committee took up hearings on the request and heard testimony from many individuals. According to Ford (2004), it was Walter Oi’s testimony that finally swayed the committee: “Dr. Oi could not sell his one-year extension. But his candor, knowledge, and willingness to challenge DOD data undoubtedly helped the Committee members feel more comfortable with an all-volunteer approach” (p. 5). The committee took recorded votes on various options. A motion to approve a bill embodying the Gates Commission recommendation was defeated 28-7. A motion to extend the draft for four years was defeated 29-4. A motion for a one-year extension was defeated 30-9. The final vote on a two-year extension passed 32-4. Legislation to create an AVF, augmented by a standby draft, was signed on September 28, 1971.

MANAGING THE VOLUNTEER FORCE

The transition to the AVF was not easy. It was plagued by hostility within the Army, the service most affected by the switch, and by the legacy of compensation and personnel systems that were geared toward managing a high-turnover force with little differentiation by skill. The period of the AVF can be divided into three distinct periods: (a) the early period 1973-1980, (b) the Reagan years 1981-1989, and (c) the Post-Cold War period (1990-2007).⁸ Each period has had unique challenges. Through these periods, economics has had a significant influence in shaping the policies that addressed the problems encountered and in how the transitions were managed.

The Early Period 1973-1980

After estimating the pay raise required to implement an all-volunteer force, Oi (1967a) estimated that the AVF would lead to a 30 percent annual reduction in enlisted force turnover. Oi’s estimate implied an AVF turnover rate of 15 percent. As enlistment lengths and retention rates both increased in the early period, early AVF turnover fell from about 21 percent to 16 percent.⁹ The quick improvement in retention and initial recruiting success led to much early euphoria about the AVF. But it was short-lived. After the initial retention surge as volunteers replaced conscripts, retention began to decline late 1970s. The decline was most pronounced in the Navy, where shortages of experienced personnel appeared in the Navy’s sea-going ratings. Subsequent research (Warner and Goldberg, 1983) indicated that the retention decline was a result of a significant drop in relative military compensation. The decline was a result of a federal employee pay freeze that was imposed under the Carter administration in an attempt to reduce a growing federal deficit.

⁸ Interested readers are referred to Rostker (2006) for a detailed account of these periods. The U.S. DOD has sponsored three conferences to celebrate the three decades of the volunteer force. The conference volumes provide interesting, and varied, perspectives on the evolution of the AVF. See Bowman et al. (1986), Fredland et al. (1996), and Bicksler et al. (2004).

⁹ Annual enlisted turnover since the 1980s has averaged around 15 percent.

Analysis by Gates Commission economists had indicated that the supply of new recruits and reenlistees was elastic: about 1.25 for enlistees (a 10 percent increase in military pay would result in a 12.5 percent increase in enlistments). The elasticity of first-term reenlistment was estimated to be even higher, around 2.0 to 3.0. Based on these estimates, it is not surprising that the late 1970s were a bad time for the AVF. The experience of the late 1970s was a wake-up call for Congress and DOD to be more vigilant about monitoring trends in the economy for signs of impending force management difficulty.

The Reagan Period 1981-1989

Predictably, the experience of the late 1970s brought forth pronouncements of failure from AVF critics. The debate was resolved for the time being with Ronald Reagan's election as President in November 1980. Reagan was a strong proponent of the AVF and had pledged during the campaign to resolve the AVF's problems if elected. During the campaign period, Congress acted on the problems by de-coupling the 1981 military and federal civilian pay raises, granting military personnel a 14 percent basic pay increase. The new administration backed another pay increase, and in January of 1982 military basic pay was increased another 11 percent. Assisted by the recession of 1981-1982, recruiting and retention had improved significantly in the face of these pay raises.

The Reagan period was characterized by a large standing military force whose purpose was to repel the Soviet threat to Western Europe. In terms of meeting the overall quantity and quality goals of the 1980s, the AVF was an unqualified success. By the mid-1980s however, the military compensation system had changed little since WWII. The AVF had inherited a common pay table for all personnel, little use of special and incentive pays, and a 20-year retirement system that provided no benefits to personnel separating earlier. Interacting with this undifferentiated system was a long-term technological trend that was reducing the need for raw combat power and increasing the premium for skill.

Economists working for two presidential commissions, the 1976 Defense Manpower Commission and the 1978 President's Commission on Military Compensation (PCMC), had noted these issues. They recommended major changes to the compensation system, but the proposals were largely ignored due to resistance by the uniformed military. Consider first the issue of a common pay table. Military tradition was that everyone at the same rank and experience should receive the same pay regardless of occupation. A common pay table was believed to promote *esprit de corps*. This meant that many personnel ended up earning *economic rents* in the quest to attract the marginal (supply price) personnel into high-demand skills. Even by 2000, special and incentive pays never amounted to more than 5 percent of the basic pay budget.

The cost of the common pay philosophy was aggravated by another unpleasant fact of life for DOD. Although supply functions of military personnel were fairly elastic, they were not perfectly elastic. To attract more people into service, or retain them in a skill, pay had to be raised. This meant that the military was in essence a monopsonist: the marginal cost of personnel was much higher than the average cost. Although much of this cost is a pure transfer from taxpayers to military personnel, it does mean that DOD's personnel costs will expand at very rapid rate in an attempt to attract and retain more personnel.

The Post Cold-War Period 1990-2007

Downsizing

The fall of the Berlin wall in 1989 and the end of the Cold War brought forth an unexpected challenge – how to reduce the size of U.S. armed forces in the wake of reduced threats from the Soviet bloc. Planning for downsizing began in 1990. The target was a reduction in the active force from 2.1 million to 1.4 million personnel. The Gulf War build-up, and the war itself, lasting from August 1990 to March 2001, slowed the downsizing temporarily.

Military organizations are bottom-fed – losses are replaced by young people who enter the lowest ranks with little prior work experience and then progress through the ranks based on relative performance in a sequence of promotion tournaments (Rosen, 1992; Asch and Warner 2001). The main downsizing issue was how to reduce the size of an organization without lateral entry. Economists and economic thinking played a key role here.

The Air Force, with high retention proposed to reduce its force by reducing accessions. The other services proposed to downsize through a combination of reduced accessions and reduced first-term reenlistment (which could be effected by a reduction in reenlistment bonuses). These proposals originated from the desire to keep faith with the more senior personnel who had been in service for a substantial period of time but who were not yet eligible for retirement. Involuntary layoffs of mid-career personnel would no doubt be seen as breaking the implicit contract that exists between the services and mid-careerists that guaranteed a 20-year career. In addition to being unfair to the group being involuntarily separated, such a break of faith would cause problems for future recruiting. On the other hand, a substantial reduction in the new entry flow would result in excessive experience growth in the short run and inability to staff the higher ranks in the long run.

Economists in the Department of Defense, led by Christopher Jehn, the Assistant Secretary of Defense for Force Management and Personnel, designed a buyout program for mid-careerists that induced a balanced force reduction brought about by voluntary separations. The program succeeded in producing the desired number of separations without excessive angst.¹⁰ Although separatees were disappointed that their military careers ended prematurely, the downsizing proved that many of the assumed inflexibilities in the system could be addressed with better force-shaping tools.

Recruiting

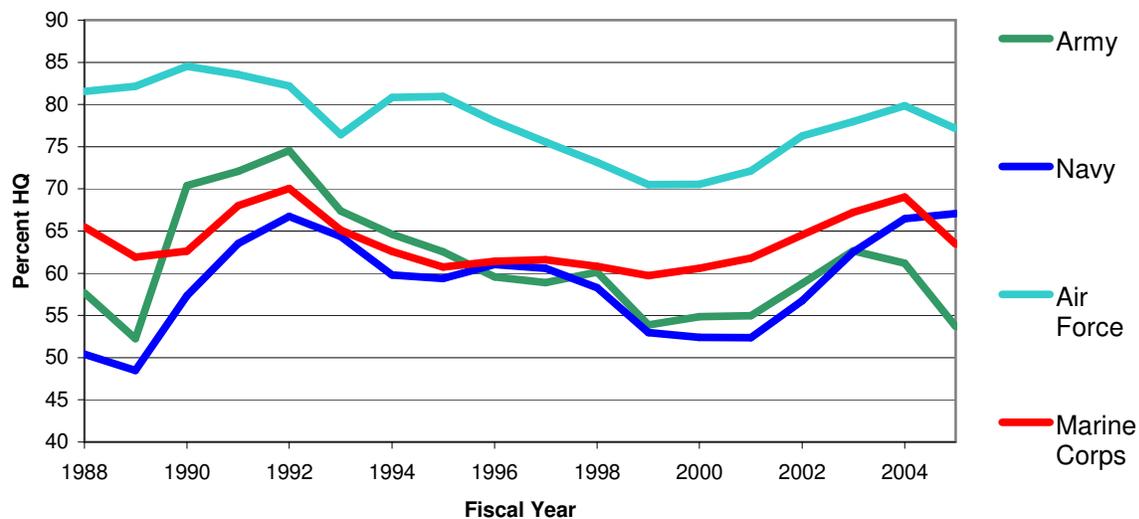
Downsizing brought with it a reduction in the demand for new entrants from about 300,000 per year to about 180,000 per year. A key question for DOD was whether supply shifted as the national security environment changed. Were youth less responsive to recruiting resources such as military pay and recruiters after the Cold-War in the absence of the Soviet threat? Were they more responsive after 9/11/2001 and the emergence of a new threat? What was the effect of the Iraq war on enlistments? Similar questions emerged related to retention. Were members less likely to stay in service as a result of more frequent, longer, and more

¹⁰ Mehay and Hogan (1998) and Asch and Warner (2001b) estimated the separation effects of the downsizing programs, and Warner and Pleeter (2001) derived estimates of personal discount rates from the choice between the lump-sum and the annuity offered by the program.

dangerous deployments? Economic analysis informed answers to these questions.

The primary measure of recruiting success is the percentage of entrants who are “high-quality”. High-quality recruits possess a high school degree and place in aptitude groups I-III A (AFQT of 50 or above). **Figure 1** shows the high-quality recruit percentage over the period 1988-2005. Research summarized in Asch, Hosek, and Warner (2007) has used post-Cold War era data to provide econometric estimates of the recruiting effects of market factors (relative military pay and unemployment), demand as measured by recruiting goals, resource factors (recruiters and advertising), and enlistment incentives (bonuses and college fund benefits). The research provides estimates of how factors affecting supply have shifted in the post-cold-war period and as a result of the Iraq war.

Figure 2: Percent High-Quality Enlistments, 1988-2005



Research has found high-quality enlistment to be sensitive to the state of the civilian economy. This sensitivity is evident in Figure 1, where high-quality enlistment increased during the 1991-1993 recession period, declined in the 1995-1999 expansion, and increased sharply upward in the 2000-2003 recession. Estimates of the elasticity of high-quality recruiting with respect to unemployment range between 0.3 and 0.5, indicating a sizeable responsiveness of military recruiting to the state of the business cycle.

One difference between studies with post-Cold War data and earlier data is that the responsiveness of enlistment to military compensation does not appear to be as high. Recent estimates are in the range of 0.4 to 0.8 compared to the earlier 1.0-1.25 range. This change may have to do with the fact that a higher percentage of the youth population is enrolled in college today than in the pre-Cold War era.¹¹

¹¹ According to data from the National Center for Educational Statistics, 58 percent of individuals

Figure 1 indicates that the Army high-quality percentage of recruits began dropping in 2003, and Marine Corps percentage started dropping in 2004. It is tempting to blame the Iraq War for those declines, since the Army and Marine Corps have borne disproportionate casualties there. But part of the Army's decline lies in management of the Army's recruiter force. At the start of FY 2002, the Army had about 6,100 recruiters. For various reasons, the Army reduced its recruiter force, which fell steadily for the next seven quarters and bottomed out at 4,400 recruiters in the last quarter of FY 2004. The Army restored about two-thirds of this reduction in FY 2005 (from 4,400 to 5,500).

Research with post-Cold War, but pre-Iraq War, data has also identified a downward trend in high-quality enlistment supply that seems caused by several adverse trends for DOD. One of these is the rise in college attendance. The fraction of the 18-24 year-old population enrolled in college rose substantially over the post-Cold War period and is now at about 69 percent of that population, the prime age range for military recruiting. If high-quality enlistments come only from the non-college population, a rise in college attendance among those qualified for service from 69 to 74 percent would reduce the high-quality non-college population by almost 170,000 and high-quality enlistments by 13,000 (about 7.5 percent).

Other trends have also been at work. According Gilroy (2006), an astounding three-quarters of youth fail to meet minimum military entrance standards. Over half of those who fail to meet the standards do so for medical and physical reasons, and the percentage of youth failing to qualify for medical and physical reasons has been on the rise. Finally, Simon and Warner (2007) estimate that the Iraq War has reduced Army high-quality enlistments by one-third, after controlling for other factors.

IS THERE A CASE FOR A RETURN TO CONSCRIPTION?

Despite the overall success of the AVF, some would have us return to the draft. Interestingly, calls for conscription are coming not from uniformed personnel but from elected officials. Such calls for conscription seem motivated by: (a) a belief that the U.S. armed forces are mercenary forces that are unrepresentative of American society, (b) an interest in reducing the budgetary costs of military manpower, and (c) opposition to the War in Iraq. We briefly address these concerns.

On the first issue, recruits have not been disproportionately drawn from minority groups. Furthermore, recruit do not come only from the lowest income classes. Data on the family incomes of military recruits do not exist. But some perspective on recruiting by income class can be had by looking at the distribution of recruiting by the median family income in recruits' home zipcodes. Using data over the 1988-2000 period, Warner and Simon (2007) found that 60 percent of enlisted recruits came from families who reside in zipcodes with median family incomes in the bottom half of the zip code distribution of median family incomes. But this means that around 40 percent came from families living in the upper half of the zipcode distribution of median family incomes.

graduating from high school in 1988 enrolled in college within the next 12 months. By 1996, that percentage had risen to 67 percent. It dropped down to 62 percent in 2001-2003 but climbed back to 67 percent in 2004.

On the second issue, conscription is attractive to some Members of Congress, because the savings in military personnel costs could be directed to other uses. In part, the new interest in budgetary costs is driven by recent policies to increase the sizes of both the Army and the Marine Corps. But this assumption of budgetary savings is based on faulty reasoning. Aside from the fact that the real cost of a mixed force is almost certain to be higher than the real cost of an AVF, the budgetary savings would likely be quite modest. Since 1973, defense manpower costs have fallen as a percentage of the DOD budget and as a percentage of GDP (see Table 2 of Warner and Asch, 2001), and are now about 27 percent of the DOD budget and 0.9 percent of GDP, respectively. A return to Cold War-era force levels would raise military personnel costs to at most 2 percent of GDP, the level that prevailed in 1975.

More importantly, any simple calculation of savings based on multiplying the difference between volunteer pay and conscript pay by the number of personnel in uniform would be a gross exaggeration. First, it is highly unlikely that conscripts would be required to serve longer than two years. As described above, this would require substantial increases in training costs, in part because draftees are far less likely to reenlist.

Warner and Simon (2007) posed a hypothetical 100,000-person increase in the number of Army enlisted personnel and calculated the actual budgetary savings, depending on whether volunteer enlistments turned out to be relatively strong or weak. The important conclusion from this work is that the annual budgetary savings from these realistic scenarios amount to only a few billion dollars (See Table 2). Such budgetary reductions, and the reduction in tax distortions derived from them, would not be sufficient to offset the real social cost reductions and productivity gains from an expanded volunteer force.

Table 2. Costs of Expanding the Army (Billions of 2006 dollars)

	Current Force	Expansion Options		
		AVF	Small Draft	Large Draft
End Strength	405,000	505,000	505,000	505,000
Voluntary accessions	81,400	101,500	81,400	60,000
Draftees	---	---	61,500	127,000
% Careerists	0.48	0.48	0.38	0.28
Basic Pay Cost	\$10.5	\$13.1	\$12.4	\$11.5
RMC Cost	\$17.8	\$22.3	\$21.0	\$19.6
S&I Cost	\$1.5	\$3.0	\$1.9	\$1.0
Recruiting Cost ^a	\$0.6	\$0.8	\$0.6	\$0.4
Training Cost ^b	\$1.6	\$2.0	\$2.9	\$3.7
Direct Force Cost	\$21.5	\$28.1	\$26.4	\$25.2
Direct Cost Differential	---	---	-\$1.7	-\$3.4

^aRecruiters and advertising.

^bAssumes training cost of \$20,000 per recruit.

Source: Simon and Warner (2007).

The third motivation for some Members of Congress' interest in (re)imposing conscription is opposition to the War in Iraq. In simple terms, they wish to increase the cost of the war, and thereby reduce the support it garners. There are two aspects to this rationale. The first is the straightforward increase-cost-reduce-demand notion economists know so well. The second is more subtle, and that is to take advantage of the *distribution* of costs under conscription – and how this would work its way through the decision making process.

Of the two, the distribution effect is probably the more important. As described above, the budgetary savings of conscription would be more than offset by increased costs elsewhere – the implicit tax on reluctant recruits, the diminution in performance, and the costs of employing the draft and maintaining a reasonable degree of compliance. But to judge by the rhetoric from conscription supporters such as Congressman Charles Rangel (D-NY), they believe that putting more sons and grandsons of Members of Congress at risk would cool Members' ardor for the War. The same argument obtains for the less direct means of putting the sons and grandsons of Members' supporters at risk.

CONCLUDING REMARKS

Economists – and the economic way of thinking -- were key in bringing about the end of the draft, in orchestrating the transition to the AVF, and in managing military personnel efficiently. Superb analysis by the likes of Hansen, Oi, Weisbrod, forceful articulation of the case for the AVF by the likes of Friedman and Anderson, courageous leadership by DOD economists, plus exemplary work by a legion of labor economists in academic institutions, research firms, and think tanks have cemented support for the institution. What is surprising is not that there are voices for a return to conscription, but that they are so muted, despite

widespread disaffection with the War in Iraq.

But the elimination of the military draft and the advent of the AVF are yet another example of policy reforms which were adopted not only because the economic arguments and evidence were persuasive, but because of the presence of significant angst among members of the public and their elected leaders. Had it not been for the controversy over the War in Vietnam, with demonstrations led by young men most at risk for being drafted, it is doubtful the AVF would have come about.

References

- Altman, S. and A. Fechter (1967), The supply of military personnel in the absence of a draft, *American Economic Review* 57(2): 19-31.
- Altman, S. and R. Barro (1971), Officer supply – the impact of pay, the draft, and the Vietnam war, *American Economic Review* 61(4): 649-664.
- Anderson, M. (1982), *Registration and the Draft* (Stanford, CA: Hoover Institution Press).
- Asch, B., J. Hosek, and J. Warner (2007), The economics of military manpower in the post-Cold War era, in: K. Hartley and T. Sandler, eds., *Handbook of Defense Economics Volume 2* (Elsevier, Amsterdam).
- Asch, B. and J. Warner (2001a), *An Examination of the Effects of Voluntary Separation Incentives* (Santa Monica, CA: RAND).
- Asch, B. and J. Warner (2001b), A theory of compensation and personnel policy in hierarchical organizations with application to the U.S. military, *Journal of Labor Economics* 19: 523-562.
- Bicksler, B., C. Gilroy, and J. Warner, editors (2004), *The All-Volunteer Force: Thirty Years of Service* (Washington, D.C.: Brassey's).
- Browning, E. (1987), On the marginal welfare cost of taxation, *American Economic Review* 77(1), 11-23.
- Ford, J. (2003), *Looking Back on the Termination of the Draft*, unpublished manuscript available from John Warner.
- Fredland, J. E., C. Gilroy, R. Little, and W. S. Sellman, editors (1996), *Professionals on the Front Line: Two Decades of the All-Volunteer Force* (Washington, D.C.: Brassey's).
- Friedman, M. (1962), *Capitalism and Freedom* (Chicago: University of Chicago Press) 36.
- Friedman, M. (1967) "Why Not a Volunteer Army?" in: Tax, S., ed., *The Draft* (Chicago: University of Chicago Press) 200-207.
- Gilroy, C. (2006), *Recruiting an All-Volunteer Force: What Does Enlistment Supply Look Like?* Briefing dated November 2. Washington, D.C.: Office of the Undersecretary of Defense (Personnel and Readiness).
- Hansen, W. L. and B. A. Weisbrod (1967), Economics of a military draft, *Quarterly Journal of Economics* 81(3): 395-421.
- Lee, D. and R. McKenzie (1992), A reexamination of the relative efficiency of the draft and the all-volunteer army, *Southern Economic Journal* (59), 646-654.
- Mehay, S. and P. Hogan (1998), The effects of bonuses on voluntary quits: evidence from the military's downsizing, *Southern Economic Journal* 65: 127-139.
- Miller, J. (1968). *Why the Draft? The Case for a Volunteer Army*. Baltimore: Penguin Books.
- Moore, Albert B. 1924. *Conscription and Conflict in the Confederacy*. New York: Hillary House.
- Oi, W. (1967) The costs and implications of an all-volunteer force. In *The Draft*, edited by Sol Tax.

- Chicago: University of Chicago Press, 221-251.
- Oi, W. (1967) The economic cost of the draft. *American Economic Review*. 57(2), 39-62.
- Oi, Walter Y. 1996. "Historical Perspectives on the All-Volunteer Force: The Rochester Connection," in *Professionals on the Front Line: Two Decades of the All-Volunteer Force*, J. Eric Fredland, Curtis Gilroy, Roger D. Little, and W. S. Sellman, eds. Washington, D.C.: Brassey's, pp. 37-54.
- Report of the President's Commission on an All-Volunteer Armed Force*. 1970. London: Macmillan.
- Ross, T. (1994), Raising an army: A positive theory of military recruitment, *Journal of Law and Economics* 37(1), 101-131.
- Rosen, S. (1992), The military as an internal labor market: Some allocation, productivity, and incentive problems, *Social Science Quarterly* 73(2), 227-237.
- Rostker, B. (2006) *The Evolution of the All-Volunteer Force* (RAND, Santa Monica, CA).
- Bowman, W., R. Little, and T. Sicilia (1986), *The All-Volunteer Force After a Decade: Retrospect and Prospect* (Washington, D.C.: Pergamon-Brassey's).
- Simon, C. and Warner, J. (2007) Managing the all-volunteer force in a time of war. *Economics of Peace and Security Journal* 2(1), 20-29.
- Tollison, R. (1972) The political economy of the military draft, in J. Buchanan and R. Tollison (eds), *Theory of Public Choice: Political Applications of Economics* (Ann Arbor, MI: University of Michigan Press), p. 302-316. [reprinted from *Public Choice*, September 1970.]
- Warner, J. and B. Asch (1995), The economics of military manpower, in: K. Hartley and T. Sandler, eds., *Handbook of Defense Economics Volume 1* (Elsevier, Amsterdam) 347-398.
- Warner, J. and B. Asch (1996), The economic theory of a military draft reconsidered, *Defence and Peace Economics* 7: 297-311.
- Warner, J. and B. Asch (2001), The record and prospects of the all-volunteer military in the United States, *Journal of Economic Perspectives* 15 (Spring): 169-92.
- Warner, J. and S. Pleeter (2001), The personal discount rate: evidence from military downsizing programs, *American Economic Review* 91 (1): 33-53.
- Warner, J. and S. Negrusa (2005), Evasion costs and the theory of conscription, *Defence and Peace Economics* 16: 83-100.
- Wagner, R. (1972), Conscription, voluntary service, and democratic fiscal choice, in J. Buchanan and R. Tollison (eds), *Theory of Public Choice: Political Applications of Economics* (Ann Arbor, MI: University of Michigan Press), p. 136-152.