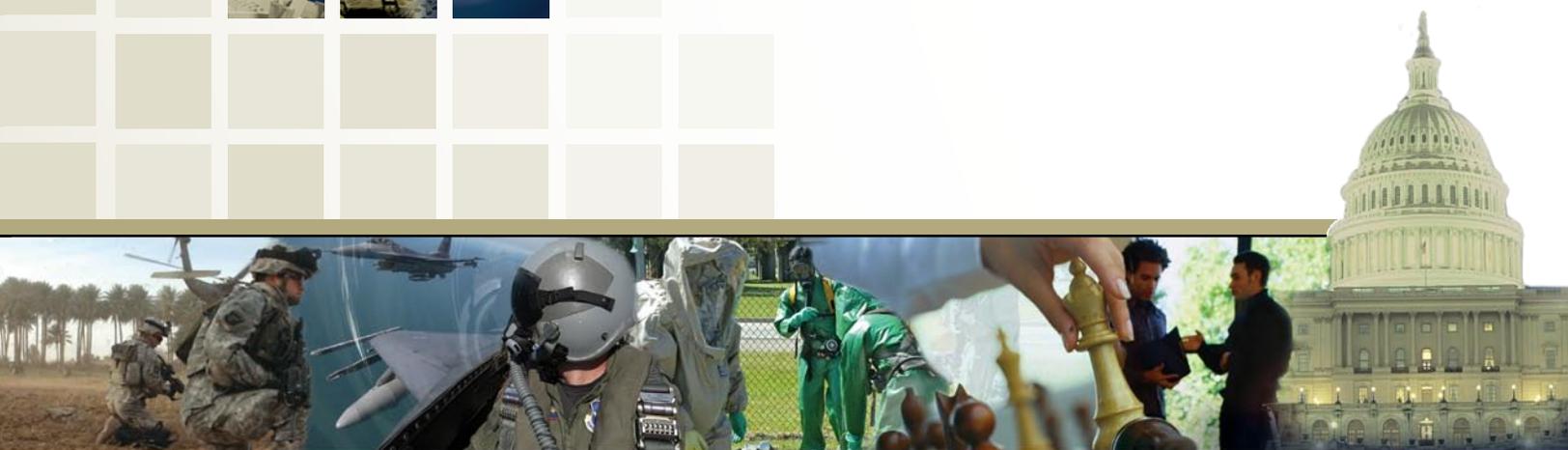
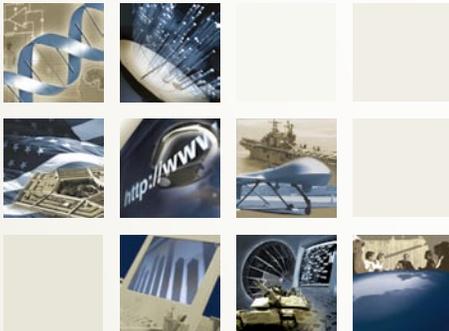


Recruiting an All-Volunteer Force: The Need for Sustained Investment in Recruiting Resources

Barbara A. Bicksler and Lisa G. Nolan



Barbara A. Bicksler

A senior analyst at Strategic Analysis, Inc., Barbara Bicksler specializes in writing and research on military manpower and personnel issues. She is the editor of the *Policy Perspectives* series.

Lisa G. Nolan

A former aide to Senate Majority Leader George Mitchell, Lisa Nolan is a private consultant who has worked on a wide range of public policy concerns, including federal fiscal policy and workforce policy.

Preface

Successful recruiting is essential to sustaining an all-volunteer force. If the military services do not attract the number and quality of recruits needed, other force management activities will be of little consequence. Yet, recruiting can be a challenging endeavor—shaped by a confluence of factors, some within the control of the Department of Defense and others that are not. Today, military recruiters face low youth unemployment, a sustained conflict in Iraq, and fewer role models encouraging youth to join the military. To counter these impacts, the department can invest in an array of recruiting resources, including recruiters, advertising, enlistment bonuses, and educational benefits. It is important to understand how these many factors affect the military’s ability to enlist high-quality youth—the subject addressed in this paper. The conclusion drawn from this review is that stable and sizeable investments in recruiting resources, over the long term, are necessary to maintain recruiting success in the future.

The authors are extremely grateful to the many people whose important contributions made this project possible, including the numerous economists and researchers whose work on recruiting issues form the basis of this paper.

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Introduction

Since abolishing the draft in 1973, the United States has relied on an all-volunteer force to sustain its military. During the early years of the volunteer force, some feared that the military would be unable to attract enough enlistees and that the quality of volunteer recruits would be much lower than the quality of a conscripted force. Those fears were not realized. For more than 30 years the U.S. military has maintained a highly skilled, well-trained, and professional volunteer military. The force has excelled in a wide range of combat, peacekeeping, and multinational missions. It is the standard for military superiority in the 21st century.

Effective recruiting is essential to sustaining the all-volunteer force. Each year the U.S. military recruits about 180,000 new enlistees to maintain an active duty enlisted force of approximately 1.14 million men and women. The fiscal year 2006 recruiting target was 181,086 enlistments, with service goals of 80,000 for the Army; 37,456 for the Navy; 32,880 for the Marine Corps; and 30,750 for the Air Force.¹ In an all-volunteer force, the military services compete with colleges and private sector firms for recruits. Thus, changes in the private sector employment market, as well as the draw of a college education, can have significant effects on recruiting. Current military operations, such as the ongoing war in Iraq, can impact recruiting as well.

The Department of Defense (DOD) has been remarkably successful in meeting its recruiting targets, particularly since the early 1980s. Since 1982, the de-

partment has missed its annual recruiting target only three times—in 1998 and 1999, during a period of extremely low unemployment, and more recently in 2005, when a confluence of factors made the recruiting environment particularly difficult.

In addition to numerical recruiting targets, the department has goals for the overall quality of new recruits. A substantial portion of each service's new enlistees must meet DOD's standards for high quality, which are measured both in terms of educational achievement and training aptitude. To ensure high quality in the force, the department's standards call for 90 percent of each service's new enlistees to have high school diplomas, and 60 percent to score at or above average on the Armed Forces Qualification Test (AFQT).²

Both of these quality benchmarks are important. High school graduates are much more likely than nongraduates to complete their initial terms of service (typically three or four years). Over 75 percent of recruits with high school diplomas will complete at least two years of service, compared to just over 55 percent of their nongraduate peers (Armor and Sackett 2004).³

Aptitude is also critical. High-aptitude enlistees who score at or above average (the 50th percentile) on the AFQT are easier to train, perform better on the job, and typically have fewer disciplinary problems than their lower-scoring counterparts (Kearl, Horne, and Gilroy 1990).⁴ Given the military's increased reli-

1. These figures are enlistment goals rather than contract goals. The latter refer to contracts signed by potential recruits who intend to begin their enlistment period up to a year later. These individuals enter what is termed the Delayed Entry Program until they are ready to begin basic training. Enlistment goals refer to the actual number of recruits who are required to enter basic training during the fiscal year. These and other statistics in this report are provided by the Office of the Secretary of Defense, unless otherwise noted.

2. These benchmarks were established in 1993 and verified in 2000 (U.S. Department of Defense 2000b).

3. Recruits with General Educational Development (GED) certificates have attrition rates nearly as high as attrition rates for non-high school graduates (Armor and Sackett 2004).

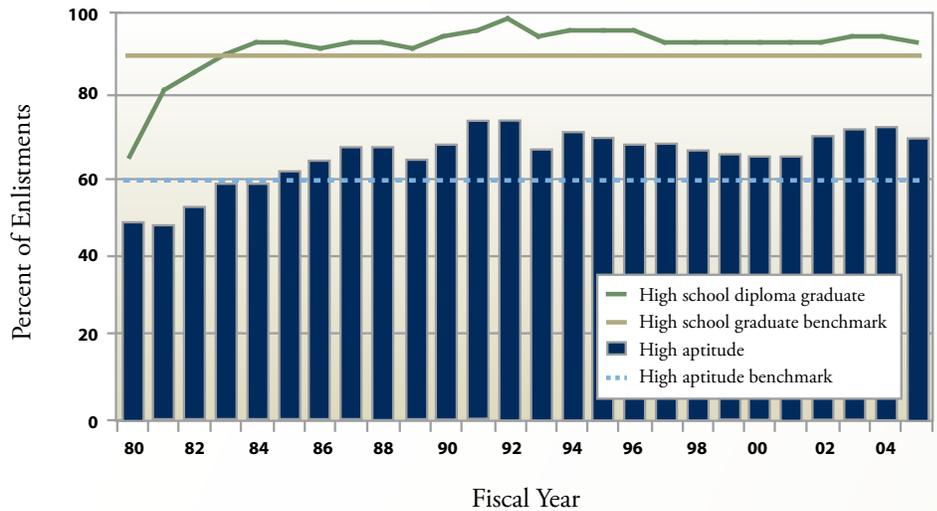
4. All recruits take a written enlistment test called the Armed Services Vocational Aptitude Battery (ASVAB). One component of the ASVAB is the AFQT, which measures math and verbal skills. For reporting purposes, scores on the

ance on technologically advanced weaponry; the growing emphasis on smaller, more autonomous units and decentralized decision making; and the complex and fast-paced nature of military missions in the post-Cold War environment, highly skilled and talented troops are essential (U.S. Department of Defense 2000a and 2002).

DOD has met or exceeded its quality benchmarks since the mid-1980s (figure 1). In fiscal year 2005, 93 percent of enlistees were high school graduates and 70 percent were high-aptitude recruits.

Although the department has experienced a long period of recruiting success, there have been times when recruiting has been difficult, goals have been missed, and quality has declined. In the last two years, the recruiting environment has become increasingly challenging. In 2005, the Army missed its enlistment goal by 6,627 recruits, or 8 percent, and although the Marine Corps met its goal, it required substantial effort on the part of recruiters and considerably more resources than planned. Further, although the department met its overall goals for high-quality recruits, 2 percent of all enlistments fell into a lower aptitude category (category IV)—a larger share than in previous years, but well below the Congressional cap of 20 percent. This challenging environment resulted from many factors, the impact of which had been building over a number of years: increases in recruiting goals for both the Army and the Marine Corps, an improving economy with relatively low unemployment, and a sustained wartime environment.

AFQT are divided into five aptitude percentile categories: I = 93–99; II = 65–92; III = 31–64; IV = 10–30; and V = 1–9. Category III is typically divided into subcategories IIIA (percentiles 50–64) and IIIB (percentiles 31–49). By law, non-high school graduates in category IV and all those in category V are ineligible to enlist.



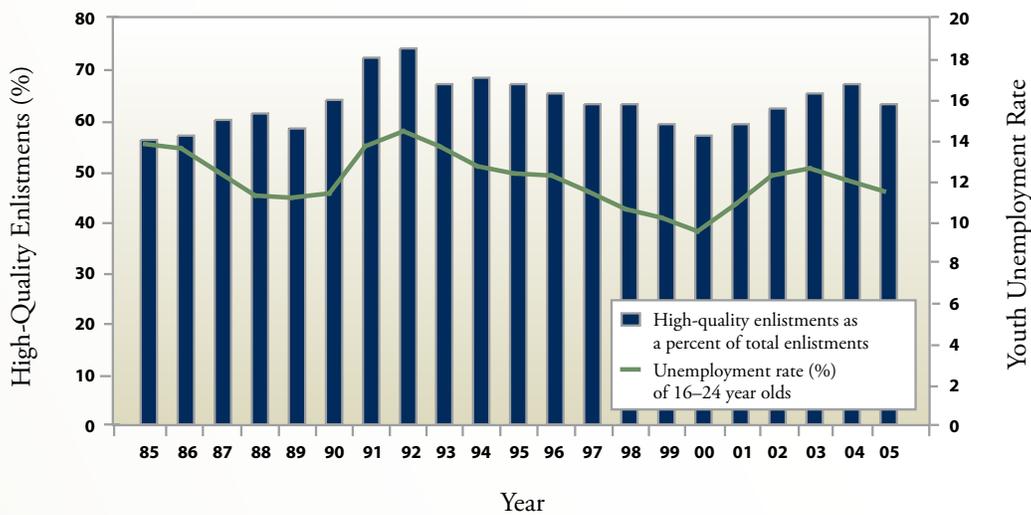
Source: U.S. Department of Defense

Figure 1. Recruit Quality and DOD Benchmarks

The key to continued success is the ability to provide the right level and mix of recruiting resources to meet recruiting market challenges promptly. Thus, it is important to understand the many factors that affect the military’s ability to recruit high-quality youth and what steps the military services can take to better position themselves when recruiting challenges arise.

Factors that affect recruiting fall into two broad categories. Those in the first category are largely outside the military’s control, but nonetheless have a significant impact on the supply of recruits: the state of the civilian economy, the size and characteristics of the youth population, and the propensity of youth to join the military. While the military cannot change these external factors directly, it can employ policy tools to counter the effects of economic and demographic conditions. These tools—internal factors over which the services have control—comprise the second category and include the size of the recruiting force; expenditures on advertising, enlistment bonuses, and educational benefits; and military pay.

The remainder of this paper explores both the external and internal factors that affect recruiting for the active duty enlisted force, by capturing the results of a rich body of economic research that quantifies the degree to which these factors can impact recruit-



Source: U.S. Department of Defense and U.S. Bureau of Labor Statistics

Figure 2. High-Quality Enlistments and Youth Unemployment

ing.⁵ It also discusses how sustained investments in recruiting resources can improve recruiting success. While many factors come together to influence recruiting at any point in time, understanding their individual impacts can be a useful basis for decision making. The paper concludes with a case study that describes how both external and internal factors affected recruiting in 2005—a challenging recruiting year that offers useful lessons for the future.

The Civilian Economy and Youth Market

Recruiting does not take place in a vacuum. Many factors affect the willingness of youth to enlist in the military, and often these factors are outside the military’s control, such as the unemployment rate, youth population trends, and the interest youth have in joining the military. Therefore, the military must continually monitor trends in these areas so it can anticipate changes in the recruiting environment and

5. This discussion focuses on recruiting for the active duty enlisted force. Officers comprise 15 percent of the all-volunteer force. They are also recruited, but are commissioned into service under a different system than described in this paper.

respond in a timely and effective manner.

Unemployment

The state of the civilian economy, as reflected in the civilian unemployment rate, has a significant impact on military recruiting. In the 33 years since the inception of the all-volunteer force, the overall unemployment rate has varied considerably, from a low of 4.0 percent in 2000, to a high of 9.7 percent in 1982 (U.S. Department of Labor 2006). Comparable

unemployment statistics for youth, ages 16 to 24, are typically higher—9.3 percent in 2000 and 17.3 percent in 1982. As figure 2 shows, the proportion of high-quality youth recruited into the military over the last 20 years has been closely tied to fluctuations in the youth unemployment rate.

During periods of high unemployment, when civilian sector jobs are harder to find, more youth are willing to consider military service, and it is easier to recruit high-quality young men and women. In the early 1990s, when youth unemployment was relatively high (14.2 percent in 1992), 74 percent of new recruits were high quality. When unemployment is low, on the other hand, the competition for workers—particularly high-quality workers—intensifies. Talented youth have attractive employment and education opportunities in the civilian sector, and recruiters must work harder to interest these high-quality candidates in military service—where working conditions may involve frequent moves, long hours, deployments away from family, and hazardous combat situations. In 2000, when youth unemployment dropped to 9.3 percent, the proportion of high-quality recruits fell to 57 percent.

What do these historical patterns teach us about the future? Analyses of the relationship between the unemployment rate and high-quality enlist-

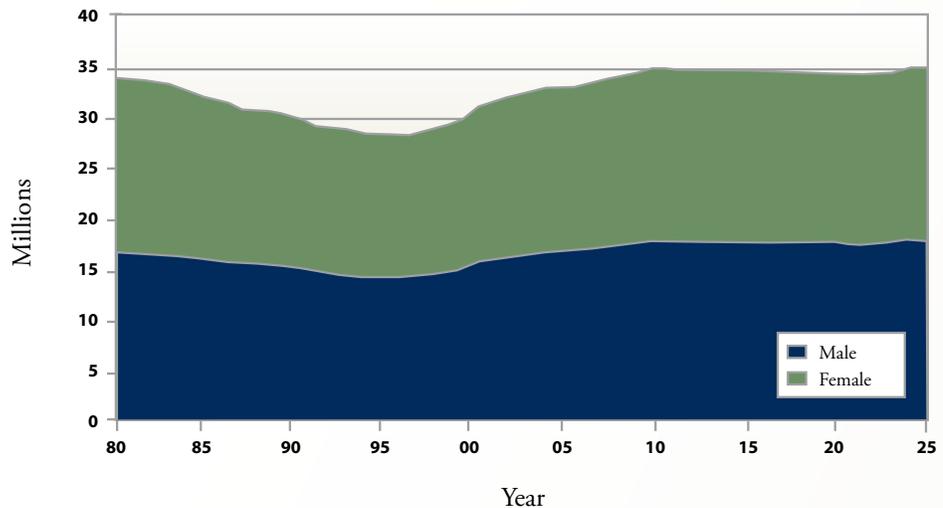
ments estimate that a 10 percent decrease in the unemployment rate (for example, from 5 percent to 4.5 percent) would reduce high-quality Army enlistments by almost 5 percent, or about 2,400 recruits (Warner and Simon 2005). Between 2003 and 2005, youth unemployment fell by nearly 9 percent, suggesting a 4.5 percent decline in high-quality enlistments. While the 2005 rate (11.3 percent) was higher than the historically low rates of the late 1990s, it still represented the lowest

level of youth unemployment since late 2001. In order to counter the negative effects of lower unemployment, DOD has intensified its recruiting efforts, as discussed in more detail in a later section of this paper.

Youth Demographics

The military's ability to recruit high-quality youth depends upon a sufficiently large pool of qualified young men and women from which to draw applicants. Population projections for the next 20 years suggest that there will be enough young people to meet recruiting needs. Changes in the composition, characteristics, and aspirations of the youth population, however, will present various challenges for military recruiters.

Population. Figure 3 shows growth trends, through 2025, for the 17-to-24-year-old population—the target population for military recruiters. The size of this cohort is expected to grow from 32.6 million in 2005 to 34.7 million by 2025. Such growth in the youth population is good news for recruiters as their pool of potential recruits will remain stable for the next two decades. Assuming stable force size, the percentage of the total youth population that must be recruited into the military to meet enlistment needs should remain stable at current rates.



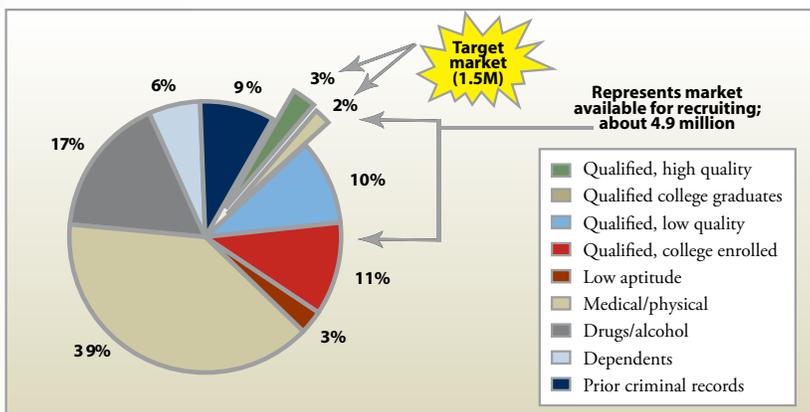
Source: U.S. Census Bureau

Figure 3. Actual and Projected Population of 17-24 Year Olds

Even so, the number of youth actually eligible for military service reduces the size of the available pool substantially, with 7 out of 10 in the youth population currently ineligible (figure 4). Reasons include medical conditions, such as obesity, asthma, or diabetes; drug dependency or failed drug testing; existence of young dependents; and prior criminal records. Moreover, 3 percent of the youth market do not meet the services' aptitude standards and another 11 percent, though qualified, are enrolled in college. Taking all these into consideration, 4.9 million, or 15 percent of the youth population remain, only one third of whom are high quality.⁶ Of eligible youth, those who are actually interested in military service further reduce the pool.

Race/Ethnicity. Much of the future growth in the youth population will be fueled by dramatic growth in the Hispanic population, which is expected to increase from 16 percent of the youth population in 2005 to nearly 25 percent in 2025. This trend is due to both increased immigration and relatively higher fertility rates among Hispanics. Over this same period,

6. The military services have the authority to grant waivers to applicants who do not meet some of these rigorous standards. About 15 percent of enlistees receive waivers, with those for medical conditions and prior criminal records the most frequently used.



Source: The Lewin Group

Figure 4. Eligibility for Military Service

the percentage of Blacks in the youth population will remain stable at about 15 percent, while the proportion of Whites will decline.

The growing number of Hispanic youth presents both opportunities and challenges for military recruiters. Hispanic youth are more disposed towards military service than their White or Black peers. But while Hispanic youth tend to be more attracted to military service, they also tend to have lower aptitude test scores than Whites and lower high school graduation rates than either White or Black youth (Asch, et al. 2005). These trends can be attributed, in part, to their lack of proficiency with the English language and their higher likelihood of being an immigrant. That said, high school graduation rates for Hispanics have been on the rise, increasing from about 55 to 65 percent over the past decade and a half (as compared to about 77 percent for Blacks and 82 percent for Whites—levels largely unchanged over the same period) (U.S. Census Bureau 2004).

Moreover, a study of new recruits in the Marine Corps suggests that, once enlisted, Hispanic recruits have attrition rates substantially below average. They are less likely than all recruits to drop out of boot camp and less likely to leave the service before the end of their first term. Thus, first-term attrition among this group, which comprises a growing proportion of the total Marine Corps force, is lower than average (Hattiangadi, Lee, and Quester 2004; Simon and Warner 2006).

The Department can maximize enlistment opportunities for this growing population by educating Hispanics about the military's entrance requirements regarding high school completion, and by encouraging Hispanic youth to stay in school through initiatives such as the Army's Operation Graduation.⁷ In addition, translating recruiting brochures and other recruiting resources into Spanish would ensure that Hispanic youth—and those who influence them—more fully understand the career opportunities and benefits associated with military service (Hogan, Simon, and Warner 2004; Hattiangadi, Lee, and Quester 2004).

Educational Attainment. Perhaps the most critical trend in the youth population is the steady rise in college attendance. The share of high school graduates who enrolled in college within a year of leaving high school rose from 49 percent in 1980 to 67 percent in 2004—an increase of just over 35 percent (figure 5).⁸ This increase in college attendance has had a substantial and negative effect on recruiting.

As more and more youth choose to attend college after high school, fewer are willing to pursue military service. One study estimates that the 11 percent increase in college attendance of 17–21 year olds between 1987 and 1997 could have caused a reduction in the number of high-quality enlistees of 10 to 13 percent. In fact, estimates suggest that about one third of the drop in propensity among white males between 1985 and 1997 can be attributed to rising rates of college attendance (Warner, Simon, and Payne 2001).

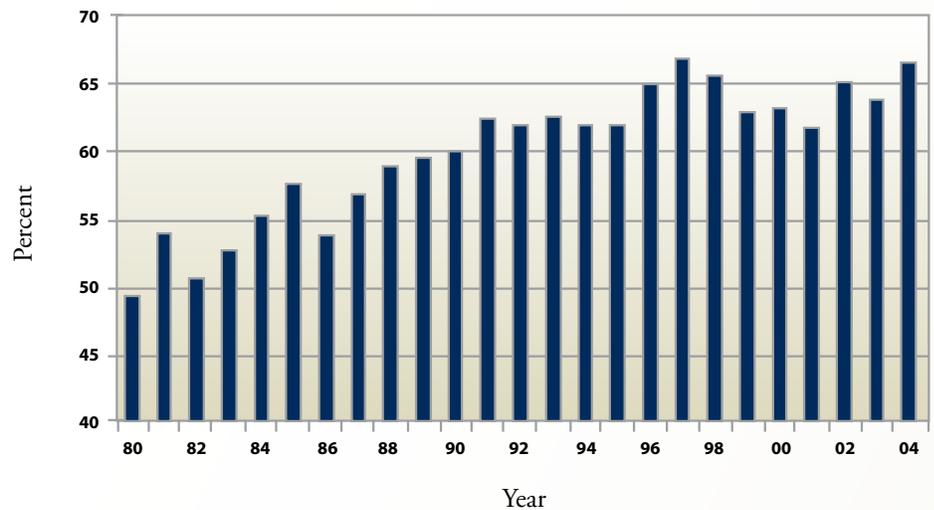
7. In September 2000, the U.S. Army, in cooperation with the Advertising Council, launched Operation Graduation to motivate teens to stay in high school. See <http://www.boostup.org/flash/index.html>.

8. Part of the increase in college attendance is likely due to the substantial financial returns associated with a college degree. In 1979, the salaries of graduates from four-year colleges were 40 percent higher than those of high school graduates. By 1995, the college premium had risen to 65 percent (Asch, et al. 1999). See also Hosek and Sharp 2001.

Moreover, the young men and women who choose to attend college tend to have relatively higher aptitudes than those who do not pursue postsecondary education. As a result, the increased trend in college attendance is not only reducing the overall pool of potential enlistees, but also skimming off a disproportionate share of the high-quality youth cohort that is preferred by the military.⁹ According to the National Research Council, the “dramatic increase in college enrollment is arguably the single most significant factor affecting the environment in which military recruiting takes place.”

College attendance rates will remain strong for the foreseeable future, and the military must explore new ways to make military service attractive and manageable for the growing number of young people who pursue postsecondary education, and also to highlight the financial assistance available to service members to pay for higher education. Some initiatives that show potential in this area include the College First program, in which youth receive a stipend to attend college for up to two years before entering the military; distance learning, which enables service members to take college courses while in the service; and loan repayment programs (Asch, et al. 2004; National Research Council 2003). With more youth enrolling in college right after high school, the military should also focus some recruiting efforts on slightly older youth who may have permanently dropped out or temporarily “stopped out” of college,¹⁰

9. Lower aptitude youth are often highly interested in military careers, but are less likely to actually enlist because they do not meet the military’s quality standards.
10. Dropouts and “stopouts” from 2-year colleges may offer market potential for military recruiters. Of students who enrolled in 2-year institutions in academic year 1995–1996, 39 percent had dropped out and not returned 5 years later. But among students who enrolled in 4-year institutions, only 18 percent had not returned to school.



Source: U.S. Department of Education, National Center for Education Statistics

Note: Enrollment rates are within 12 months of high school graduation.

Figure 5. College Enrollment Rates of High School Graduates

and are exploring career options.¹¹ Though the college market can be a good source to tap and should be aggressively pursued, the services must not abandon the high school market.

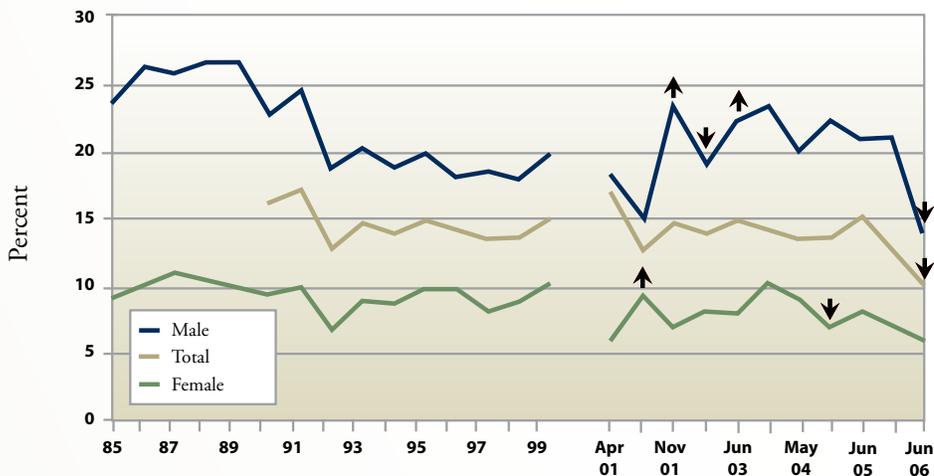
Propensity

The interest that young people have in considering military service—referred to as propensity—can be an important indicator about future enlistment behavior. Not surprisingly, youth who are more interested in military service are much more likely to enlist than other applicants. Moreover, highly interested youth are less likely to be dissuaded from a military career by external factors such as the unemployment rate, parental influence, or civilian earnings. The military should work to keep this pool of highly interested youth as large as possible.

The Department of Defense measures propensity through surveys, asking American youth whether they are “definitely,” “probably,” “probably not,” or “definitely not” interested in military service.¹²

11. For further analysis and in-depth discussion of strategies to recruit college-bound youth, see Kilburn and Asch 2003.

12. Through 1999, DOD monitored youth propensity through



Source: U.S. Department of Defense, Youth Attitude Tracking Study 1985–1999 and Youth Poll 2001–2006

Note: Arrows indicate statistically significant change from previous poll.

Figure 6. Military Propensity of 16–24 Year Olds

Survey results from the late 1980s to the late 1990s show that males who responded that they were “definitely” interested in military service were four times more likely to apply to the military than male youth in general. And although they made up only about 25 percent of all youth surveyed, “definitely” and “probably” interested youth comprised approximately 50 percent of actual military applicants (Warner, Simon, and Payne 2002).

While the American public continues to express overwhelming support for the military as an institution (Harris Interactive 2006), this support does not translate into a high propensity to enlist.¹³ Figure 6 shows that propensity among young men to join

its Youth Attitude Tracking Study (YATS), an annual survey of 10,000 16–24 year olds. In 2001, DOD shifted to smaller scale Youth Polls—a sample of about 3,000 16–21 year olds—that enable the department to track propensity on a more frequent basis. Data from both surveys, shown in figures 6 and 7, include respondents who indicated that they are “definitely” or “probably” interested in military service.

13. The most recent Harris Poll, conducted between February 7 and 14, 2006, reported that the military remains at the top of the list of institutions in which Americans have confidence.

the military, at about 21 percent in 2005, declined sharply to 14 percent in June 2006—substantially below the 26-percent level of the mid-1980s. Since the early 1990s, total propensity (men and women combined) had been relatively steady, at around 15 percent. But the recent decline in propensity for young men has driven total propensity to 10 percent—the lowest recorded level in more than two decades.

Moreover, youth from more densely populated states—which generally offer more job opportunities—typically exhibit lower propensity than youth from less populated states (Warner, Simon, and Payne 2002). Regional differences also exist, with

some research concluding that youth propensity varies by region, with youth from the southeast and southwest exhibiting the highest propensity (Kearl, Horne, and Gilroy 1990). More recent analysis, however, suggests that regional factors may be less important (Warner, Simon, and Payne 2002).

Race/Ethnicity. Of particular interest is the recent decline in propensity among Black and Hispanic youth, as shown in figure 7. Between November 2003 and November 2004, propensity among Blacks dropped from 21 to 11 percent, before rebounding somewhat in December 2005 to 16 percent. Hispanic propensity fell 7 percentage points between May 2004 and June 2005 before returning, in December, to typically high levels of about 25 percent. But by mid-2006, propensity for both these groups declined significantly to a low of 9 percent for Blacks and 14 percent for Hispanics. In contrast, propensity among White youth remained relatively steady during this period.

Several reasons may account for the decline in propensity among Black youth. First, in a growing economy, Black youth increasingly have other attractive alternatives open to them besides military service. College attendance is up among this group, and the earnings of both Black high school and college graduates are

significantly higher as well. Thus, the military finds itself in direct competition with postsecondary institutions and private sector employers for high-quality Black youth.

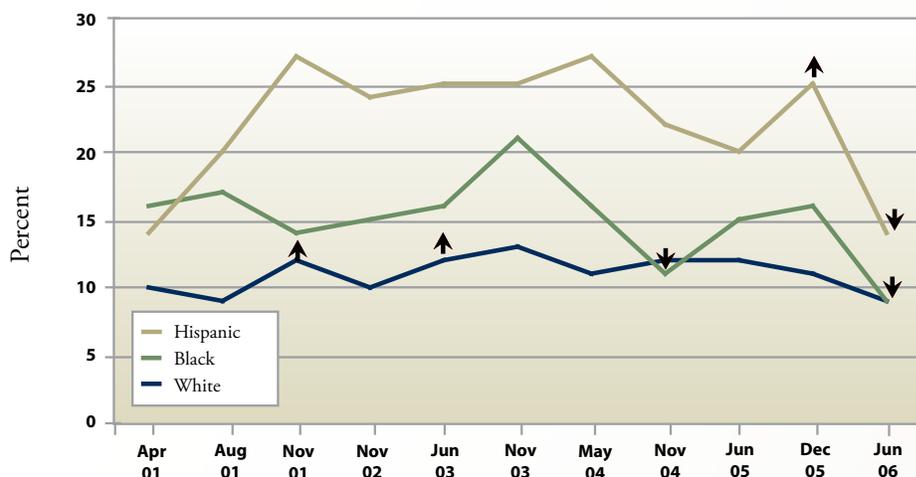
Second, compared to other race and ethnic groups, Blacks are less supportive of the Iraq war and have more reservations about current foreign policy, according to a recent survey (The PEW Research Center 2005). Data from recent youth polls by the Department of Defense support these findings. While support for troop presence in Iraq has fallen for youth from all race and ethnic groups over the past two years, support is lowest among Blacks (32 percent) as compared to Whites (54 percent) and Hispanics (49 percent). Similarly, among influencers, support for troop presence in Iraq is lowest among Blacks, at 23 percent, compared to 58 percent for Whites and 39 percent for Hispanics.¹⁴

Together these factors have no doubt contributed to the declining proportion of Black enlistees over the past five years (Moniz 2005). Across all the services, the percentage of Black recruits has dropped from 20 percent in 2000 to 14 percent in 2005—about the same proportion as Blacks in the civilian youth population.

Influencers. The decision to enlist is a major one, and youth do not make it alone. They receive advice and input from many sources, including parents, friends, teachers, coaches, and veterans. Recent trends suggest that fewer influencers are promoting military service, with an almost certain adverse impact on propensity.

Parents. Parents exert a strong influence on their children when it comes to making decisions about military service. Parental characteristics—particularly levels of education attainment and whether or not

14. Youth and influencers responded to the question: “Do you support or oppose U.S. military troops being in Iraq?” Department of Defense, December 2005 Youth Poll.



Source: U.S. Department of Defense, Youth Poll 2001–2006

Note: Arrows indicate statistically significant change from previous poll.

Figure 7. Military Propensity of White, Black, and Hispanic Youth

they themselves are veterans—are strong indicators of their children’s propensity to enlist. Over the last 20 years, the educational attainment and veteran status of parents have changed dramatically, and in both cases, those changes have contributed to the stagnation and recent decline in youth propensity. Parents today, particularly mothers, are far less likely to recommend military service than they have been in the past.

For example, since 1980, college attendance rates of mothers have greatly increased, rising from about 30 percent for children born in the early 1980s to over 50 percent for children born in the late 1990s (National Research Council 2003). Studies suggest that youth with more educated parents are more likely to pursue postsecondary education, and are therefore less interested in military service (Warner, Simon, and Payne 2001 and 2002).

A second important trend related to parents is the declining number of 18 year olds who have at least one parent who is a veteran. In 1988, approximately 40 percent of 18 year olds had a veteran parent. In 2000, that number had fallen to about 18 percent. By 2018, only about 8 percent of 18 year olds will have a veteran parent and the exposure to and familiarity with military life that comes from being part of a military family (National Research Council 2003).

Veterans. The reduction in the number of veteran parents is consistent with a substantial drop in the number of veterans in the general population. Over the past 15 years, the percentage of veterans in the U.S. population has dropped by over 25 percent, declining from 15 percent of those aged 18 and over in 1990, to only 11 percent in 2005 (U.S. Census Bureau 1993 and 2005). With the total force now one-third smaller than it was during the Cold War era, and the aging of the World War II generation, the number of veterans in the population is not likely to rebound. This means that youth, and the public in general, will have fewer role models who actually served in the military and who can share their positive experiences with potential recruits and encourage them to consider military service.

The declining veteran population has a substantial impact on enlistments. One study estimated that the drop in the number of veterans between 1987 and 1997 resulted in a 19 percent drop in enlistments. Each additional 10 percent decrease in the veteran population will lower Army high-quality enlistments by approximately 14 percent (Warner, Simon, and Payne 2001). As the veteran presence continues to decline, the military must develop other ways to expose youth and their parents to the positive aspects of military life and the values of military service. Expansion of education and civic programs, such as the high school-based Junior Reserve Officer Training Corps (JROTC), JROTC Career Academies, the National Guard Youth ChalleNge program, and the “Educate the Educator” program being used in some states, offers promise in this area.

The Iraq War. The war in Iraq also has taken its toll on recruiting, having a direct impact on American youth as well as on those who influence them. Estimates of the impact of the war on recruiting suggest high-quality Army enlistments have fallen by about 34 percent—a reflection of both the fatality rate in Iraq as well as the war itself (Warner and Simon 2005). A more recent study estimates that since January 2005, enlistment contracts were lower than they otherwise would have been as a result of increased casualties. Contracts were reduced for Army men and women by 25 and 65 percent, respectively,

and for Marine Corps men and women by 8 and 11 percent (Goldberg 2006).

Together, these factors—the influence of parents, declining numbers of veterans, and the war in Iraq—have led to an overall stagnation, and recent decline, in youth propensity and present a serious challenge for military recruiters. The services should explore ways to use recruiting, advertising, national leaders, and military programs to promote the importance of patriotism, duty to country, and the mission of the U.S. military. The military should try to identify ways to make college and military service more compatible, as well as to better educate youth and their parents about the benefits of public service and military life. Over time, a sustained and high-profile public service campaign could shift youth opinion (as well as the opinion of those who influence them) about military service and lead to a rise in propensity (U.S. Department of Defense 2000a).

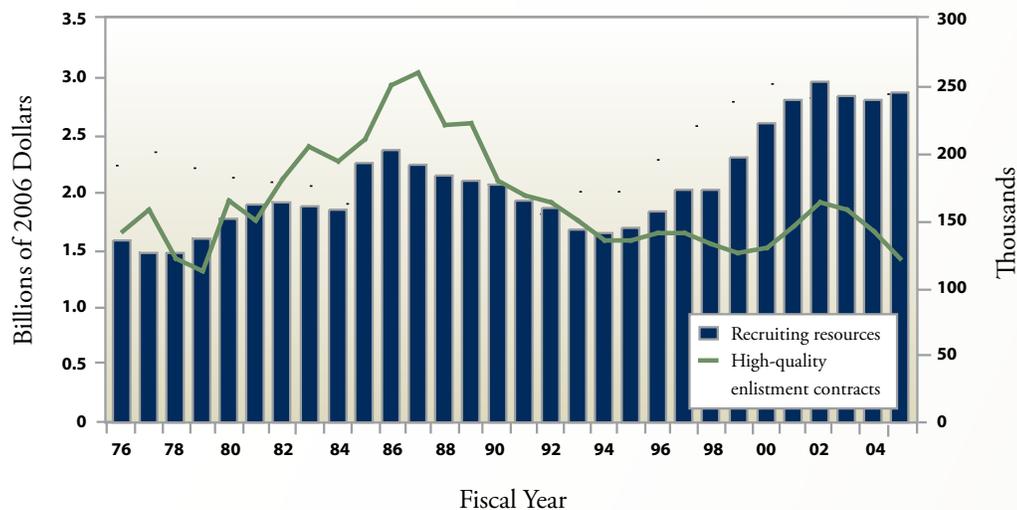
Recruiting Resources

As described in the previous section, many external factors affect DOD’s ability to recruit sufficient numbers of high-quality youth into the military. Some of these factors, such as changes in the unemployment rate and civilian wages, are cyclical in nature with easily predicted implications for recruitment. The military can effectively address these factors with timely changes in a variety of recruiting resources. Other factors, such as rising college enrollments and declining propensity for military service, have long-term effects on the recruiting environment. While the military has virtually no control over these dynamics, proven policy tools are available to offset their potentially negative effects on recruiting.

How the military services invest in these tools can have a significant impact on recruiting success, as there is a close relationship between investments in recruiting resources and high-quality enlistments (figure 8). The drop in enlistments in the late-1970s was largely the result of significant cuts in recruiting resources.¹⁵ A

15. Another factor in the drop in high-quality enlistments during this period was an error in scoring the ASVAB

similar problem occurred in the mid-to-late 1990s, when recruiting budgets were cut too much at a time when the economy was strong, unemployment low, and the recruiting mission increased after more than half a decade of force downsizing. In each case, it took a significant infusion of resources before recruiting rebounded. In contrast, in the mid-1980s, serious recruiting problems were averted by a large increase in the recruiting budget in 1985.



Source: U.S. Department of Defense

Figure 8. Recruiting Resources and High-Quality Enlistment Contracts

There is a similar relationship between cost-per-recruit and the percentage of high-quality recruits, with the latter generally rising along with expenditures per recruit. The cost-per-recruit has more than doubled over the past 20 years, rising steadily from a level of \$7,035 in 1985 to just over \$16,000 in 2005—a reflection of sustained recruiting challenges since the late 1990s, as the military services faced more intense competition from civilian employers and colleges and universities.

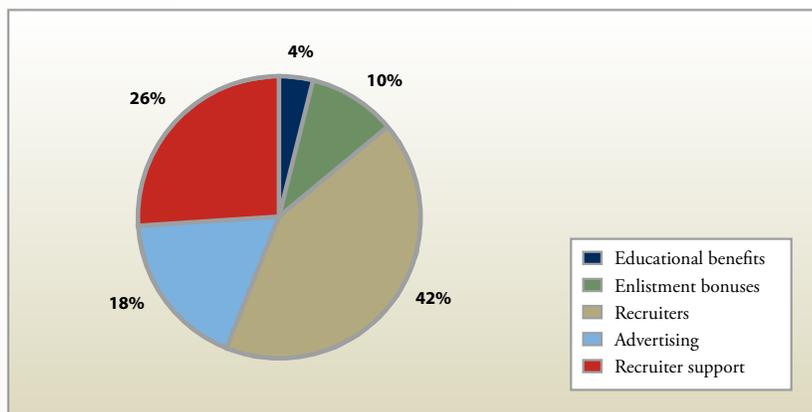
Of paramount importance is that the services make adequate investments to support recruiting, particularly during times when external factors, such as low unemployment, create a challenging recruiting market. But often this relationship between the recruiting resource budget and enlistments is overlooked by the department, though it has been relevant for decades. As noted by General Maxwell Thurman, one of the early supporters of the all-volunteer force, “the quality of the enlistee tracks with the expenditure of recruiting resources. We must understand this relationship ... and so too must the Congress” (Thurman 1986).

enlistment tests. Test scores at the lower end of the distribution were artificially inflated, permitting the enlistment, between 1976 and 1980, of over 400,000 low-quality recruits who should have been rejected.

Figure 9 illustrates how the military allocated its \$2.7 billion fiscal year 2005 recruiting budget among the various resources. The largest share of this investment, about 42 percent, went to field recruiters. Recruiting support, those resources dedicated to administrative, automation, and logistical support of the recruiting effort, comprised 26 percent. Another 18 percent of the budget was devoted to advertising, while enlistment bonuses and educational incentives were 10 and 4 percent, respectively.

For the most part, these recruiting resources are decentralized among the military services, with each service operating a full range of recruiting activities. Some recruiting services, however, are provided centrally, such as oversight of recruiting activities by the Office of Accession Policy. Other centralized activities include applicant screening and processing, which is conducted by the U.S. Military Entrance Processing Command, and office space rental, with which the Army Corps of Engineers assists.

Centralized within the Defense Human Resources Activity are data collection, marketing, and research and analysis activities that provide critical support to the services’ recruiting efforts. The Defense Manpower Data Center, for example, provides the military services with enlistment and demographic data by local



Source: U.S. Department of Defense

Figure 9. Recruiting Resource Investments, Fiscal Year 2005

area, and the Joint Advertising Market Research and Studies program performs market analysis, conducts youth surveys, and funds joint advertising that also supports the services' recruiting activities (Asch and Gates forthcoming).

The discussion that follows provides an overview of the wide range of resources available to encourage enlistment and effectively respond to recruiting challenges. These resources include military recruiters and recruiting support, advertising, enlistment bonuses, educational benefits, and military pay.

Recruiters

Encouraging enough people to join the military is crucial to the success of the all-volunteer force. Even young people who are highly interested in military service will interact with recruiters to gain a better understanding of the opportunities and advantages a military career might offer. As a result, the recruiter force is the most critical component of the military's recruiting effort.

Operating out of local offices in every state in the country, these enlisted personnel are the "sales force" responsible for recruiting young people into military service. Each service maintains its own recruiter force, although recruiters from different services may share office space within a recruiting station. Not surprisingly, the Army has the largest recruiter force, totaling about 6,400 in October 2006. There

are 3,450 recruiters in the Navy; 2,650 in the Marine Corps; and 1,500 in the Air Force.

Aside from the recruiters themselves, each service also provides a range of management, training, marketing, advertising, and administrative services to assist in the recruiting effort. This allows recruiters to focus on their main responsibility—developing leads and converting them into enlistments. Leads can be generated in a number of ways, including referrals, advertising, local displays and presentations, community outreach programs, purchased lists, direct mail, and, increasingly, Internet sites and chat rooms operated by the services.

One important source of leads is the joint-service-sponsored ASVAB Career Exploration Program. This program provides high school students in grades 10, 11, and 12 with career exploration materials, as well as the enlistment aptitude tests, to help them learn about their interests and skills. Today, just over 60 percent of the nation's 21,700 high schools participate, with about 700,000 students volunteering to take the test. With the consent of the schools, recruiters can obtain participating students' test scores.

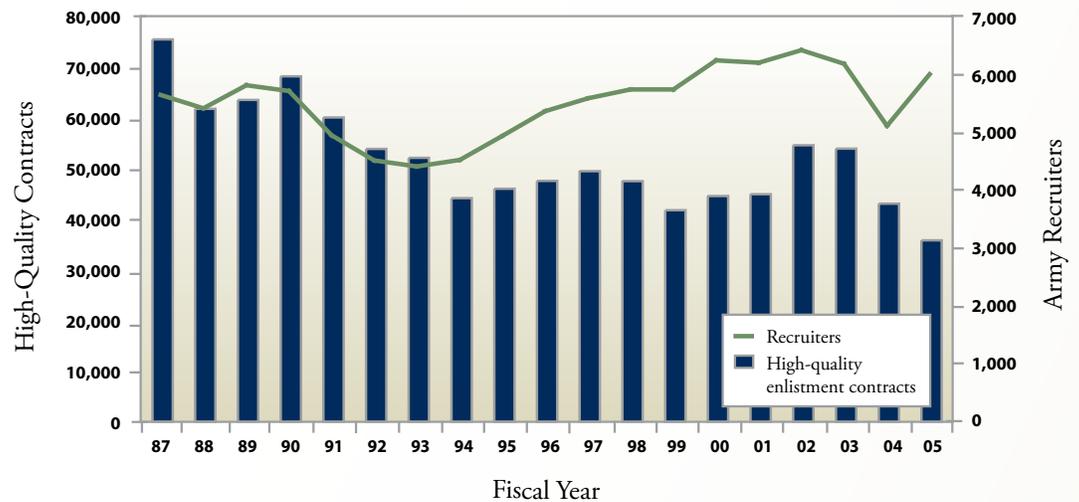
Converting leads into signed enlistment contracts, however, is not an easy task. Only a small fraction of the people a recruiter initially contacts ultimately enlists, and it is not unusual for a recruiter to spend several weeks signing up one new enlistee. The average Army recruiter, for example, must contact about 120 youth in order to secure one enlistment.

Past experience has shown that a sufficiently large and experienced recruiter force can bring in high-quality recruits and effectively counter the negative effects that economic and demographic factors can have on recruiting. One recent study estimates that increasing the number of Army recruiters by 10 percent will increase Army high-quality enlistments by 4 percent. Decreasing recruiters by 10 percent reduces high-quality enlistments by nearly 6 percent. Thus, a decline in the number of experienced recruiters has a greater negative impact on enlistments than the positive impact of increasing the number of recruiters (Warner and Simon 2005).

Unfortunately, the size of the recruiter force has fluctuated significantly for all services over the 30 years of the all-volunteer force, which has sometimes made it difficult for the military to use this valuable tool as quickly and effectively as possible in response to emerging recruiting challenges. The services often cut back the number of recruiters when downturns in the civilian economy make it easier to meet enlistment goals or when goals themselves are reduced, and then increase recruiters when the economy rebounds or goals increase and recruiting again becomes more difficult. But once the recruiter force has been cut, its size and expertise cannot be reestablished quickly. It takes time to assign and train additional recruiters, and, once on the job, new recruiters are less effective than their more experienced colleagues.¹⁶

Figure 10 shows the fluctuation in the number of Army recruiters since 1987. The number of recruiters declined 23 percent between 2002 and 2004, resulting in a significant decline in high-quality enlistment contracts. The increase in the recruiting force in 2005 is having a positive effect on achieving numerical goals, but it will take some time to help turn around high-quality enlistments. Further, this figure also illustrates the impact of rising costs-per-recruit, as high-quality enlistments, since the mid-1990s, track less closely to changes in the size of the recruiting force.

16. Because the size of the enlisted force is capped, a service member assigned to recruiting duty, beyond the authorized recruiter strength, is a member that has to be taken away from the field or the fleet. Thus, the services must balance the benefit of adding to the recruiter force with a potential decline in readiness as a result of pulling members from the field—a balance that is not based purely on “dollar cost.”



Source: U. S. Department of Defense

Figure 10. Army Recruiters and High-Quality Enlistment Contracts

Another important argument for maintaining a stable and sizeable recruiter force is the military presence it provides in communities across the country. This presence serves to counteract the shrinking veteran population that traditionally provided role models for young people. Recruiters take on added importance in their roles as community members who can share their positive military experiences with young people and their parents. Downsizing the recruiter force too much when the recruiting climate is favorable may erode the military presence in local communities and could chip away at propensity. In the early 1990s, for example, a weak economy and the military drawdown eased recruiting challenges, prompting the services to cut back on recruiters and close a number of small recruiting offices. These decisions eliminated the military’s presence in many communities, perhaps affecting propensity in the long term (Warner and Asch 2001).

Not surprisingly, when the economy expands and the recruiting environment deteriorates, recruiters have to work harder to enlist the same number of recruits. In other words, their productivity declines, making it even more important to maintain a robust and experienced recruiter force. Aside from such cyclical changes in productivity, Army recruiters also have experienced a more prolonged productivity decline, with total monthly contracts per recruiter falling from an average of 1.53 in 1993 to 1.08 in 2005.

Along with increasing the size of the recruiter force, the services are exploring reforms to enhance recruiter effectiveness and productivity. Since recruiters are the military's sales force, their selection, training, incentive, and support systems should all be designed to maximize their selling potential. Yet the processes used by some of the services to select their recruiters, for example, are not necessarily designed to choose those candidates most likely to succeed in sales. This approach results in variations in recruiter effectiveness, with some recruiters simply more "cut out for sales" than others.

A selection system that better identifies those with the greatest potential in sales could increase recruiter performance, and the services continue to explore alternative selection processes (National Research Council 2003). Similarly, retaining effective recruiters for longer periods can increase productivity. Furthermore, providing recruiters with better "tools"—such as the department's increased support of more attractive and conveniently located recruiting office space—could boost productivity as well. Studies have shown a positive impact on enlistments of conveniently located recruiting stations (Hogan, et al. 1998).

Establishing appropriate recruiter goals and effective incentive systems can also affect recruiter productivity, enlistment levels, and recruit quality. Because low-quality youth are easier to recruit than high-quality youth, for example, recruiter goals and incentives should be designed in ways that focus recruiter efforts on the more challenging high-quality youth market. Furthermore, some argue that recruiters themselves should take ownership of their goals. More specifically, recruiters and their commanders would together establish enlistment goals, for which recruiters would then assume responsibility (Thurman 1986).

Recruiter quotas and incentives also influence the effectiveness of other recruiting tools, such as advertising or enlistment bonuses. That is, the maximum impact of increasing one recruiting tool, such as enlistment bonuses, may not be fully achieved if recruiters expend less effort and do not increase overall enlistments. Increasing recruiter quotas may be one way to avoid reductions in recruiter effort and maximize the return

on new recruiting resource investments (Dertouzos 1985; Polich, et al. 1986).

Advertising

At \$450 million, advertising and marketing research accounted for approximately 18 percent of total recruiting resources in fiscal year 2005. There are separate advertising programs for each service, as well as a joint advertising program designed to promote military service in general. A main focus of each service's advertising campaign has been to encourage youth to join its own service. They market their "brand" by promoting education assistance, job training opportunities, enlistment bonuses, and other benefits available in their service.

The services use a range of media to get their recruiting messages out to youth and the people who can influence their career decisions. These include television, radio, newspapers, magazines, and direct mail. The precise media mix varies by service, and is partly based on budgetary considerations and the recruiting environment. Television advertising, for example, is extremely effective, but is also very expensive. Less costly strategies may be more successful for smaller operations, such as the joint advertising program, which relies primarily on direct mail to get out its message (Dertouzos and Garber 2003).

Various studies of military advertising have concluded that it has a positive impact on high-quality enlistments (Asch, et al. forthcoming). For a variety of reasons, however, the precise effect, and the impact by service, is difficult to measure. For example, one recent study estimated that a 10 percent increase in the advertising budget would increase the number of high-quality recruits by about one percent for the Army, but the results vary by service (Warner and Simon 2005).

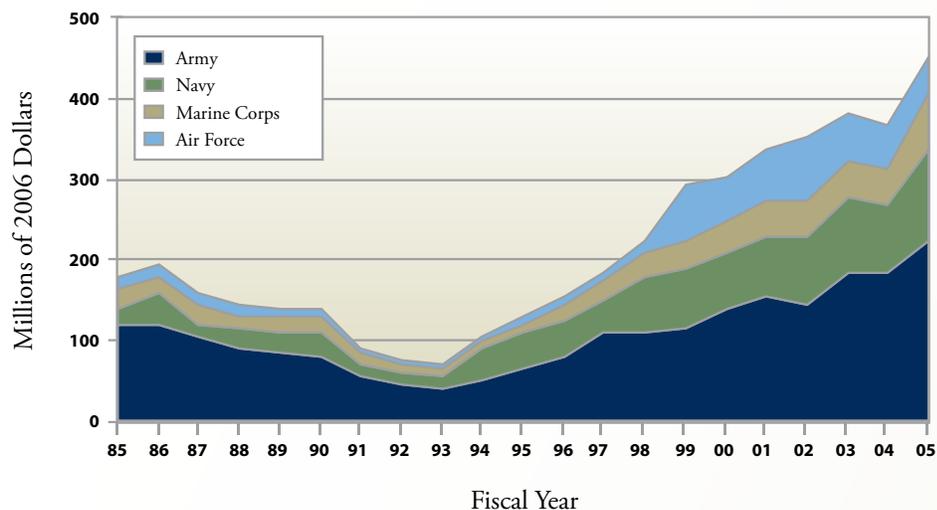
Part of the difficulty in estimating the impact of advertising stems from the delayed effect that military advertising can have on youth attitudes and behavior, particularly advertising that might increase propensity long before youth make the decision to enlist. Lag times also vary among the different types of advertising. Television advertising, for example, has a large up front impact on enlistment decisions,

while the enlistment effect from radio and magazine advertising can take more than a month to materialize and endure for several more months (Dertouzos and Garber 2003). Hence, studies that measure advertising impacts during a narrow time frame will not capture the sometimes substantial effects that occur outside that time frame (Asch and Orvis 1994).

Furthermore, if estimates of advertising effectiveness are based on less than optimal levels of advertising expenditures, they would underestimate the potential impact of advertising spending (Dertouzos and Garber 2003).¹⁷ Data limitations also may contribute to difficulties in estimating advertising effectiveness (U.S. Government Accountability Office 2003).

Figure 11 shows funding levels for the four services' advertising programs from 1985 to 2005. Advertising funding has suffered from the same cyclical fluctuations as the recruiter budget, rising in difficult recruiting times and falling when a struggling civilian economy or shrinking enlistment goals eased recruiting difficulties. Advertising budgets plummeted between 1986 and 1993 by over 60 percent, as the size of the force was reduced. Funding remained relatively low until recruiting challenges arose in the mid-to-late 1990s when spending rebounded. It is clear that significant investments in recent years have been needed to respond to the current recruiting challenges.

17. The effectiveness of advertising spending is said to follow an "S-curve." According to this concept, the level of advertising must reach a certain threshold before it begins to have an effect on the audience; below that level, it would have little or no effect. As advertising spending is increased, it eventually reaches a saturation point beyond which additional spending would have minimal impact. These threshold and saturation points are different for each advertising medium (Dertouzos and Garber 2003).



Source: U.S. Department of Defense

Figure 11. Advertising Expenditures

Linking military advertising dollars to the ups and downs of the recruiting climate disregards the delayed impact of advertising on behavior, as well as the important long-term role that advertising can play in generating awareness of the military and in improving youth propensity for military service. Regardless of the enlistment climate at any given time, an ongoing advertising effort to promote military service could increase propensity and improve enlistment results in the future. If advertising spending is cut back when recruiting is strong, that potential long-term gain in awareness and propensity may be lost (National Research Council 2003).

Joint advertising that supplements service-specific advertising can play a crucial role in educating young people and those who influence them about the values of military service and exposing them to positive messages about the military. Some have argued that advertising that promotes military service in general, by focusing on the honorable and patriotic aspects of service, may be a compelling message and should be a more prominent theme in military advertising (Bozell/Ezkew, et al. 2002). By making more youth positively disposed toward the military, expanded values-focused advertising could increase the pool of young people who would be receptive to service-specific advertising—and military service—in the future. In contrast, service-specific advertising mes-

sages designed to compete for youth who are positively disposed to military service appear to do little to increase the size of that pool (National Research Council 2003; U.S. Department of Defense 2000a).

The services continue to redesign their advertising campaigns and messages to make them more contemporary and appealing to today's youth. They are using new and nontraditional approaches to reach out and convey their message to young people, including initiatives such as sponsored NASCAR teams, advertising in movie theaters, swearing in of enlistees at sporting events, and creative use of the Internet, including "chat rooms."

Because parents have substantial influence over their children's decisions about military service, the services are also developing advertising messages that emphasize those aspects of military service that may appeal to parents. A recent joint advertising campaign in the print media urges parents to educate themselves about the value of a military career by citing Internet resources for parents. Complementing the print media campaign are televised public service announcements encouraging parents to learn more about the military so that they can have two-way conversations with their sons and daughters about the military as a career.

In addition to refocusing the advertising message, productivity gains could be realized by reallocating advertising dollars to achieve a more cost-effective media mix. For example, magazine advertising is extremely effective at low spending levels. In contrast, TV advertising, which can have a larger impact on recruiting than either magazine or radio advertising, does not become cost effective until much higher spending levels. Investing in these media at less than optimal spending levels will reduce their cost effectiveness. Research has shown that establishing a different media combination could be more cost effective, thereby increasing enlistments without increasing total advertising spending (Dertouzos and Garber 2003).

Enlistment Bonuses

Although enlistment bonuses are used to attract potential recruits in general, they are especially

important for channeling high-quality recruits into hard-to-fill career fields and, in some cases, for longer terms. Additionally, the services offer bonuses to those recruits who are willing to go to particular locations and to those who agree to "ship" to basic training at a specific time (often very quickly) in order to even the flow of recruits to the training base. Unlike a basic pay increase, which must be paid to all enlistees, enlistment bonuses can be targeted to particular high-quality recruits who are willing to enlist in skills where there are shortages, making bonuses a much more cost-effective incentive.

In general, to qualify for an enlistment bonus an enlistee must be a high school graduate, have a score of 50 or above on the AFQT, and agree to serve in an eligible career field for a specified term of service. The types of hard-to-fill positions typically eligible for bonuses are demanding or hazardous posts (such as combat) or those occupations in high demand in the private sector.

The specific occupations eligible for bonuses vary by service, as does the overall number of bonus-eligible occupations. The Army, for example, has traditionally offered bonuses to high-quality enlistees entering a wide range of its occupational specialties, while the Navy targets its bonus program to enlistees in a much smaller subset of career fields. The length of service necessary to qualify can also differ, with the Army typically authorizing bonuses to enlistees who commit to three- or four-year terms, while the Navy generally limits eligibility to those who enlist for five or six years. These differences reflect different service objectives. The Army program tends to increase total high-quality enlistments, while the Navy program is effective at steering high-quality recruits into hard-to-fill jobs for longer terms (Warner, Simon, and Payne 2001).

Table 1 shows the share of each service's recruits, in 2005, who enlisted with a bonus, as well as the size of the average bonus. Participation rates vary by service, with the Army having the largest bonus program. The Air Force and Marine Corps have traditionally had very small bonus programs, as compared to the Army and Navy. For example, 64 percent of Army enlistees and 52 percent of Navy enlistees received bonuses in

Table 1. Enlistment Bonus Program, Fiscal Year 2005

	Army	Navy	Marine Corps	Air Force	DOD
Total enlistments (nonprior service)	65,011	37,461	32,234	19,222	153,928
Number receiving enlistment bonuses	41,858	19,429	2,005	1,543	64,835
Percent receiving enlistment bonuses	64%	52%	6%	8%	42%
Average bonus amount	\$11,090	\$5,677	\$4,120	\$7,322	\$9,163

Source: U.S. Department of Defense

2005, compared to only 6 percent of Marine Corps and 8 percent of Air Force enlistees.

The services regularly modify the amount of bonus awards and “turn on or off” eligibility for various career fields depending on personnel needs, the supply of quality recruits, and the available budget. When bonuses are limited to those enlistees who commit to longer service contracts, they encourage extended terms of service, which leads to a more skilled and experienced force, reduced training costs, and lower enlistment requirements over the long term. In 1998, for example, the Air Force launched the Enhanced Initial Enlistment Bonus program, which provides larger enlistment bonuses to recruits who commit to longer initial service terms in occupations with traditionally high turnover or training costs. The program has not only successfully extended terms of service, but also is more cost effective than other term-lengthening tools (Simon and Warner 2005).

Studies typically show that enlistment bonuses have a positive effect on recruiting, although results are small and vary across the services. One review estimated that a 10 percent increase in the bonus amount would increase high-quality Army enlistments by one percent. The \$6,000 increase in the average enlistment bonus since 2003, for example, is estimated to have increased high-quality enlistments by 5–6 percent (Warner and Simon 2005).

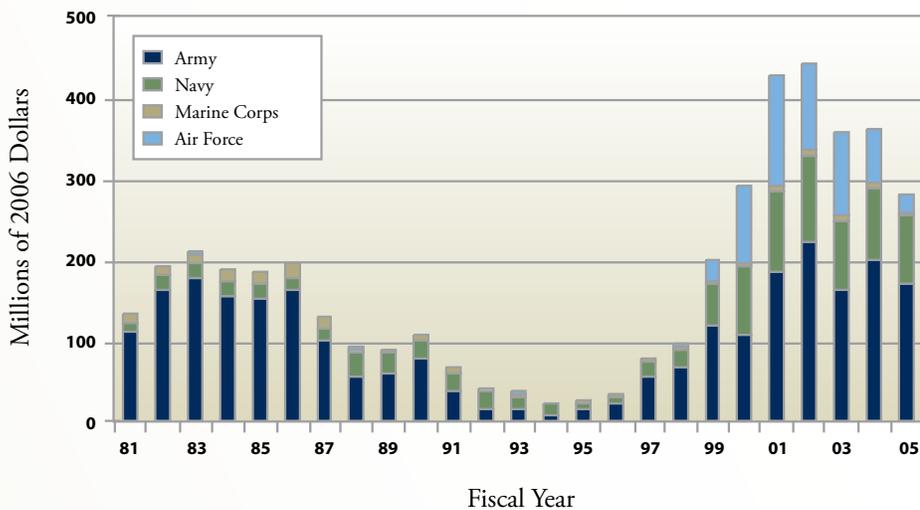
As figure 12 illustrates, resources devoted to enlistment bonuses have fluctuated over time, with the

services cutting back bonus awards and program eligibility during favorable recruiting periods, and expanding them when recruiting became more challenging. During the robust recruiting climate of the late 1980s to mid-1990s, for example, the Army reduced the number of occupations eligible for bonuses to the point where only 13 percent of high-quality enlistees received the incentive.

Since the late 1990s, the services have expanded their use of enlistment bonuses. Total bonus expenditures have grown from \$24 million in 1995 to \$279 million in 2005. A significant element of this growth was the use of bonuses by the Air Force between 2000 and 2004—an effort to forestall recruiting shortfalls in a competitive market. And although few enlistees receive the \$40,000 maximum bonus allowed under current law, the size of the average award as well as the number of career fields eligible for bonuses has increased over the past decade.

Educational Benefits

The services also offer a range of educational benefits to attract youth into military service. With more and more youth planning to attend college, combined with the rising costs of college tuition, educational benefits represent an increasingly important and effective recruiting tool for a growing segment of the youth population. In fact, 43 percent of teens responding to a 2006 poll indicated that “pay for future education” was one of the main reasons for considering military service (Teenage Research Unlimited 2006). A survey of new recruits in the Army revealed that 15 percent identified



Source: U.S. Department of Defense

Figure 12. Enlistment Bonus Expenditures

“money for education” as their most important reason for enlisting (U.S. Department of the Army 2005).¹⁸

In order to accommodate and support youth at various stages of their academic careers, the military provides an array of educational benefits that can be used before, during, and after military service. The major educational benefits available to service members are the Montgomery GI Bill (MGIB) and the Army, Navy, and Marine Corps College Funds, which provide financial assistance for service members once they leave active duty.¹⁹ The services also offer tuition assistance and other educational programs to help service members pursue education while on active duty (Thirtle 2001). Additionally, the services may use loan repayment programs to attract youth who may have existing college loans.

18. Other top reasons for joining the military included “wanted to serve country” (36 percent), “wanted the skills I will learn” (19 percent), and “wanted adventure” (15 percent).

19. Although active duty personnel can use their MGIB benefit after two years of service, most (almost 90 percent) do not tap into their benefit until after leaving the military. Instead, service members typically use the Tuition Assistance program—which subsidizes 100 percent of tuition costs for active duty service members (Asch, et al. 1999; Powers 2006b).

Montgomery GI Bill. All active duty service members are eligible to participate in the MGIB program, which is administered by the Department of Veterans Affairs. To enroll, new enlistees have their pay reduced by \$100 per month during their first year of service. For 10 years after discharge, the MGIB is available to provide eligible veterans with a monthly stipend for up to 36 months to help pay for college. Increased regularly for cost-of-living adjustments, the maximum stipend available to full-time students in 2006 is \$1,034 a month (or \$37,224 in total). Benefits are lower for those who served less than three years or are attending school part time. Over 95 percent of each year’s new recruits enroll in the program and, according to the Department of Veterans Affairs, approximately 73 percent eventually tap into their MGIB benefit after leaving the military.

College Fund. The Army and Navy also operate College Fund programs to supplement the basic MGIB benefit. The College Funds provide additional educational benefits, or “kickers,” to high-quality recruits who serve in crucial or hard-to-fill fields for specified terms of service.²⁰ The size of the College Fund kicker is based on an enlistee’s length of service and occupation. Personnel participating in the program can receive up to \$950 per month in addition to the basic MGIB, which could result in total combined MGIB and College Fund benefits of over \$70,000. The Marine Corps also has a small College Fund program; but, during the 1990s, only about 5 percent of Marine enlistees participated annually. The Air Force does not offer College Fund benefits, instead focusing its education resources on tuition assistance for active duty personnel (Thirtle 2001).

Several studies have concluded that both the Army and Navy College Funds increase high-quality en-

20. For purpose of College Fund eligibility, high quality is defined as high school graduates who score 50 or above on the AFQT.

listments. One analysis estimates that a 10 percent increase in College Fund eligibility would increase high-quality Army enlistments by about 2.6 percent (Warner and Simon 2005).²¹

Another study estimated that more than half of the 14,000 high-quality Army enlistees who received the College Fund in fiscal year 1997 would not have enlisted absent that incentive, and that about 18 percent of the Navy's 9,200 College Fund recipients would not have enlisted. The smaller effect on Navy enlistments may be partly due to the longer service commitments typically required to qualify for the Navy College Fund. The average enlistment for Navy participants in the College Fund that year was almost 5 years, substantially longer than the Army's average of 3.5 years (Warner, Simon, and Payne 2001).

Although educational benefits are an effective way to increase enlistments among youth who plan to attend college, some are understandably eager to finish their term of service so that they can begin to put their education benefits to use. In fact, while Army College Fund participants are more likely to fulfill their service commitment, they are less likely to reenlist than other service members (Asch and Dertouzos 1994) and tend to favor shorter terms (Warner, Simon, and Payne 2001). Ultimately, these shorter military careers can increase training costs and future recruiting requirements (Asch and Dertouzos 1994). Moreover, when service members leave the military to pursue their military-financed education, the services do not benefit from the improved performance associated with that additional education. But these programs do provide the services with high-quality personnel for the time they are in the military.

21. The actual College Fund and MGIB expenditures necessary to achieve these enlistment results are somewhat less than the grant awards offered to enlistees. Most recipients do not tap into their benefit until after leaving the military, which postpones the payout for several years and reduces the net present value of the benefit. Moreover, some recipients do not use the entire award (Asch and Dertouzos 1994). This contrasts with enlistment bonuses, which typically are paid up front in one lump sum.

Other Educational Benefits. Given rising interest in a college education, it is advantageous for the military services to show that pursuing college and a military career need not be an “either/or” proposition. For enlistees who wish to begin their college education while in the service, the military offers a range of programs designed to provide active duty personnel with the flexibility, convenience, and financial resources they need to continue their education while meeting their service obligations. These include tuition assistance to cover education costs, as well as programs that utilize military training facilities, networks of affiliated colleges, distance learning, and credit for military service and training—programs such as the Community College of the Air Force, Servicemembers Opportunity Colleges, Program for Afloat College Education, and the U.S. Army University Online (Thirtle 2001).

Another alternative for college-bound youth is the College First program, which allows enlistees who have committed to four-year service terms to attend up to two years of college before reporting for duty. Program participants are eligible for a monthly stipend, a “high-grad” bonus, and up to \$65,000 in loan repayments, as well as authority to enter service at the E-4 level (Kilburn and Asch 2003; Asch, et al. 2004). For those who have already attended college, the Army's Loan Repayment program will repay up to \$65,000 in student loans for high-quality recruits who enlist in eligible critical and hard-to-fill occupations.

Participation in these alternative education programs, however, has been low. A recent review, for example, found loan repayment programs would have a large impact on the inclination of college-market youth to join the military (Asch, et al. 2004). Yet, in 2000, less than one percent of high-quality enlistees participated in the Army's Loan Repayment Program (Kilburn and Asch 2003).

In order for these education initiatives to be more effective and widely used, adjustment may be needed in other parts of the recruiting structure. Recruiters, for example, should receive special training to help them develop strategies for reaching out to college students and college-bound youth. And if the military wants

to encourage more youth with college credentials to enlist, compensation may have to be adjusted to reflect the higher earning capacity for college-educated youth in the private sector. A small Army initiative does allow enlistees with some college to enter the military at a higher rank than usual, but a recent review of the program concluded that the monetary incentive associated with the higher entry level does not appear to be competitive with the private sector opportunities available to youth with some college education (Kilburn and Asch 2003).

Military Pay

In order to successfully recruit high-quality youth, the military must offer pay rates that are comparable to private sector earnings. If military pay declines relative to private sector salaries, youth will opt for more lucrative private sector jobs, and interest in military service will decline. Raising military pay relative to civilian earnings, in contrast, will make military service a more attractive career choice and increase enlistments.

Analysis has consistently shown a clear relationship between pay and high-quality recruits—when basic pay declines relative to civilian pay, the percent of high-quality enlistees declines as well. One study of the impact of relative pay estimates that a 10 percent increase in military pay would increase high-quality enlistments by 6 to 9 percent (Warner and Simon 2005). But as a policy tool, the pay hikes necessary to generate such impressive recruiting growth would be extremely expensive, since a pay raise designed to increase enlistments would have to be paid to all new enlistees, even those who would have enlisted at the original lower pay rate, as well as to the entire force. Today, a single percentage-point increase in basic pay adds about \$600 million to the annual defense budget. Thus, increasing military pay is not a cost-effective way to boost total enlistments.

While an across-the-board pay raise is not generally viewed as a cost-effective recruiting tool, per se, it is a policy tool at the department's disposal. As the history of the all-volunteer force has shown, allowing military pay to fall too far behind the salaries offered in the private sector could have deleterious effects on both

recruiting and retention. A drop in relative military pay was one of the key contributors to the recruiting crisis that threatened the viability of the all-volunteer force in the late 1970s. The situation began to turn around when Congress instituted 11.7 and 14.3 percent military pay increases in 1981 and 1982 to restore comparability between civilian and military pay (Gilroy, Phillips, and Blair 1990).

The military must therefore be vigilant in ensuring that the pay of service members remains comparable to that of civilians with similar levels of education and experience (Rostker and Gilroy forthcoming). This issue was addressed by The Ninth Quadrennial Review of Military Compensation (QRMC), which identified earnings disparity as an important issue in sustaining high-quality enlistments. The QRMC held that in order to maintain comparability between military and civilian pay, regular military compensation should be set at approximately the 70th percentile of earnings for comparably educated individuals in the civilian sector (Department of Defense 2002).²² This above-average pay reflects the personal hardships and potentially hazardous working conditions associated with military service (Asch, Hosek, and Warner 2001), as well as the fact that military enlistees typically have above-average aptitude and achievement.

While pay comparability is not a general concern today, it is an issue for certain hard-to-fill occupations and skills that command high salaries in the civilian sector, particularly in high technology fields. As previously discussed, other parts of the military compensation package, such as enlistment bonuses, offer more economical and targeted mechanisms to deal with such requirements. Increases in military pay are important when pay comparability with the civilian sector is out of line across the board, and when increases are needed not only to enable the military to be a competitive employment option but also to retain the current force.

22. Regular military compensation is made up of basic pay, housing and subsistence allowances, and the tax advantage of paying no federal taxes on the housing and subsistence allowances.

Relative Effects of Recruiting Resources

The previous sections of this paper have described the key factors that impact the military recruiting environment. In managing the effects of these many influences, military personnel managers must determine the most effective way to allocate resources to ensure that the military services meet their recruiting goals. Table 2 summarizes the impact, for the Army, of the various recruiting resources available, as well as some of the other factors that can affect recruiting.²³

As the table shows, high-quality enlistments are most responsive to increases in military pay. That said, it is also the most expensive tool for boosting recruits, with a marginal cost of over \$200,000 per recruit (based on a four-year enlistment). As previously discussed, it is not a cost-effective choice for addressing targeted recruiting needs within certain occupational or skill areas.

Increasing the number of recruiters is the next most responsive recruiting tool and points to the importance of maintaining an appropriately sized recruiting force. As is evident in the table, the detrimental impact from losing seasoned recruiters is greater than the positive effect associated with increasing the size of the recruiter force. Also, compared to across-the-board pay increases, recruiters have a much lower marginal cost.²⁴ While somewhat less

Table 2. Impact of Various Factors on Army High-Quality Enlistments

Variable	Impact on Enlistments (percent change)
Recruiting Resources	
10 percent increase in recruiters	4.1
10 percent decrease in recruiters	-5.6
10 percent increase in the advertising budget	1.0
10 percent increase in bonus amount	1.0
10 percent increase in college fund eligibility	2.6
10 percent increase in military pay	9.3
External Factors	
10 percent increase in unemployment	4.9
10 percent decrease in veteran population	-14.0
War in Iraq	-16.0
Casualties in Iraq	-18.0

effective as compared to recruiters, advertising and educational benefits are also useful in generating new enlistments. In addition, enlistment bonuses are an important tool for channeling recruits into particular occupational categories, encouraging longer terms of enlistment, and managing the timing of entry into the force. Thus, these too are cost-effective tools on which the services can draw.

Recruiting in 2005: A Case Study

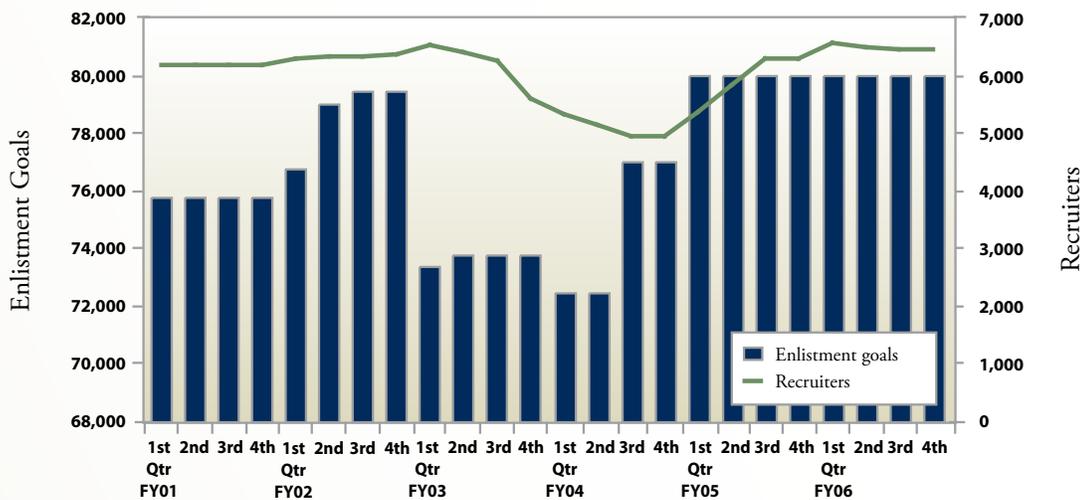
The 2005 recruiting year proved to be a challenge for the U.S. Army. What is interesting about this period is how a confluence of both external factors and internal policy decisions shaped the recruiting environment, and what lessons this experience can offer for the future.

A number of factors outside the control of the military services set the stage for the recruiting challenge. First,

nature of the recruiting challenges facing the services, as has been described in the previous sections of this paper.

23. Although there are other studies that estimate the effects of recruiting resources and other factors on enlistment—using different methodologies, time periods, and theoretical frameworks—the effects discussed in this paper are the most recent estimates available and reflect the realities of the current recruiting environment. A survey of such analyses can be found in Asch, Hosek, and Warner forthcoming.

24. Precise estimates of the cost effectiveness of each recruiting resource are not offered here, as the estimates vary considerably depending on the impact of the particular resource and the year in which the estimates are calculated. In short, all other policy options are more cost effective than military pay and investment choices depend largely on the



Source: U.S. Department of Defense

Figure 13. Army Recruiting Goals and Recruiters

unemployment had fallen from a peak of 6.3 percent in mid-2003 to 4.9 percent by the end of 2005. Without any other influences, the decline in unemployment and the growing economy would have created a tight recruiting market—much like the one experienced in the late 1990s, when all the services missed their recruiting goals.

At the same time, the Army’s authorized end strength—the size of the force—increased, and rather unexpectedly. In the spring of 2004, the Army was authorized an increase in end strength of 30,000, which resulted in an increase in its annual enlistment contract goals of about 10 percent. While the Army planned to achieve the increase in end strength over three years, and offset some of the expansion through increased retention, these new recruiting goals created a significant test.

Furthermore, as casualties from the war in Iraq increased, nearing the 2,000 mark, the military as a career option seemed less inviting to potential recruits and those who influence them. Joining the military, with a high probability of going to war, became a challenging mind set for recruiters to counter, particularly for the services recruiting ground forces—the Army and Marine Corps. Certainly the war added to an already difficult recruiting environment.

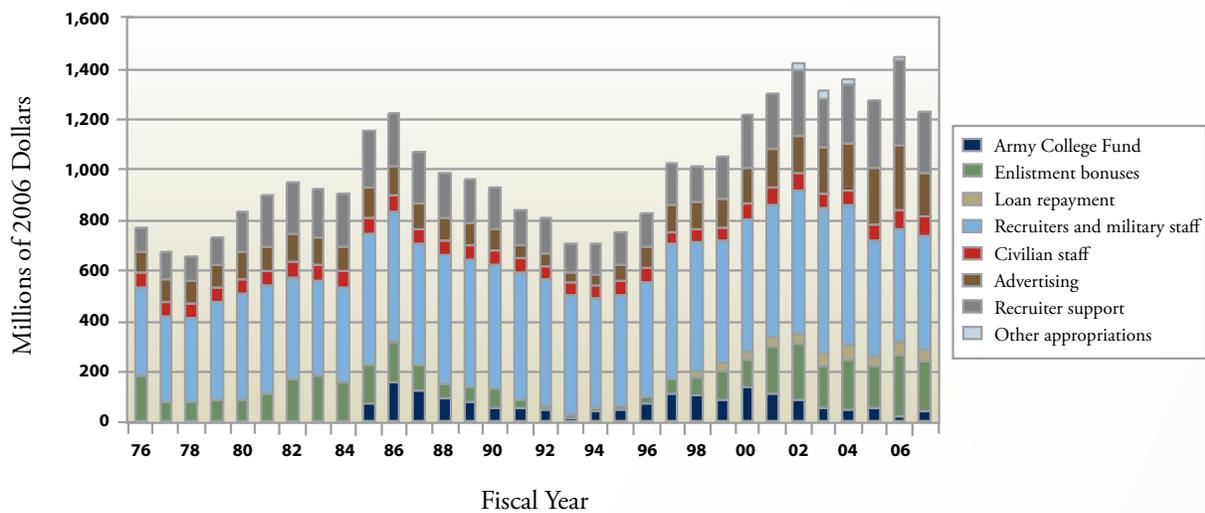
As if these factors together were not enough, the Army’s recruiting resources were inadequate. With a reduced recruiting mission in 2003, the prospect of a stable economy, and high levels of recruits in the Delayed Entry Program (DEP), the Army reduced its recruiting budget—most importantly, taking significant numbers of recruiters out of the field.²⁵ As figure 13 shows, between the end of 2002 and the

beginning of 2003, the Army’s recruiting goal fell from 79,500 to 73,400. When the recruiting goal increased from 72,500 to 80,000 between the second quarter of 2004 and the first quarter of 2005, the Army began to increase its investment in recruiters.

These decisions meant that the Army entered a particularly difficult recruiting period with insufficient resources, and in an area where it would take considerable time for increased investments to take hold—recruiters. Recruiting shortfalls for the Army began in February 2005. The number of recruiters in the Army had been declining for more than a year, reaching a low in the summer of 2004. An adequate number of new recruiters were not brought on board until more than a year later. Ultimately the Army was able to select, train, and field 1,500 new recruiters—a decision that has helped to reverse its recruiting woes.²⁶ The Army began to meet its re-

25. In the DEP new recruits enlist in the military up to 12 months before reporting for active duty. When DEP levels are high, the services can rely on having a steady stream of new recruits headed into basic training. More recently, Army DEP levels have reached an all-time low.

26. In addition to adding recruiters, the Army implemented a number of pilot programs to expand the recruiting



Source: U.S. Department of Defense

Figure 14. Army Recruiting Budget

recruiting goals again in June 2005 and, together with the other services, has successfully met its recruiting goals since that time. Even so, the impact of the lagged response is clear.

The approach taken by the Army during the 2003 to 2005 period, however, is not unique. The Army's recruiting budget has fluctuated widely over the past 30 years, as shown in figure 14. While some reduction in recruiting resources may be sensible as recruiting goals fall, there are clear drawbacks to deeply cutting these budgets. First, some resources, such as recruiters, take time to yield a positive return. Other resources, such as television advertising, are not cost effective unless expenditures reach a high enough threshold. So, even when recruiting goals are relatively low, it can be cost effective to maintain a certain level of investment in such resources. Second, even when recruiting is going well, downturns are likely to occur at some point in the future—a result

market, such as accepting the General Educational Development certificate for recruits who pass a motivation screening test, and revising and updating certain medical standards. Other measures initiated by Congress included an increase in the enlistment bonus cap from \$20,000 to \$40,000, raising the age maximum from 35 to 42, and new recruiter incentives.

of increases in recruiting goals or an expansion of opportunities in the civilian economy, for example. The response to these circumstances is generally to increase resources after recruiting problems emerge rather than in anticipation of the challenges to come (Asch and Gates forthcoming).

The problems of fluctuating budgets and lagged budgetary responses are not new to the Army, nor to the other services for that matter, as an historical perspective illustrates. The early years of the all-volunteer force were successful primarily because Congress and the administration provided adequate resources. But overconfidence in the early success of the volunteer military characterized the late 1970s. "Recruiting resources as a whole [were] thought to be at least adequate, if not excessive, and thus became targets for cost-cutting" (Thurman 1986).

In the late 1970s, the economy was robust and youth unemployment low. Rather than cutting recruiting budgets in a tight labor market, resources should have been increased (Rostker and Gilroy forthcoming). So, the resulting recruiting difficulties should not have come as a surprise. By 1979, all four services missed their recruiting goals, but the Army and Marine Corps suffered most, with the Army falling short by 17 percent. Quality declined as well: for the

Marine Corps, only 37 percent of enlistments were high quality, for the Army only 25 percent. And for the next several years, the quality of recruits remained far below what is considered minimally acceptable today (Gilroy, Phillips, and Blair 1990).

The experiences of the military services in the late 1970s, and again in the late 1990s, as described earlier, illustrate an important lesson—but one that apparently has not been learned very well. The lesson is this: avoid basing recruiting investments on the prior period’s recruiting market because some of the most important resources, specifically recruiters and advertising, operate with a lag. Such “fine tuning,” to use the words of the Defense Science Board, is ineffective and can be detrimental to future recruiting efforts. The decision to cut resources after a successful recruiting period caused the Army to lose valuable time in responding to a tighter recruiting market the following year. And because recruiting challenges are expected to continue, the impact of these decisions will be felt for some time to come.

Conclusion

The military invests significant resources in managing the force—in terms of training, compensation, promotion, retention, and family policies. But these efforts will matter little if the military fails to recruit the number and quality of youth it needs into the armed forces.

Over much of the history of the all-volunteer force, the military has been able to recruit the number of high-quality youth needed by using the many effective resources described in this paper. These resources have been essential to maintaining a skilled and effective volunteer force and overcoming challenges imposed by factors outside the military’s control. Even in a challenging recruiting environment—with a healthy economy, rising college attendance, increased enlistment goals, declining youth propensity, and an ongoing war in Iraq—these tools have enabled the military to continue to meet most of its enlistment goals.

Unfortunately, funding for many of these recruiting tools has fluctuated dramatically over past decades—cut back during good recruiting times and then ramped back up when the recruiting climate became more difficult. While some fluctuation is understandable, if adequate resources are not in place when recruiting challenges arise, valuable response time is lost as new resources are added (Kearl, Horne, and Gilroy 1990). New recruiters must spend significant time on the job before they are as effective as their more experienced colleagues, and it can take several months for new advertising campaigns to begin to affect youth attitudes and behavior.

Entering difficult recruiting periods with insufficient resources and inexperienced recruiters exacerbates the challenges facing the system and contributes to the boom and bust recruiting cycle. This cyclical funding strategy also ignores the ongoing and important role that recruiting resources—particularly recruiters and advertising—could have on youth attitudes and propensity to enlist over the long term. To be most effective, recruiting tools must be utilized in a stable and timely manner.

As the Defense Science Board Task Force on Human Resources Strategy noted in its 2000 report, “successful recruiting depends on adequate [and stable] resources” that support a long-term and “generous baseline funding level.” The services need to begin to take a long-term perspective when planning investments in recruiting resources. Cyclical funding in response to last year’s recruiting market does not reflect effective or efficient resource planning. Furthermore, attempts at precise resource management for recruiting frequently result in undershooting the need, with adverse effects on personnel quantity and quality that can take many years to reverse.

References

- Armor, David J. and Paul R. Sackett. 2004. "Manpower Quality in the All-Volunteer Force." In *The All-Volunteer Force: Thirty Years of Service*. Edited by Barbara A. Bickler, Curtis L. Gilroy, and John T. Warner. Washington, D.C.: Brassey's, Inc.
- Asch, Beth J. 1990. "Do Incentives Matter? The Case of Navy Recruiters." *Industrial and Labor Relations Review* 43 (special issue): 89S–106S.
- Asch, Beth J., Christopher Buck, Jacob Alex Klerman, Meredith Kleykamp, and David S. Loughran. 2005. *What Factors Affect the Military Enlistment of Hispanic Youth? A Look at Enlistment Qualifications*. DB-484-OSD. Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J. and James N. Dertouzos. 1994. *Educational Benefits Versus Enlistment Bonuses: A Comparison of Recruiting Options*. MR-302-OSD. Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J., Can Du, and Matthias Schonlau. 2004. *Policy Options for Military Recruiting in the College Market: Results from a National Survey*. MG-105-OSD. Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J. and Susan Gates. Forthcoming. *Recruiting Resource Effectiveness and Inter-Service Competition: Is Jointness the Answer?* Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J., James R. Hosek, and John T. Warner. 2001. *An Analysis of Pay for Enlisted Personnel*. DB-344-OSD. Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J., James R. Hosek, and John T. Warner. Forthcoming. "New Economics of Manpower in the Post-Cold War Era." In *Handbook of Defense Economics*, Vol. 2. Edited by Todd Sandler and Keith Hartley. New York: Elsevier.
- Asch, Beth J., M. Rebecca Kilburn, and Jacob A. Klerman. 1999. *Attracting College-Bound Youth into the Military: Toward the Development of New Recruiting Policy Options*. MR-984-OSD. Santa Monica, Calif.: RAND Corporation.
- Asch, Beth J. and Bruce R. Orvis. 1994. *Recent Recruiting Trends and Their Implications: Preliminary Analysis and Recommendations*. Santa Monica, Calif.: RAND Corporation.
- Bozell/Eskew, Murphy, Pintak, Gautier, Hudome. 2002. *A Report on the Audit of the Armed Services Recruitment Advertising*. Santa Monica, Calif.: RAND Corporation.
- Dertouzos, James N. 1985. *Recruiter Incentives and Enlistment Supply*. R-3065-MIL. Santa Monica, Calif.: RAND Corporation.
- Dertouzos, James N. and Steven Garber. 2003. *Is Military Advertising Effective? An Estimation Methodology and Applications to Recruiting in the 1980s and 90s*. Santa Monica, Calif.: RAND Corporation.
- Gilroy, Curtis L., Robert L. Phillips, and John D. Blair. 1990. "The All-Volunteer Army: Fifteen Years Later." *Armed Forces and Society* 16, No. 3 (Spring 1990): 329–350.
- Goldberg, Lawrence. 2006. *Enlistment Early Warning System*. Briefing to the Directorate of Accession Policy, Office of the Under Secretary of Defense for Personnel and Readiness.
- Harris Interactive. 2006. *The Harris Poll #22*. February. http://www.harrisinteractive.com/harris_poll/index.asp?PID=646
- Hattiangadi, Anita U., Gary Lee, and Aline O. Quester. 2004. *Recruiting Hispanics: The Marine Corps Experience. Final Report*. D0009071.A2/Final. Alexandria, Va.: Center for Naval Analyses.
- Hogan, Paul F., Jared Hughes, Stephen Mehay, and Michael Cook. 1998. *Enlistment Supply at the Local Market Level*. Falls Church, Va.: The Lewin Group.
- Hogan, Paul F., Curtis J. Simon, and John T. Warner. 2004. "Sustaining the Force in an Era of Transformation." In *The All-Volunteer Force: Thirty Years of Service*. Edited by Barbara A. Bickler, Curtis L. Gilroy, and John T. Warner. Washington, D.C.: Brassey's, Inc.

- Hosek, James and Jennifer Sharp. 2001. *Keeping Military Pay Competitive: The Outlook for Civilian Wage Growth and its Consequences*. IP-205. Santa Monica, Calif.: RAND Corporation.
- Kearl, Cyril E., David K. Horne, and Curtis L. Gilroy. 1990. "Army Recruiting in a Changing Environment." *Contemporary Policy Issues* Volume VIII October: 68–78.
- Kilburn, M. Rebecca and Beth J. Asch. 2003. *Recruiting Youth in the College Market: Current Practices and Future Policy Options*. Santa Monica, Calif.: RAND Corporation.
- Moniz, David. 2005. "Black Americans Make Up a Smaller Share of Military." *USA Today*, November 4.
- National Research Council. 2003. *Attitudes, Aptitudes, and Aspirations of American Youth: Implications for Military Recruitment*. Committee on the Youth Population and Military Recruitment. Edited by Paul Sackett and Anne Mavor. Washington, D.C.: The National Academies Press.
- The PEW Research Center. 2005. "Discontent with Bush and State of the Nation Ever Higher." News Release. October 13.
- Polich, J. Michael, James N. Dertouzos, and S. James Press. 1986. *The Enlistment Bonus Experiment*. R-3353-FMP. Santa Monica, Calif.: RAND Corporation.
- Powers, Rod. 2006a. U.S. Military: Army College Fund. <http://usmilitary.about.com/cs/armyjoin/a/armycollege.htm>
- Powers, Rod. 2006b. U.S. Military: The Active Duty Montgomery G.I. Bill. <http://usmilitary.about.com/cs/education/a/admgib.htm>
- Rostker, Bernard and Curtis L. Gilroy. Forthcoming. "The Transition to an All-Volunteer Force: The U.S. Experience." In *Service to Country: Personnel Policy and the Transformation of Western Militaries*. Edited by Curtis L. Gilroy and Cindy Williams. Cambridge, Mass.: The MIT Press.
- Simon, Curtis J. and John T. Warner. 2005. *The Elasticity of Labor Supplied at a New Margin: Contract Length and the Air Force Enlistment Bonus Program*. Department of Economics, Clemson University.
- Simon, Curtis J. and John T. Warner. 2006. "Uncertainty about Job Match Quality and Youth Turnover: Evidence from Military Attrition." Working Paper. (Presented at NBER Conference on National Security Policy, February 26, 2006) Department of Economics, Clemson University.
- Teenage Research Unlimited. 2006. *The TRU Update*. Spring 2006/Wave 47. Northbrook, Il.: Teenage Research Unlimited, Inc.
- Thirtle, Michael R. 2001. *Educational Benefits and Officer-Commissioning Opportunities Available to U.S. Military Servicemembers*. MR-981-OSD. Santa Monica, Calif.: RAND Corporation.
- Thurman, Maxwell R. 1986. "Sustaining the All-Volunteer Force 1983–1992: The Second Decade." In *The All-Volunteer Force After a Decade: Retrospect and Prospect*. Edited by William Bowman, Roger Little, and G. Thomas Sicilia. Washington D.C.: Pergamon-Brassey's.
- Tuition Assistance Overview*. August 5, 2005. Military.com <http://www.military.com/Resources/ResourcesContent/0,13964,32879,00.html>
- U.S. Census Bureau. 1993. *1990 Census of Population: Social and Economic Characteristics United States*. <http://www.census.gov/prod/cen1990/cp2/cp-2-1.pdf>
- U. S. Census Bureau. 2004. *Current Population Survey*. <http://www.census.gov/population/www/socdemo/school.html>
- U.S. Census Bureau. 2005. *2005 American Community Survey*. S2101: Veteran Status. http://factfinder.census.gov/servlet/STTable?_bm=y&-geo_id=01000US&-qr_name=ACS_2005_EST_G00_S2101&-ds_name=ACS_2005_EST_G00_

U.S. Department of the Army. 2005. *FY 2004 New Recruit Survey Analysis*. Ft. Monroe, Va.: U.S. Army Accessions Command. May 6.

U.S. Department of Defense. 2000a. *Report of the Defense Science Board Task Force on Human Resources Strategy*. Washington, D.C.: Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics.

U.S. Department of Defense. 2000b. *Review of Minimum Active Enlisted Recruit Quality Benchmarks: Do They Remain Valid?* Report to Congress. Washington, D.C.: Office of the Assistant Secretary of Defense, Force Management Policy.

U.S. Department of Defense. 2001-2006. *Department of Defense Youth Polls: Overview Report*. Arlington, Va.: Joint Advertising and Marketing Research and Studies Program.

U.S. Department of Defense. 2002. *Report of the Ninth Quadrennial Review of Military Compensation*. Washington, D.C.: Office of the Under Secretary of Defense for Personnel and Readiness.

U.S. Department of Labor. 2006. http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?data_tool=latest_numbers&cseries_id=LNU04000000&years_option=all_years&periods_option=specific_periods&periods=Annual+Data

U.S. Government Accountability Office. 2003. *Military Recruiting: DOD Needs to Establish Objectives and Measures to Better Evaluate Advertising's Effectiveness*. GAO-03-1005. Washington, D.C.: U.S. Government Printing Office.

Warner, John T. and Beth J. Asch. 2001. "The Record and Prospects of the All-Volunteer Military in the United States." *Journal of Economic Perspectives* Vol. 15, No. 2 (Spring): 169–192.

Warner, John T. and Curtis J. Simon. 2005. *Estimates of Army Enlistment Supply 1988–2005*. Briefing presented to the military recruiting summit, November 2, 2005. Arlington, Va. (Clemson University, S.C.).

Warner, John T., Curtis J. Simon, and Deborah M. Payne. 2001. *Enlistment Supply in the 1990's: A Study of the Navy College Fund and Other Enlistment Incentive Programs*. DMDC report no. 2000-015. Arlington, Va.: Defense Manpower Data Center.

Warner, John T., Curtis J. Simon, and Deborah M. Payne. 2002. *Propensity, Application, and Enlistment: Evidence from the Youth Attitude Tracking Study*. Final Draft. September.

Warner, John T., Curtis J. Simon, and Deborah M. Payne. 2003. "The Military Recruiting Productivity Slowdown: The Roles of Resources, Opportunity Cost, and Tastes of Youth." *Defence and Peace Economics* 14: 329–342.

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