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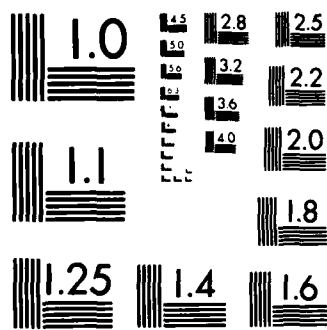


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PROFESSIONAL PAPER 391 / July 1981

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Larry Goldberg

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Naval Studies Group

CENTER FOR NAVAL ANALYSES

2000 North Beauregard Street, Alexandria, Virginia 22311

SUMMARY OF NAVY ENLISTED SUPPLY STUDY

INTRODUCTION

This study analyzes the supply of nonprior service male High School Graduate (HSG) enlistments to the military services. While each service is considered, the primary focus is on Navy enlistment supply. The effects on supply of military pay, unemployment, federal youth programs, population, recruiters, and Navy advertising are estimated. The effects of reductions in GI Bill benefits in 1977 are also estimated.

DATA

Estimations are obtained using regression analysis with annual data on enlistment contracts. In most cases, we use five years of data -- from FY 1976T (Oct 1975-Sep 1976) to FY 1980 -- on contracts in the Navy's 43 recruiting districts, i.e., a total of 215 observations. However, only three years of data for FY 1977-79 were available on Navy advertising and federal student-aid programs. Separate estimates are made for all races combined and for Caucasians. Within these two groups, all HSGs, mental group 1-3A HSGs, and mental group 1-2 HSGs are analyzed.

Data on enlistment contracts were obtained from the Defense Manpower Data Center (DMDC). The data were renormed to reflect the

mental group standards implemented in FY 1981; they were also adjusted to account for attrition from the Delayed Entry Program. In addition to high school diploma holders, about 6 percent GEDs are included in the data. We doubt that this small number of GEDs biases the results.

FINDINGS

There is overwhelming evidence that military pay, unemployment, and GI Bill benefits strongly affect enlistment supply. The evidence on federal youth programs is less strong but still convincing: training programs of the Employment and Training Administration (ETA) have a small negative effect on enlistment supply, while student-aid programs of the Department of Education have no effect.

Recruiting resources have a positive effect on enlistment supply. Here again the evidence is overwhelming: there is little doubt that a service's own recruiters increase its enlistment supply. We also find that supply is increased by other services' recruiters. Thus, rather than competing for a given supply of enlistments, recruiters tend to expand the supply for all services.

Some observers feel that declines in the military-eligible population in the 1980s will cause severe recruiting problems. We find that this population decline should cause only minor recruiting problems for the services.

Unemployment by itself has only a small effect on enlistment supply. During an upturn of the economy, such as we experienced in FY 1978, unemployment falls and civilian pay rises. Together, these two factors caused DoD enlistment supply to decline by about 15 percent in FY 1978. Most of the decline, however, was caused by civilian pay rising more quickly than military pay. The lesson to be learned here is that if military pay keeps up with civilian pay, cyclical fluctuations in enlistment supply can be substantially dampened.

The loss of GI Bill benefits in 1977 caused a large decline in enlistment supply. The declines were largest for the Army, probably because it offers shorter enlistment terms. The loss of GI Bill benefits caused 1-3A HSGs to decline annually by 9300 (30 percent) for the Army, 4500 (12 percent) for the Navy, 3600 (10 percent) for the Air Force, and 2100 (15 percent) for the Marine Corps. Thus, DoD-wide the loss of GI Bill benefits caused 1-3A HSGs to decline annually by 19,500 (16 percent) in FY 1977-80.

While the old GI Bill provided a strong enlistment incentive, it is an inefficient way of increasing supply compared to enlistment bonuses. Any two to three billion dollar GI Bill would generate 1-3A HSGs for DoD but at a cost that would probably exceed \$100,000 per enlistee; for enlistment bonuses, the cost would be \$17,500. However, for small expansions of supply, both of these alternatives are expensive

compared to recruiters. Navy recruiters, for example, could have generated 1-3A HSGs in FY 1979 at a marginal cost of about \$7,000 per enlistee. Recruiters are less expensive than either GI Bill benefits or enlistment bonuses because payments (rents) to those who would join anyway are avoided.

Two types of national Navy advertising were analyzed: (1) broadcast, i.e., TV and radio, and (2) "print," i.e., direct mail, newspapers, magazines, and billboards. Print advertising appears to increase supply by generating inquiries or "leads" that recruiters convert into contracts. National broadcast seems to enhance the ability of print advertising to generate leads. Like recruiters, Navy print advertising seems to increase enlistments to the other services as well.

In FY 1979 increases in Navy national advertising would have been the least costly way of generating Navy contracts: the cost per 1-3A HSG would have been just \$1100 for print and \$2300 for broadcast advertising. These costs are substantially below the \$7000 cost of generating a 1-3A HSG with recruiters. It should be pointed, however, that the productivity of advertising falls quickly, so it cannot be used to generate large increases in enlistment supply. Still, to achieve an optimum mix of Navy recruiting resources, advertising should be increased relative to recruiters.

FORECASTS

The results of the study were used to forecast enlistment supply in the 1980s. Forecasts are compared with requirements, taken from the services' POMs as of 10 July 1981, to determine whether recruiting goals will be achieved.

Relative to FY 1980, supply will increase by about 25 percent throughout most of the 1980s, despite the negative though small effect of the decline in the military-eligible population. Supply will increase, because of expected increases in relative military pay and recruiters, and reductions in ETA programs.

According to the 10 July 1981 POMs, the services' recruiting goals for nonprior service males from FY 1983-1987 will be roughly constant and just about equal to the level of supply achieved in FY 1980. Since supply will increase by 25 percent over FY 1980 levels, the Navy and Air Force should have no problems in achieving their recruiting goals. However, the Army and Marine Corps will experience small shortfalls, because they have much higher quality requirements relative to FY 1980.

Our forecasts relative to 10 July 1981 POM requirements assume that military pay keeps up with civilian pay, and that the services get a 14.3 percent across-the-board pay raise in FY 1982. Under these circumstances, the Army and Marine Corps need only small increases in

recruiters and enlistment bonuses to achieve their enlistment goals. Various GI Bills are currently being considered in Congress as a way of increasing supply. A GI Bill is not needed, even for the Army and Marine Corps. Besides, it is an extremely inefficient recruiting incentive compared to bonuses and recruiting resources.

CONCLUSIONS AND RECOMMENDATIONS

It is sometimes said that we are our own worst enemy. This statement is certainly true regarding the all-volunteer force. The AVF suffered serious recruiting problems in FY 1978-79. These shortfalls occurred primarily because of cuts in GI Bill benefits and caps on military pay. Increases in ETA programs, perhaps justifiable for society as a whole, further reduced enlistment supply, but only slightly. Between FY 1976T and FY 1978, these combined factors reduced the enlistment supply of 1-3A HSGs by 58 percent for the Army, and by about 33 percent for the other services. Shortfalls were made up by recruiting more HSGs in the lower mental groups. There is little doubt that these policies reduced the readiness of the services.

Another problem plagued AVF recruiting in the 1970s. The system was slow to respond to shortfalls caused by changes in the economy: faced with shortfalls in FY 1978, recruiters were not increased until FY 1980, and military pay was not increased until FY 1981. For AVF recruiting to be successful, a permanent commitment regarding military

pay and benefits is needed, and the services' recruiting commands need the capacity to adjust more quickly to changes in the economy.

To assure that military pay keeps up with civilian pay, we recommend tying the military pay of enlistees to civilian earnings of youths on a year-to-year basis. We also recommend tying the services' recruiting resources to the unemployment rate and the level of federal youth programs. These policies would give the AVF the permanent support and responsiveness it needs to achieve its recruiting goals at the lowest possible cost. If these policies are implemented, and the Army and Marine Corps receive small increases in recruiters and bonuses above currently programmed levels, the services should have no problems meeting the recruiting goals for 1983-1987 stated in their 10 July 1981 POMs. Otherwise, the future of the AVF will be like its past, and in the words of the philosopher George Santayana, "Those who cannot remember the past are condemned to repeat it."

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