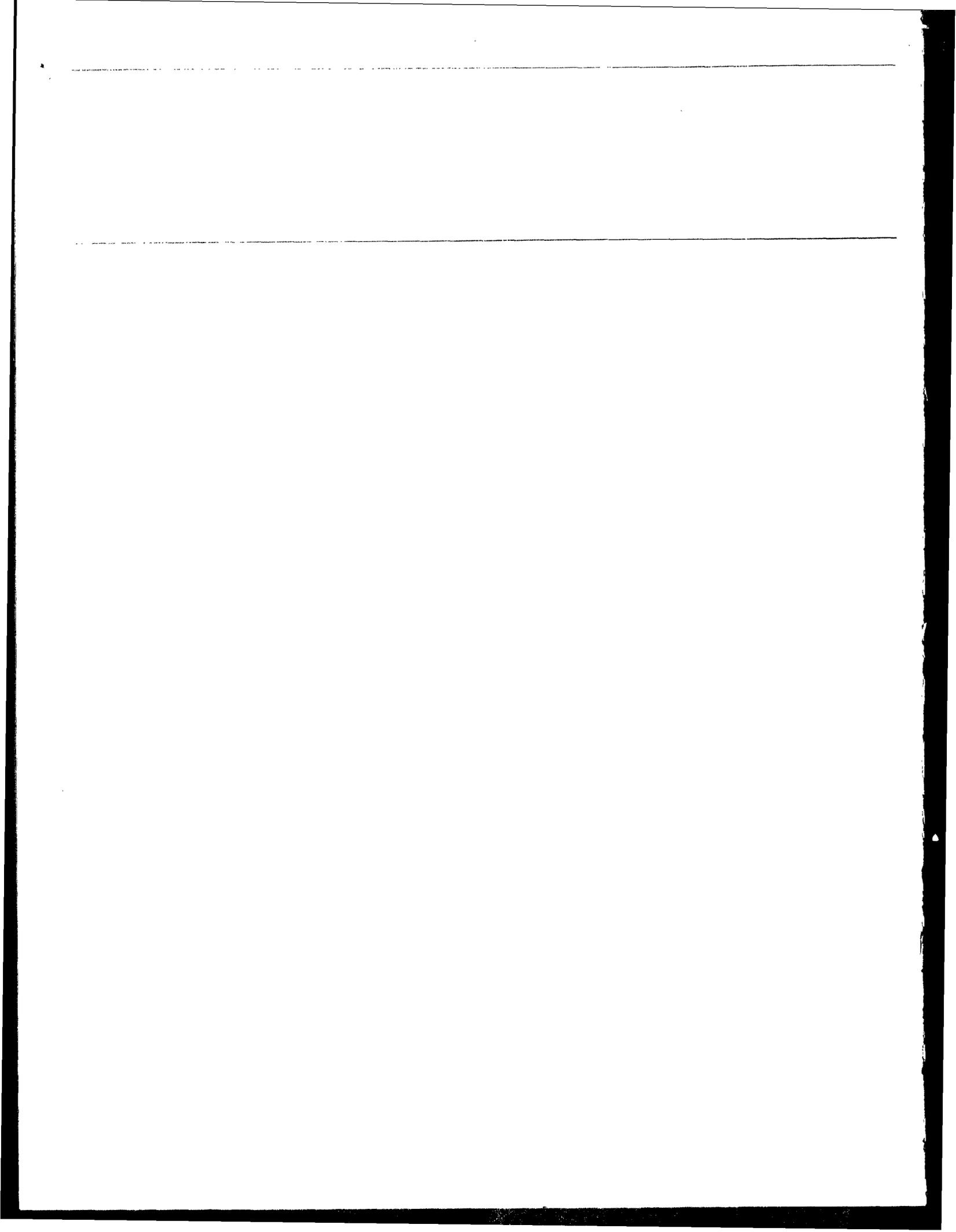


March 1992

# SERVICE ACADEMIES

## Historical Proportion of New Officers During Benchmark Periods





**National Security and  
International Affairs Division**

B-247098

March 19, 1992

The Honorable Sam Nunn  
Chairman, Committee on Armed Services  
United States Senate

The Honorable Les Aspin  
Chairman, Committee on Armed Services  
House of Representatives

The National Defense Authorization Act for Fiscal Years 1992 and 1993 (P.L. 102-190), section 511, requires that we determine the proportion of newly commissioned officers provided by the academies to their respective services, relative to other sources, for appropriate benchmark periods. This report uses Department of Defense (DOD) data on total active duty personnel, total officer accessions, academy officer accessions, and academy attrition and graduation trends to identify benchmark periods and the corresponding percentage of officer accessions coming from the academies in those periods.

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**Background**

The three defense service academies—the Military Academy, the Naval Academy, and the Air Force Academy—are the traditional source of newly commissioned regular officers for their respective services. Historically, entering class sizes have been primarily a function of the limit on the number of students at the academy minus the number of students returning in the upper three classes. In recent years, the limit at each academy had been approximately 4,525 students. The National Defense Authorization Act for Fiscal Year 1991 (P.L. 101-510) required that the size of entering classes at the service academies in 1991 be reduced by 100, with a goal of reducing the size of entering classes to 1,000 cadets or midshipmen by fiscal year 1995.<sup>1</sup> After further consideration, the Congress decided that the size of the service academies might be better managed by placing a statutory control on the overall size of each academy rather than on the size of the entering class. Consequently, section 511 of the National Defense Authorization Act for Fiscal Years 1992 and 1993 authorized 4,000 cadets or midshipmen as the maximum number at each academy for class years beginning after 1994.

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<sup>1</sup>The Class of 1994, the most recent class at the time that legislation was proposed, entered the academies in July 1990 and numbered 1,330 at the Military Academy, 1,338 at the Air Force Academy, and 1,374 at the Naval Academy.

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## Results in Brief

Over the last 20 years, the proportion of newly commissioned officers coming from the service academies has gradually increased. This increase has resulted from higher graduation rates at each of the academies, coupled with reduced demand for new officers. DOD projections for new officer accessions for fiscal years 1995-97 are lower than any year since 1950.

Our review of historical data indicates that the benchmark periods were: 1976-80 for the Army, 1976-81 for the Navy and Marine Corps, and 1977-81 for the Air Force. The benchmark proportions of total officer accessions produced by the academies for these periods were 8.47 percent for the Military Academy, 11.21 percent for the Naval Academy,<sup>2</sup> and 10.96 percent for the Air Force Academy.

We estimate that the class sizes required to maintain the benchmark proportions for the classes of 1996 and 1997 would need to be 754 for each class entering the Military Academy, 891 for each class entering the Air Force Academy, and 1,017 for the Class of 1996 and 1,056 for the Class of 1997 at the Naval Academy. These estimates were based on service-provided projections of future officer accessions as of December 1991 and may be overestimated if larger defense force reductions are authorized.

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## Officer Accession Trends

Data on officer accessions was available for a 20-year period—1972-91. Over that 20-year period, U.S. military manpower has gone through a series of changes. During the early 1970s, the Vietnam conflict was winding down, accompanied by a sharp reduction in active duty forces. The military services were in the process of transitioning to an all-volunteer force during the mid-1970s, while later in the decade force levels grew in response to international events such as the invasion of Afghanistan and the Iranian hostage crisis. Force growth leveled off in the early to mid-1980s and eventually began declining from the late 1980s to the present.

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<sup>2</sup>The Marine Corps does not have its own academy. Instead, depending on the number of openings available, qualified graduates of the Naval Academy can opt to join the Marine Corps.

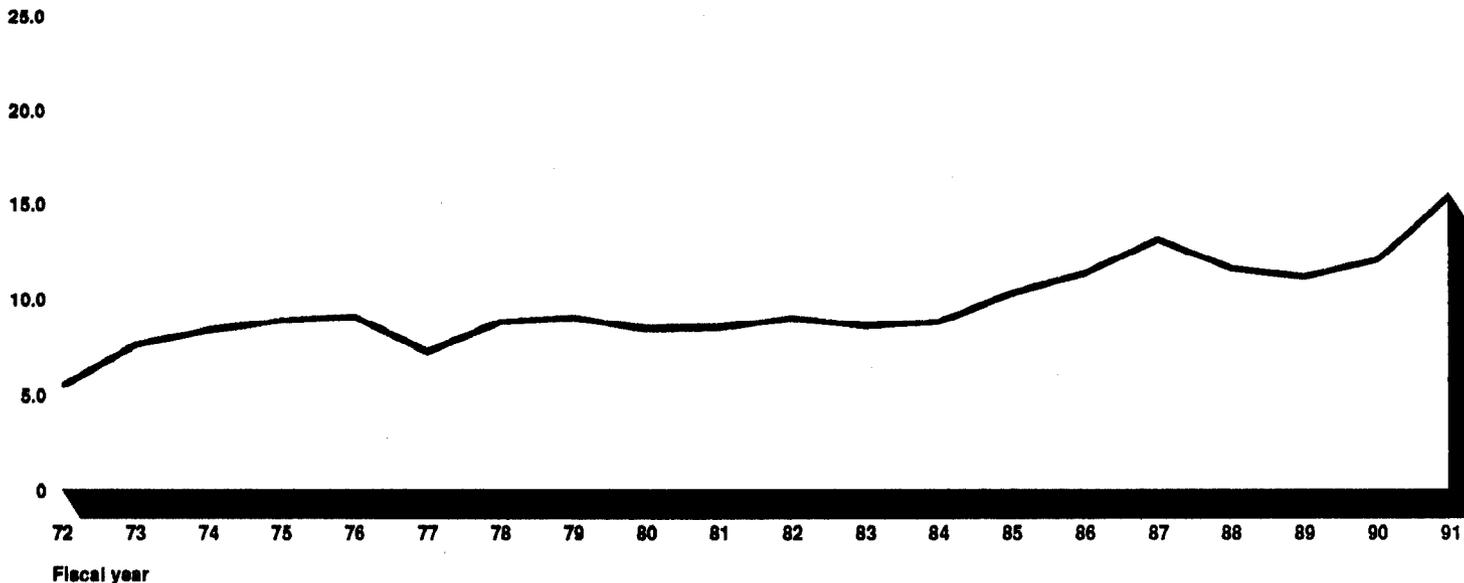
## Academies Are Providing an Increased Percentage of Officer Accessions

The proportion of newly commissioned officers coming from the academies has gradually increased over the last 20 years. (See table 1 and figs. 1 through 3.) For the Army, the percent of new officers provided by the Military Academy increased from about 5.5 percent in 1972 to between 11 and 12 percent between 1988 and 1990, before rising to over 15 percent in 1991. For the Air Force, the percentage of academy officers rose from about 6.6 percent in 1972 to about 18.6 percent in 1990 and 1991. For the Navy and Marine Corps, the percentage of academy officers rose from about 6.7 percent in 1972 to between 12 and 14 percent over the last 5 years.

**Table 1: Proportion of Officer Accessions Produced by the Academies**  
(in percent)

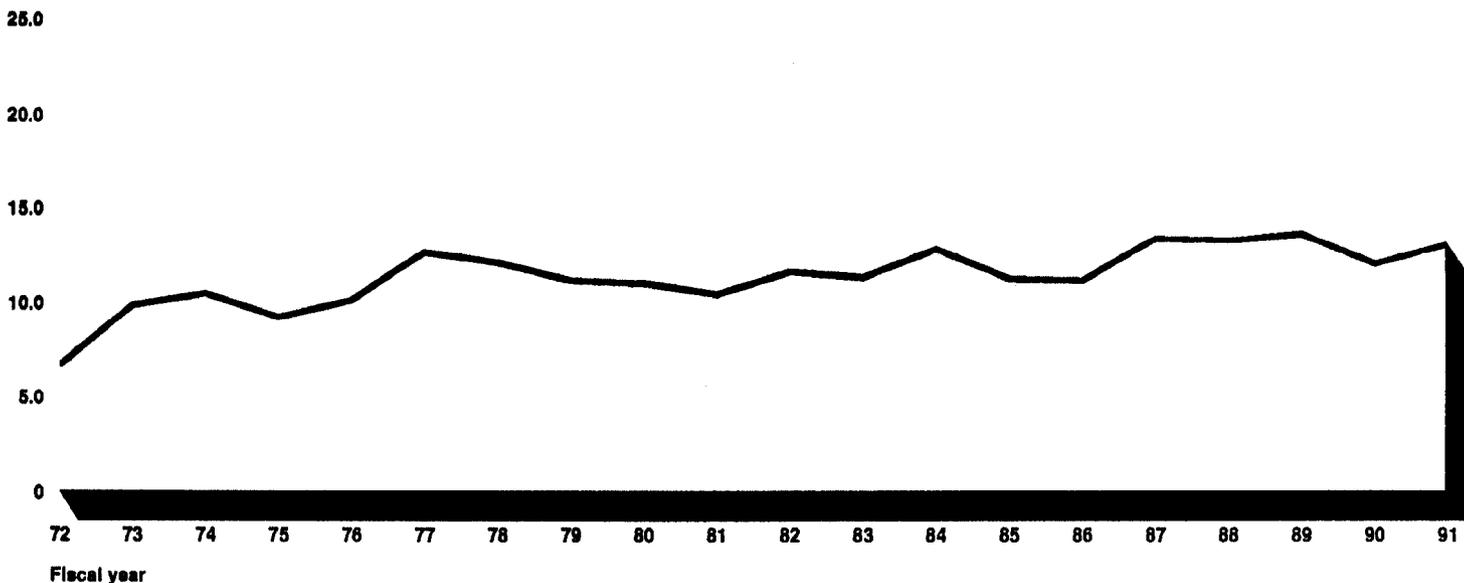
Fiscal year	Army	Navy and Marine Corps	Air Force
1972	5.47	6.65	6.58
1973	7.56	9.82	8.34
1974	8.32	10.44	9.57
1975	8.81	9.22	10.00
1976	9.02	10.09	15.15
1977	7.22	12.61	13.50
1978	8.75	12.06	12.83
1979	8.95	11.12	8.74
1980	8.41	10.98	9.24
1981	8.50	10.41	10.49
1982	8.92	11.60	9.41
1983	8.57	11.30	10.52
1984	8.76	12.80	11.13
1985	10.27	11.22	10.42
1986	11.30	11.13	12.42
1987	13.12	13.38	14.59
1988	11.57	13.28	15.54
1989	11.12	13.61	13.62
1990	12.02	12.01	18.58
1991	15.43	13.05	18.55

**Figure 1: Percent of Army Officer Accessions Produced by the Military Academy**



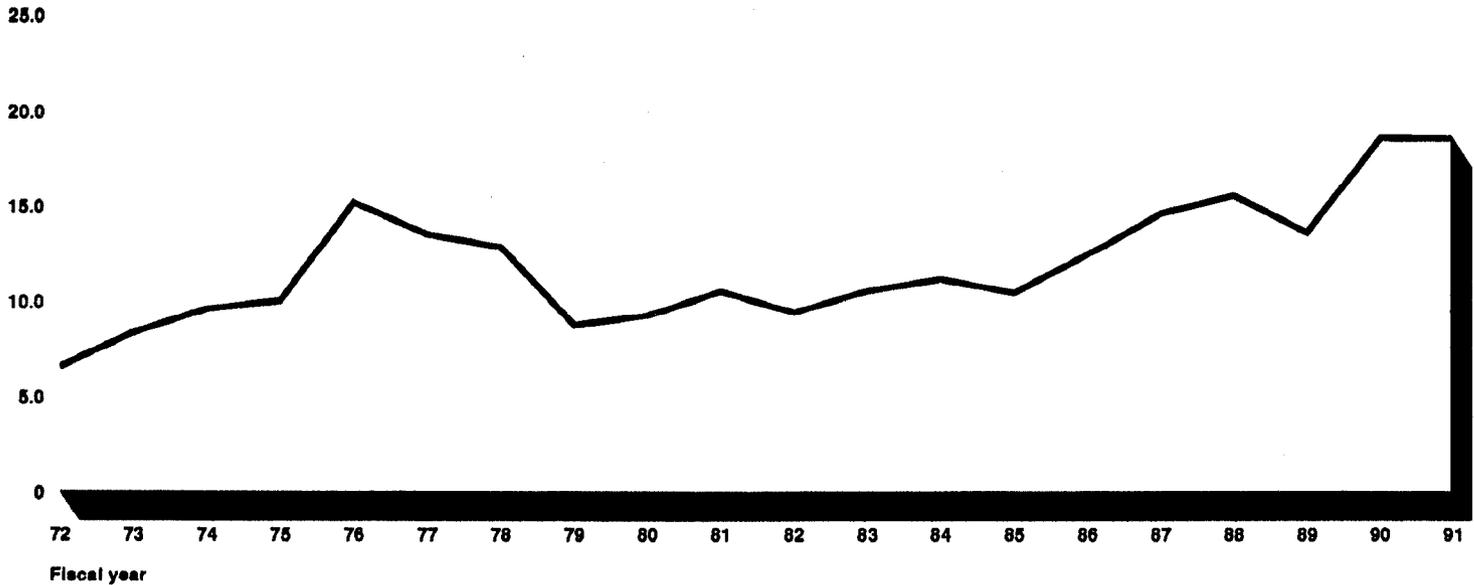
Source: Defense Manpower Data Center

**Figure 2: Percent of Navy and Marine Corps Officer Accessions Produced by the Naval Academy**



Source: Defense Manpower Data Center

**Figure 3: Percent of Air Force Officer Accessions Produced by the Air Force Academy**

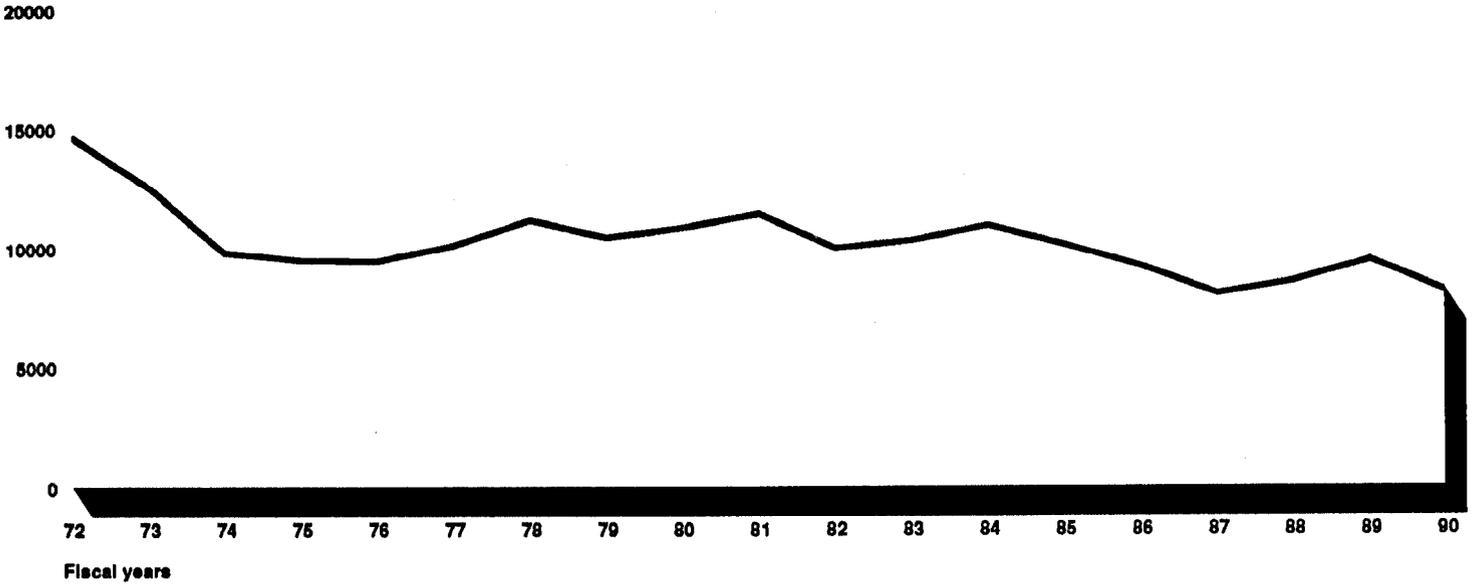


Source: Defense Manpower Data Center

The increase in recent years in the percentage of new officers coming from the academies is the result of lower accessions of officers coupled with greater numbers of commissioned academy graduates. The reduced demand for new officers can be seen in figures 4 through 6. In 1972, the four services brought 38,741 newly commissioned officers onto active duty. In 1990, they brought on only 22,001 new officers.

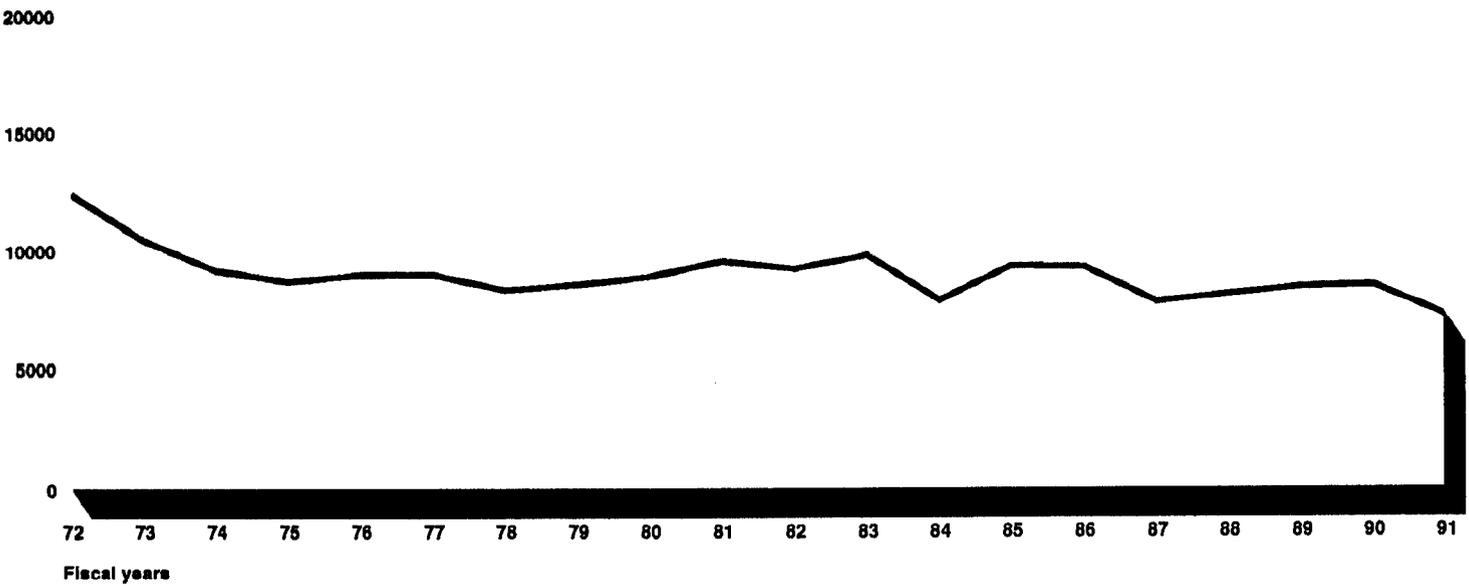
Over the last 20 years, the academies have remained roughly the same size, operating near their limit. However, during this same period, the number of cadets and midshipmen who graduated increased due to lower attrition. The trend of attrition rates has been down at each of the academies. (See figs. 7 through 9 and table 2.)

Figure 4: Total Army Officer Accessions



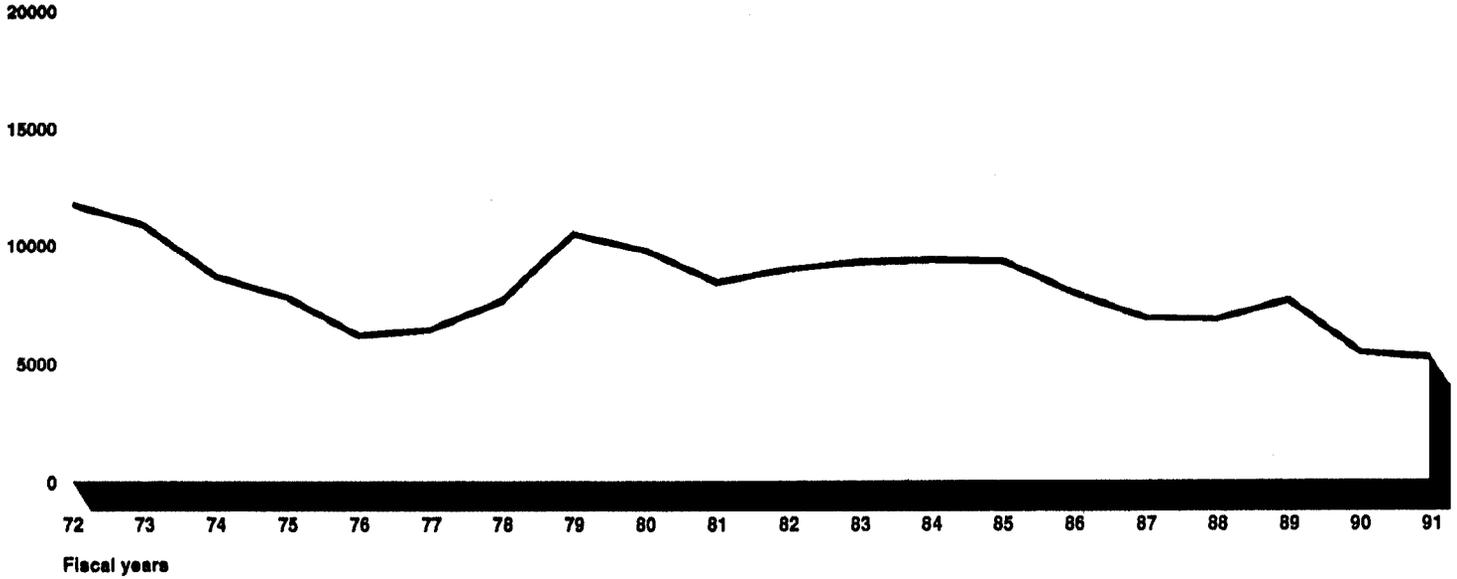
Source: Defense Manpower Data Center

Figure 5: Total Navy and Marine Corps Officer Accessions



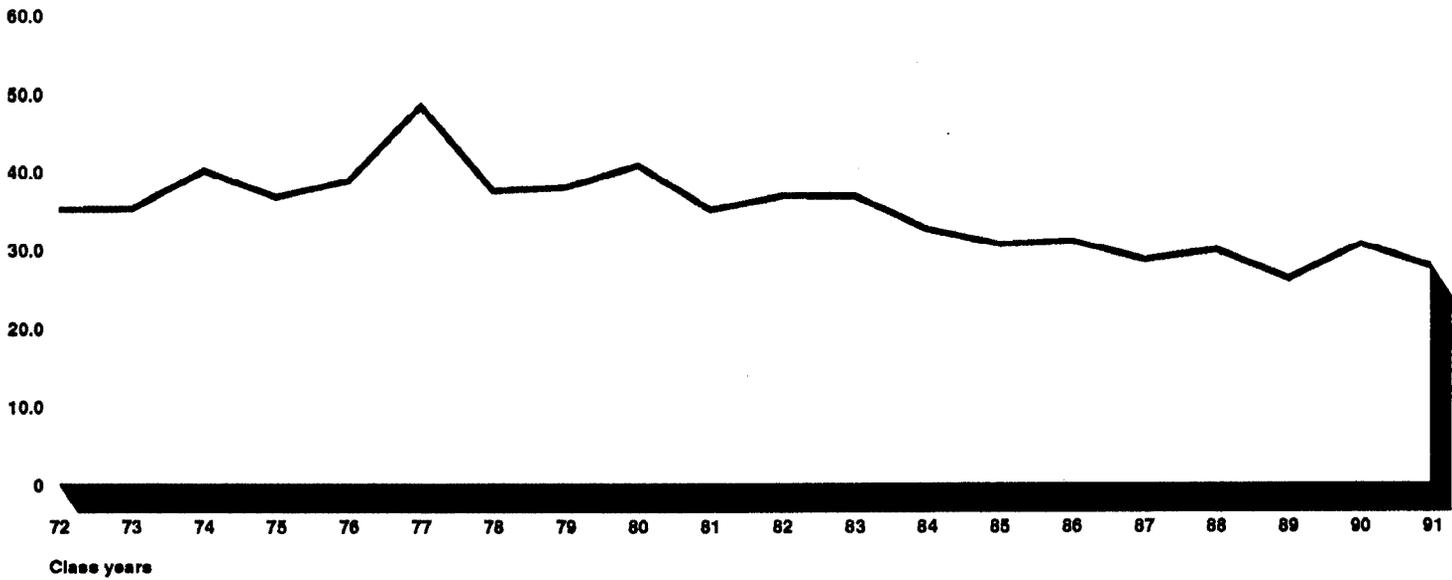
Source: Defense Manpower Data Center

**Figure 6: Total Air Force Officer Accessions**



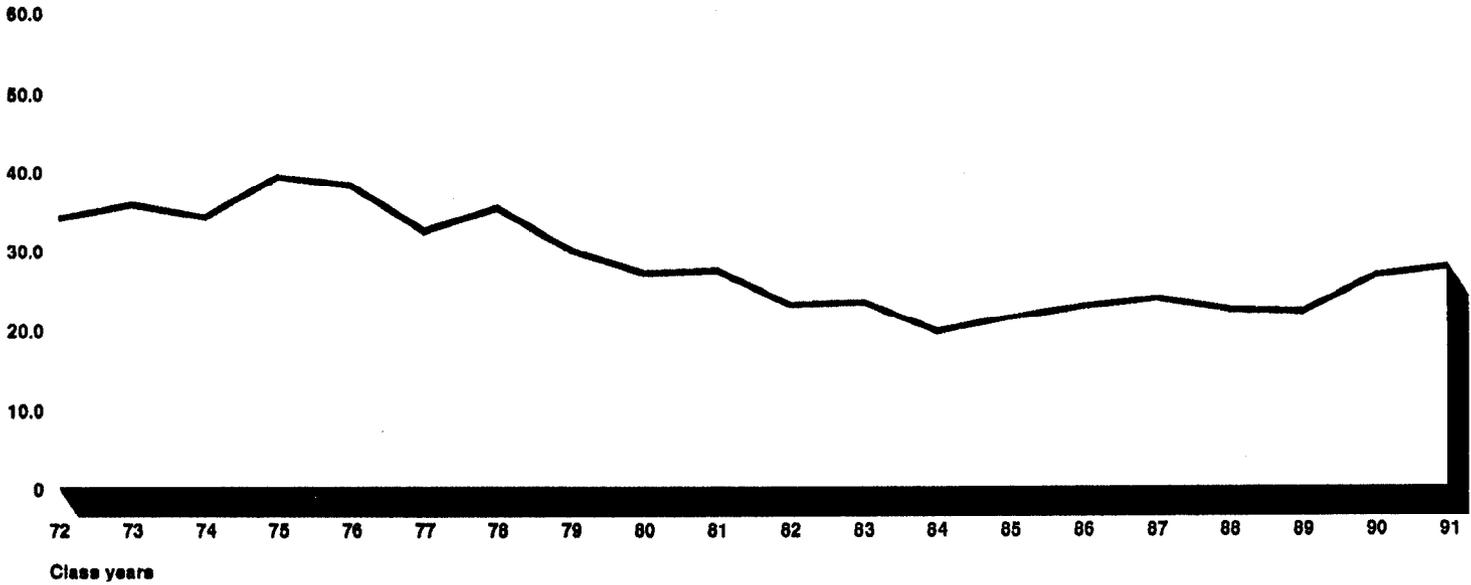
Source: Defense Manpower Data Center

**Figure 7: Percent of Military Academy Classes Attriting Before Graduation**



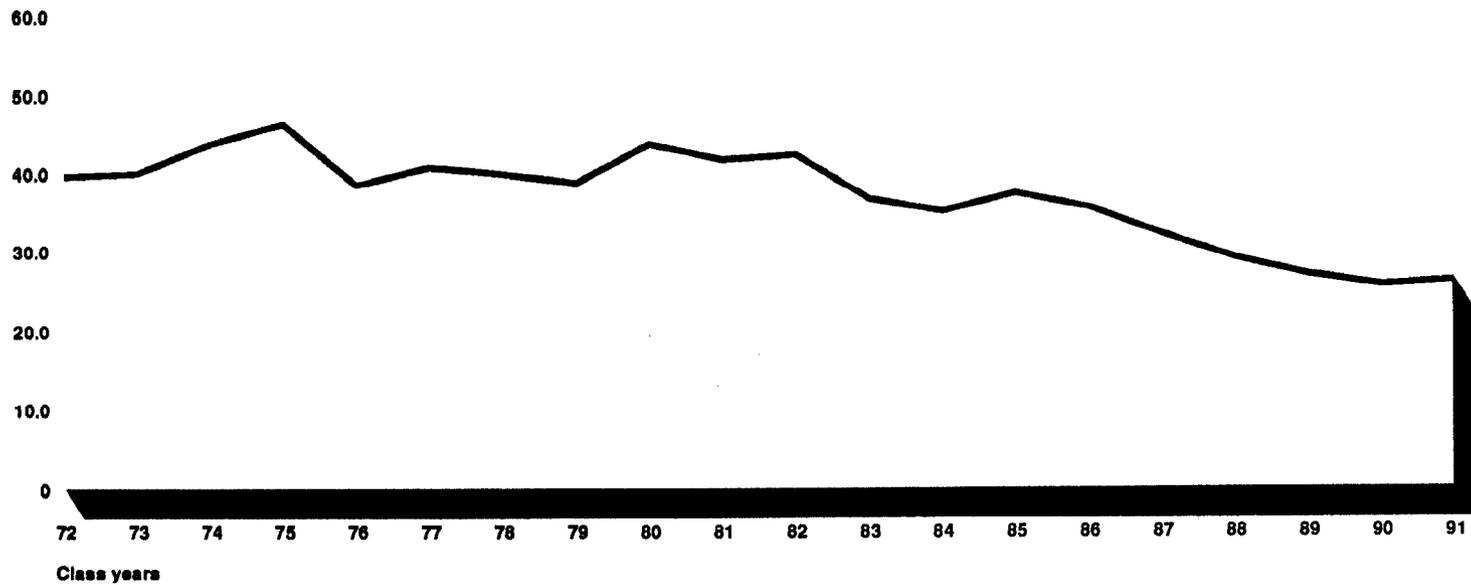
Source: U.S. Military Academy

Figure 8: Percent of Naval Academy Classes Attrititing Before Graduation



Source: U.S. Naval Academy

Figure 9: Percent of Air Force Academy Classes Attrititing Before Graduation



Source: U.S. Air Force Academy

**Table 2: Percent of Academy Classes  
Attrititing Before Graduation, Classes of  
1972-91**

<b>Class</b>	<b>Military Academy</b>	<b>Naval Academy</b>	<b>Air Force Academy</b>
1972	35.02	33.99	39.53
1973	35.08	35.67	39.89
1974	40.03	34.12	43.70
1975	36.62	39.21	46.23
1976	38.75	38.12	38.42
1977	48.36	32.38	40.70
1978	37.42	35.26	39.82
1979	37.89	29.92	38.69
1980	40.70	26.95	43.71
1981	34.98	27.31	41.68
1982	36.76	23.02	42.33
1983	36.73	23.35	36.60
1984	32.51	19.68	35.04
1985	30.57	21.44	37.29
1986	30.95	22.81	35.50
1987	28.58	23.82	32.07
1988	29.78	22.40	28.97
1989	26.18	22.16	26.84
1990	30.52	26.64	25.56
1991	27.59	27.69	26.10
3-year average attrition rate (1989-91)	28.10	25.50	26.17
3-year average graduation rate (1989-91)	71.90	74.50	73.83

The attrition rate at the Military Academy decreased from the mid-30 to 40-percent range in the early 1970s to an average of about 29 percent over the last 4 years.<sup>3</sup> The attrition rate at the Naval Academy decreased from between 34 percent and 39 percent in the early 1970s to the low 20-percent range in the late 1980s. At the Air Force Academy, the attrition rate went from between 40 percent and 46 percent in the early 1970s to a low of 25.6 percent in 1990. The effect of the lower academy attrition rates was to increase the number of cadets and midshipmen in each class who are commissioned. This trend, combined with the trend toward lower officer accessions, served to increase the proportion of academy officers.

Academy officials believe that graduation rates (which are the complement of the attrition rates) should remain at or above their most recent levels.

<sup>3</sup>The jump in the attrition rate for the Class of 1977 was the result of a major cheating scandal affecting that class in 1976.

For the classes of 1989 through 1991, the graduation rate averaged 71.90 percent at the Military Academy, 74.50 percent at the Naval Academy, and 73.83 percent at the Air Force Academy.

## Projected Officer Accessions for Fiscal Years 1992-97

As part of defense planning, DOD requires each service to estimate the number of active duty accessions for the current fiscal year and the next 5 years (called out-years). Projected accessions are a function of the estimated authorized end strength in a given fiscal year minus estimated losses through separations, retirements, transfers to the reserves, and deaths. The further out the projection, the more it is subject to uncertainty.

Program Budget Decision 723, dated December 14, 1991, directs the services to establish accession levels necessary to sustain the target force.<sup>4</sup> Table 3 shows the projections, as of December 1991, for fiscal years 1992 through 1997, which were provided by each of the services. These projected accession levels are lower than any of the previous 20 years for which data is available.

**Table 3: Service Projections of New Officer Accessions for Fiscal Years 1992-97<sup>a</sup>**

Fiscal year	Army	Navy	Marine Corps	Air Force
1992	6,379	5,314	1,550	6,000
1993	6,502	4,891	1,565	6,000
1994	6,465	4,902	1,580	6,000
1995	6,405	5,542	1,580	6,000
1996	6,398	5,522	1,242	6,000
1997	6,398	5,777	1,242	6,000

<sup>a</sup>Each service uses different methods and assumptions to arrive at estimates of future accessions. Although the precision of some of these estimates may appear quite exact, it is important to keep in mind that these are only rough estimates, and that the further out in time a given estimate is, the more it is likely to be affected by intervening events.

## Determination of Benchmark Periods

Public Law 102-190 stated that

"Each year selected as a benchmark year shall be one for which the active duty strength of the Armed Force concerned was approximately the authorized end strength established by law for that Armed Force for members on active duty for fiscal year 1995."

<sup>4</sup>The target force refers to the force size and composition at the end of the drawdown period, which is fiscal year 1995 for the Army and Air Force and fiscal year 1997 for the Navy and Marine Corps.

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If that limitation were strictly applied, no period within the last 20 years, the time frame for which data is available, would qualify as a benchmark period. The size of the officer corps projected for fiscal year 1995 is lower than it has been since 1950. However, that limitation was intended to ensure that the force size in the benchmark periods would be as comparable as possible to the force size projected for 1995. Therefore, although we could not strictly apply this limitation to our determination of benchmark periods, we used closeness to the projected fiscal year 1995 force as our criteria for selecting benchmark periods.

To determine appropriate benchmark periods, we examined the data on total force size for periods reasonably close to that projected for fiscal year 1995. As a check, we also examined total officer accessions and the percent of new officers coming from the academies, looking for a period of relative stability.

Our review indicated that different benchmark periods would be required for each service. Using the comparable force size criteria, the benchmark periods would be 1976-80 for the Army, 1976-81 for the Navy and Marine Corps, and 1977-81 for the Air Force. Force sizes of each of the services were around their lowest levels during these periods. (See figs. 10 through 12.)

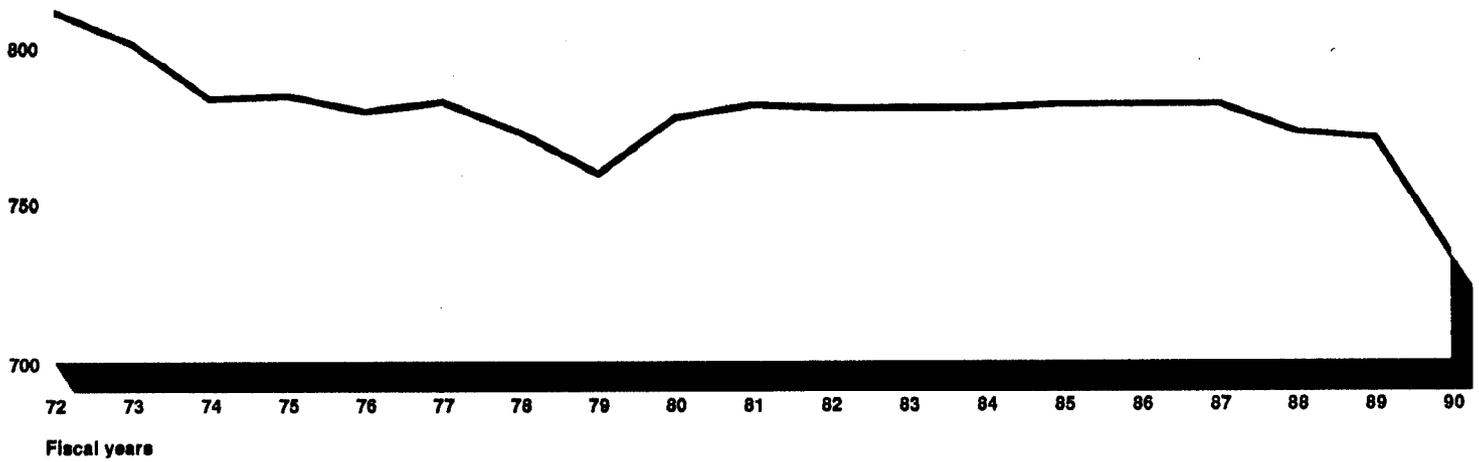
For the Army, Navy, and Marine Corps, officer accession levels during the benchmark periods were relatively stable. (See figs. 4 through 6.) In addition, the percent of new officers provided by the academies to these three services was also relatively stable during these periods. (See figs. 1 through 3.) For the Air Force, however, the period corresponding to their lowest force size was also a period of considerable fluctuation in officer accession levels and the percent of new officers coming from the Academy. Consequently, it may be more appropriate to disregard the force size criterion and choose a different benchmark period for the Air Force.<sup>5</sup>

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<sup>5</sup>For example, the period 1981-85 appeared to be a period in which total Air Force officer accessions and the percent of Air Force officer accessions coming from the Academy were relatively stable. If that period were chosen as the benchmark period, the average percentage of new officers coming from the Air Force Academy would be 10.39, resulting in a projected entry class size of 844 for the classes of 1996 and 1997.

**Figure 10: Total Army Active Duty Personnel**

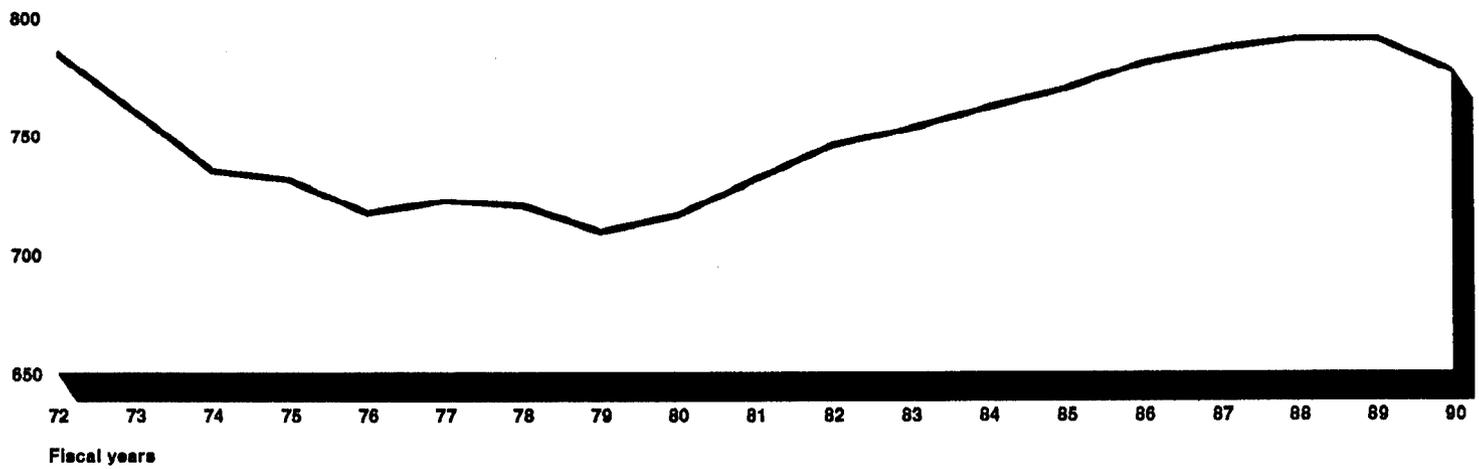
850 (000 omitted)



Source: DOD Washington Headquarters Services

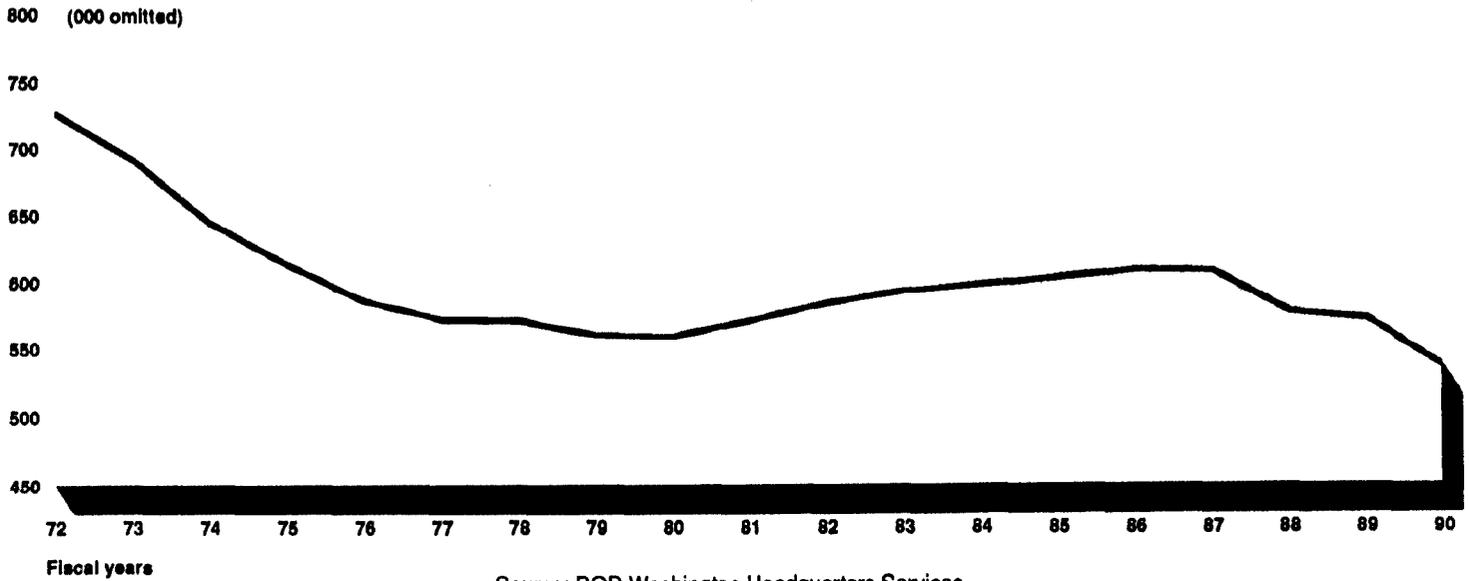
**Figure 11: Total Navy and Marine Corps Active Duty Personnel**

850 (000 omitted)



Source: DOD Washington Headquarters Services

**Figure 12: Total Air Force Active Duty Personnel**



Source: DOD Washington Headquarters Services

Public Law 102-190 required the calculation of the average percent of new officers coming from the academies in the benchmark year. These averages are shown in table 4.

**Table 4: Benchmark Periods and the Corresponding Average Proportion of New Officers Coming from the Academies**

	<b>Military Academy</b>	<b>Naval Academy</b>	<b>Air Force Academy</b>
Benchmark period	1976-80	1976-81	1977-81
Average percentage of new officers coming from the academy	8.47	11.21	10.96

## Projected Admission Levels If Benchmark Proportions Were Maintained

The House Armed Services Committee indicated an interest in seeing what kind of impact it would have on the academies if the benchmark proportions were applied. To estimate academy admission levels maintaining the benchmark proportions, we used the following formula.

$$\begin{array}{l} \text{Number of students to} \\ \text{be admitted to the} \\ \text{class scheduled to} \\ \text{graduate in year Y} \\ \text{at each academy} \end{array} = \frac{\begin{array}{l} \text{Benchmark} \\ \text{proportion} \\ \text{for that} \\ \text{academy} \end{array} \times \begin{array}{l} \text{Projected officer} \\ \text{accessions for} \\ \text{year Y} \end{array}}{\begin{array}{l} \text{The average graduation} \\ \text{rate for that academy} \\ \text{over the 3 most recent years} \end{array}}$$

The next class to enter the academies, the Class of 1996, will enter in the summer of 1992. Tables 5 and 6 show the estimated entering class sizes for each academy for the classes of 1996 and 1997 if the benchmark percentages were applied to projected officer accessions, assuming the average graduation rate for each academy for the classes of 1989 through 1991 was maintained. If the benchmark percentages were used to determine the entering sizes of the classes of 1996 and 1997, the academies would be well within the 4,000 ceiling mandated for 1994 and beyond.

**Table 5: Calculation of Entering Class Size for the Class of 1996**

	Army	Navy and Marine Corps	Air Force
1. Projected officer accessions for fiscal year 1996	6,398	6,764	6,000
2. Proportion of officer accessions to come from the academy	.0847	.1121	.1096
3. Number of academy officers needed (item 1 x item 2)	542	758	658
4. Academy graduation rate	.7190	.7450	.7383
5. Entering class size for Class of 1996 (item 3 ÷ item 4)	754	1,017	891

**Table 6: Calculation of Entering Class Size for the Class of 1997**

	Army	Navy and Marine Corps	Air Force
1. Projected officer accessions for fiscal year 1997	6,398	7,019	6,000
2. Proportion of officer accessions to come from the academy	.0847	.1121	.1096
3. Number of academy officers needed (item 1 x item 2)	542	787	658
4. Academy graduation rate	.7190	.7450	.7383
5. Entering class size for Class of 1997 (item 3 ÷ item 4)	754	1,056	891

It should be noted that the calculations in tables 5 and 6 are based on service projections, as of December 1991, of new officer accessions for 1996 and 1997. These projections represent the two most distant out-years, and are subject to the most uncertainty. Current news reports are speculating that the collapse of the Soviet Union may cause cuts in U.S. defense forces to be significantly greater than those upon which the service-provided accession projections were based. If the projections we used have been overestimated, the use of the class sizes determined in tables 5 and 6 would result in a proportion of academy officers that is higher than the benchmark proportions.

## Agency Comments

In commenting on a draft of this report, DOD concurred with the officer accession numbers presented, but indicated that other factors should also be considered in formulating accession policies. DOD said it preferred the currently legislated academy strength limitation of 4,000 cadets or midshipmen. DOD's written response appears in appendix I.

## Scope and Methodology

The Defense Manpower Data Center in Monterey, California, provided data on

- the total number of newly commissioned officers brought on to active duty each fiscal year from 1972 through 1991 and
- the number of academy graduates entering active duty during those same fiscal years.

We obtained information on class size and attrition from 1972 through 1991 from each of the service academies. Each of the service headquarters provided us with their projections, as of December 1991, for officer

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accessions for fiscal years 1992 through 1997. We obtained data on total force size from published DOD reports.<sup>6</sup> We did not independently verify the data provided.

We conducted our review at DOD and service headquarters, Washington, D.C.; the Military Academy, West Point, New York; the Naval Academy, Annapolis, Maryland; and the Air Force Academy, Colorado Springs, Colorado.

We performed our review from August to December 1991 in accordance with generally accepted government auditing standards.

We are sending copies to the Secretaries of Defense, the Army, Navy, and Air Force; the Director, Office of Management and Budget; and other congressional committees. We will also make copies available to others upon request.

This report was prepared under the direction of Paul L. Jones, Director, Defense Force Management Issues, who may be reached on (202) 275-3990 if you or your staff have any questions. Major contributors to this report are William E. Beusse, Assistant Director, Cora M. Bowman, Evaluator-in-Charge, and Thomas Melito, Senior Economist.



Frank C. Conahan  
Assistant Comptroller General

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<sup>6</sup>Department of Defense: Selected Manpower Statistics, Fiscal Year 1990, Report DIOR/M01-90, DOD Washington Headquarters Services, Directorate for Information Operations and Reports, 1991.



# Comments From the Department of Defense



FORCE MANAGEMENT  
AND PERSONNEL

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-4000

12 FEB 1992

Mr. Frank C. Conahan  
Assistant Comptroller General  
National Security and International Affairs Division  
U.S. General Accounting Office  
Washington, DC 20548

Dear Mr. Conahan:

This is the Department of Defense response to the General Accounting Office (GAO) draft report entitled, "SERVICE ACADEMIES: Historical Proportion of New Officers During Benchmark Periods" (GAO Code 391167/OSD 8930). The Department concurs with the officer accession numbers presented by the GAO. However, the use of this methodology alone to establish commissioning policy would be unsound. The mix of commissioning sources for new officers should be based on management factors, not on numerical ratios derived from some benchmark period in the past.

The Department would prefer a steady number of academy accessions from year to year as opposed to a policy that varied accessions each year as determined by the numerical ratios proposed in the GAO draft report. A stable annual number of academy officer accessions provides a reliable base upon which to add other officer accessions from shorter lead-time commissioning programs to meet the overall varying annual requirements. The Department is pleased with the present policy that is derived from the law (National Defense Authorization Act for Fiscal Years 1992 and 1993) that says academy strength will not be more than 4,000 cadets or midshipmen by 1995. Thank you for the opportunity to comment on this draft report.

  
Christopher Jehn

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