

1. Introduction

The services are undergoing a fundamental reshaping and restructuring, driven by the demands of an era of tighter fiscal constraints, new security challenges, new technology, and increased reliance on the reserve component. To position themselves in this new environment and for drawing down, the services are constraining accessions, encouraging voluntary departures, and imposing involuntary separations. There is considerable uncertainty as to what these actions bode for the future, in terms of supply and demand of personnel and the sustainability of the required force.

This report focuses on one particular group of officers, military pilots. It assesses the ability to sustain the required pilot force and the personnel management tools available to manage the flow of pilots.

Rationale for and Background of the Study

The primary rationale for the study came out of the services' FY93 request for Aviator Continuation Pay (ACP) bonuses for pilots—a compensation package designed to improve retention of military pilots in certain critical areas. Despite the current environment of pilot *overages*, in its FY93 ACP submissions, the Air Force projected a future *shortage* of pilots, beginning in FY93 and widening significantly by FY96. Faced with this seeming contradiction, the Assistant Secretary of Defense (Force Management and Personnel) and the Assistant Secretary of Defense (Reserve Affairs) asked RAND to undertake a comprehensive assessment of issues related to pilot management and training.

The project focused on the following questions:

- What are the historical personnel trends for pilots in accessions, retention, and transfer rates between the active and reserve forces?
- What are the current requirements for pilots? How are they changing and why?
- What is the interaction between the military and civilian demand for pilots? What effect will this have on the sustainability of both the military and civilian pilot force?

- What are the current personnel and training policies used to manage pilot accessions and retention and how effective will they be in light of changing requirements for pilots?

The priorities for analysis were to examine, in order, the active Air Force, Air Reserve Component (ARC), Navy, and Naval Air Reserve.

The analysis was completed in 1994 and the results of the analysis were documented in two reports: (1) a report on the requirements for and supply of pilots in the context of the defense drawdown and restructuring, given historical trends in accession, retention, and transfers to the reserves, and the effectiveness of current personnel management and training policies in meeting future needs (Thie et al., 1994); and (2) a report on the interaction between the civilian airline industry and the military, which assessed the adequacy of future flows from the military to the civilian airlines (Levy, 1995).

After the research was completed, several issues surfaced because of our analysis and conclusions and other RAND work. The data we had used were necessarily somewhat dated and the restructuring that the services were undergoing was not fully reflected in the data. As more recent data became available, we questioned the validity of the analysis and conclusions in light of the new data. Second, our analysis pointed to the importance of assessing sustainability of both the active and reserve components conjointly, not in isolation. Third, a congressionally mandated RAND study of future officer careers presented a number of new career-management alternatives; we examined the effect of these alternatives on the training and retention of the pilot force (NDRI, 1994).

As a result, we were asked to undertake a short, follow-on study to:

- Update our inventory and requirements analysis with more current data and reassess our earlier conclusions regarding pilot shortages;
- Assess the adequacy of the flow of prior service pilots to the Selected Reserve components and suggest options to mitigate potential shortfalls in manning the reserves;
- Explore how the future experience profile of the pilot force might change and the implications of such a change;
- Review the recommendations of the concurrent study examining future career management for military officers in terms of their implications for managing the pilot force in the future.

This executive summary presents the results of both the original and the follow-on studies, although the primary emphasis is on the latter.

Historical Overview

To set the current situation in context, it is helpful to review some historical trends in pilot requirements, supply, and management. Figure 1 presents a historical look at the Air Force. As the figure makes clear, there has been constant change over the past forty years, both up and down. Overall, the long-term trend for pilots is down. In general, requirements appear to change more quickly at the beginning of a period of growth or decline, but inventory appears to lag behind. The services cannot develop or separate military pilots as quickly as their needed numbers can be changed on paper. During military buildups, the inventory of pilots typically falls short of requirements. This was the case during the Korean War of the 1950s, the Vietnam conflict in the 1960s, and the Reagan buildup of the 1980s. As forces are reduced during postconflict eras, inventory tends to exceed requirements.

Recognizing that supply changes will always lag requirements changes, the policy question is how to bring inventory and requirements closer to equilibrium. There have been two traditional long-term policy “balancers.” First, the accessions and training of new pilots can be increased or decreased. However, when one compares the Air Force’s pilot requirements with Air Force

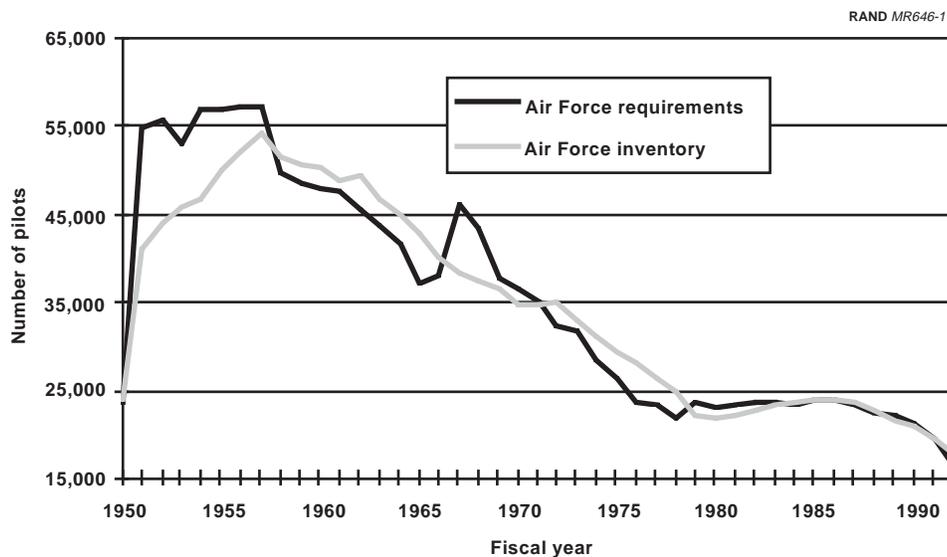


Figure 1—Air Force Pilots, 1950–1992

Undergraduate Pilot Training (UPT) accessions over a forty-year period (Figure 2), it is clear that changes in requirements are not immediately met by changes in training, because commitments to UPT are typically made to and by undergraduate students several years before they begin training. For example, there was a dramatic reduction in the requirements for pilots in 1967, as the Vietnam War began to draw down. However, reductions in UPT accessions did not begin until 1972.

A second long-term policy “balancer” has been retention. The measure of effectiveness used for retention by the Air Force is the cumulative continuation rate (CCR),¹ a measure of retention in the 6–11 year of service (YOS) group (the critical time after the active-duty service obligation ends and before officers make career decisions to stay until retirement). This measure has existed only since 1976, when the Air Force developed its rated management process.

In the short run, the Air Force has traditionally used the assignment system to mitigate shortages and surpluses. A priority assignment system, in which certain requirements are filled on a priority basis with some other requirements left unfilled, has been used to cope with historical shortages of pilots. During the

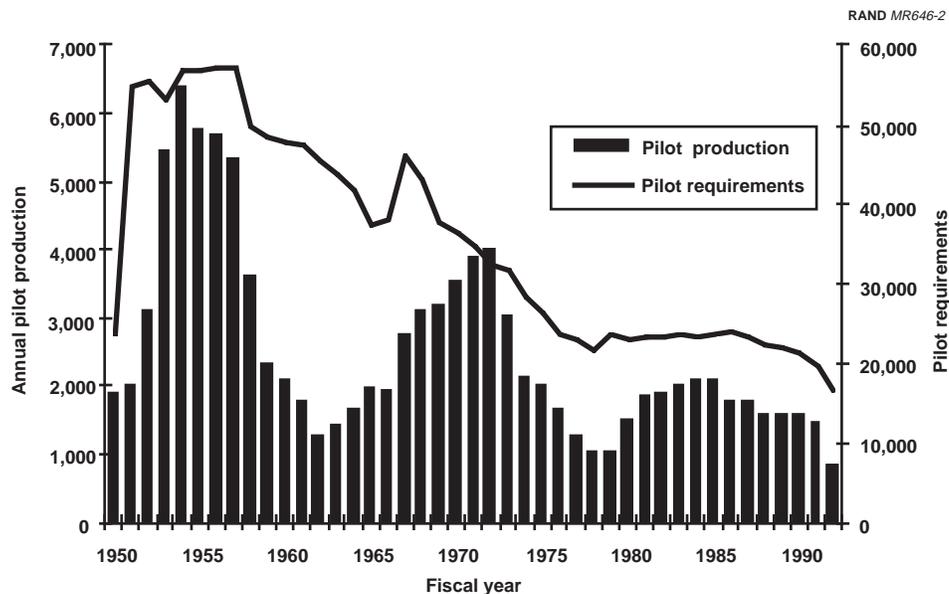


Figure 2—Air Force Pilot Requirements and Production, 1950–1992

¹CCRs represent the product of multiple-year retention rates. CCR is normally calculated by the Air Force using the 6–11 YOS group and represents an estimate of the percentage of officers entering their sixth year of service who, given current retention patterns, are expected to remain in the service through their 11th year.

surplus period in the 1980s, the “rated supplement” allowed the assignment of rated officers not needed for pilot assignments to nonrated career fields for career development. This also provided a surge capability to meet contingency requirements in the past.

The Navy uses the active-duty reserve to help balance inventories and requirements. Increasing pilot requirements are met by increasing the number of newly commissioned U.S. Naval Reserve (USNR) officers to enter flight training. The number and proportion of active-duty reserve pilots declined from the late 1960s and early 1970s to the early 1980s. In 1971–72, approximately 35 percent of pilots were active-duty reservists. However, as requirements declined, these pilots were released from or not brought on active duty. By 1980, only 13 percent of pilots were active-duty reservists. This proportion rose during the Reagan buildup of 1980 to 1988, when active-duty reservists constituted about 30 percent of pilots. As of 1994, 23 percent of pilots are active-duty reservists and this number is expected to continue to decrease. To accommodate the ongoing drawdown, the Navy is separating USNR pilots who would be willing to stay.

Current Context

We are currently in the midst of a period of dramatic change, largely driven by the post–Cold War drawdown. Forces are being reduced significantly, first to a base force level, and then to a Bottom-Up Review level by 1999 (Aspin, 1993). The aviation drawdown has occurred more rapidly in the Air Force than in the Navy. By 1992, the Air Force had absorbed approximately two-thirds of the base force cuts. The Air Force (and to a lesser extent the Navy) also began a major reorganization in 1992, which affected all levels from Air Staff to the wing. In the Navy, squadrons and air wings will differ from their predecessors in their aircraft mix and number of aircraft. Marine Air will be more closely integrated with Naval Air. Finally, force structure shifts between active and reserve components will have important effects on requirements.

Our research addresses these issues and discusses new policies needed to deal with this changed and still changing environment.