

Two changes loom over others in defining the defense manpower environment of the 1990s. The unexpected end of the Cold War led to a reduction in the size of the active-duty military force from 2.1 million to 1.4 million personnel. At the same time, U.S. national security strategy was increasingly directed toward actions intended to shape the security of the post-Cold War world, support the development of democratic institutions, and promote trade and commercial relations. The change in strategy led to the growing involvement of U.S. forces in a wide variety of humanitarian, disaster relief, peacemaking, and peacekeeping operations, as well as new roles in border patrol and interdiction in the war against drugs. Thus, the United States found itself with a smaller active-duty force that was more frequently used in operations than had been the case during the Cold War, and the operations were highly diverse. In addition, the need to be ready for major theater war, although reduced, had not disappeared. U.S. forces engaged in Gulf War operations in 1990–1991 and are engaged in the current war against terrorism, which began in late 2001. The need to be ready for major theater war, the expanded role of peacetime operations, and actual wars themselves combined to make a heightened pace of military activity—and intense utilization of military personnel—the new norm. The recent rise of terrorism and threats against U.S. interests has reinforced this change.

Our report focuses on the relationship between the deployment and reenlistment of enlisted personnel. The major policy issue here is whether the more-intense utilization of personnel hurts retention and readiness. We concentrate on the important subset of deploy-

ments that involve long separation or hostile duty. If such deployments reduce reenlistment, units may face manning shortfalls and higher personnel turnover and therefore may have difficulty maintaining readiness. Reduced reenlistment may also increase recruiting requirements and entail more personnel and resources in recruiting, further reducing the personnel and resources available to maintain unit readiness. Furthermore, lower reenlistment could be a negative signal to prospective recruits about the satisfaction from service in the military, making it harder for the services to meet their recruiting goals. If such deployments increase reenlistment, however, positive effects may occur: higher readiness, less turnover, lower recruiting requirements, fewer personnel and resources engaged in recruiting, and a positive signal to recruit prospects.

There are broad signs to support the common view that deployments hurt retention. The number of deployments rose in the 1990s, and many involved hostile duty. By the late 1990s, the services reported that retention had become more difficult. We can see evidence of this in Figure 1.1, which plots information about deployment and reenlistment for first-term enlisted members by service for FY1996–FY1999. For each fiscal year, we counted long and hostile deployments in a three-year period preceding the fiscal year. (The definitions of deployment and reenlistment are provided in Chapter Three.) As the figure shows, the Army and the Air Force experienced a significant increase in the percentage of personnel who had at least one episode of deployment. The increase in this percentage was largely driven by the increase in hostile episodes; the second set of bars shows an increase in the percentage of members who had at least one deployment involving hostile duty. The third set of bars shows our estimate of the reenlistment rate. We see that as the percentage of soldiers and airmen with deployment rose, the first-term reenlistment rate declined, as the common view suggests.

The patterns for sailors and marines were different but did not run against the common view. The Navy maintains a forward presence, and at any time many of its vessels are at sea and ready for action. Marine Expeditionary Units are routinely on board Navy surface vessels. The Navy had the highest percentage of personnel with at least one deployment and the highest percentage with at least one hostile deployment. The latter occurred because many vessels were in hos-

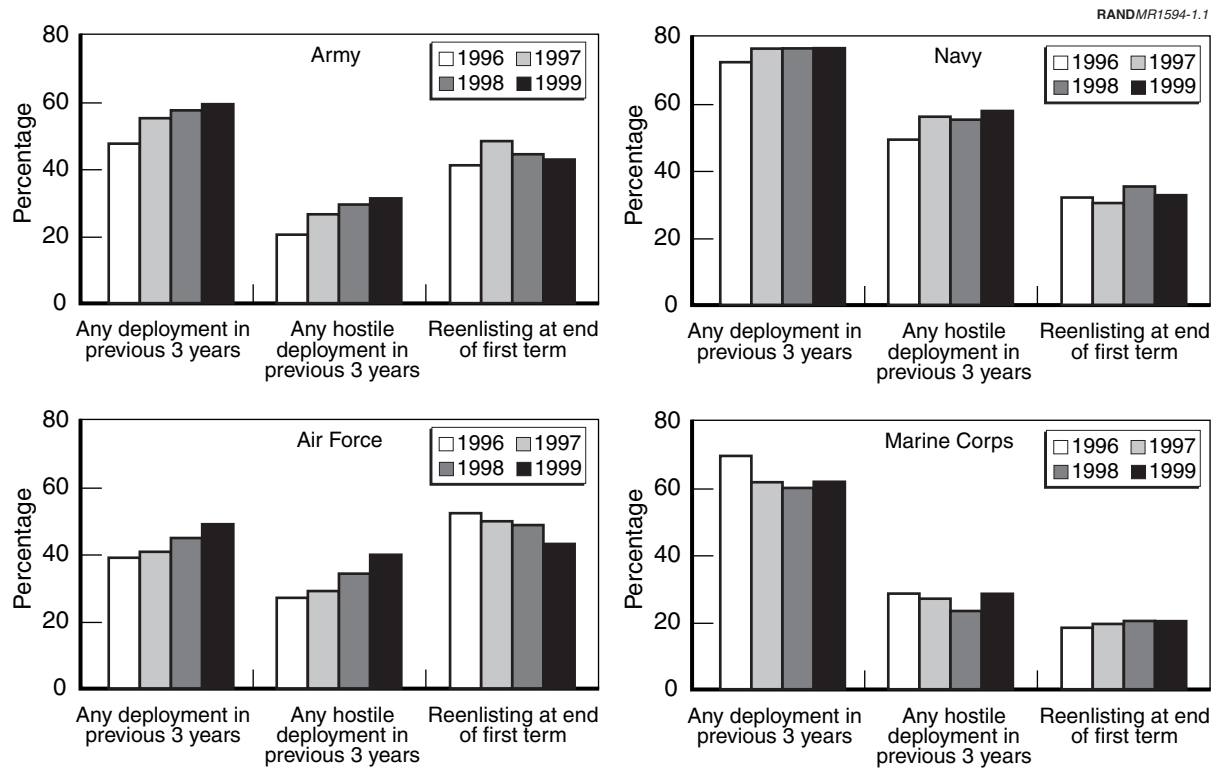


Figure 1.1—Deployment and First-Term Reenlistment, FY1996–FY1999

tile waters for part of their voyage (e.g., patrolling in the Adriatic Sea). The Navy's high percentage of deployment remained stable over FY1996–FY1999, and there was little change in first-term reenlistment. The Marine Corps had a small decline in the percentage of personnel with any deployment or any hostile deployment, and there was hardly any change in Marine first-term reenlistment.

Although Figure 1.1 offers information about the trends in deployment and first-term reenlistment, it is not wise to rely on these patterns for inferences about the effect of deployment on reenlistment. Reenlistment may be affected by other factors, including relative pay, the availability of private-sector jobs, the use of reenlistment bonuses, and non-pecuniary incentives to reenlist, such as stabilization policies that reduce unit turbulence. In addition, the figure may mask differences in the effect of deployment on reenlistment across members. In particular, it does not show whether the number and kind of deployments affected a member's reenlistment decision.

This report addressed three questions relevant to policy:

- **Why might there be a relationship between past deployment and the current decision to reenlist?** In approaching this question, we viewed past deployment as a source of information about the expected utility of future deployment and the probability of future deployment.
- **How did deployment affect the first- and second-term reenlistment decisions of enlisted members?** We estimated reenlistment models for members who faced reenlistment decisions in FY1996–FY1999 and tested whether the effect of deployment was negative or positive, large or small, related to dependency status, and direct as well as possibly indirect, mediated through time to promotion.
- **How would a significant increase in deployment affect reenlistment?** We considered a 25-percent increase in deployments, with all of the increase consisting of deployments with hostile duty.

Our main results came from a one-equation model of the probability of reenlisting as a function of the number and kind of deployments.

This model is in the spirit of the previous research of Hosek and Totten (1998), Wardynski (2000), and Fricker (2002). We also estimated a two-equation model of promotion and reenlistment where deployment affects reenlistment directly and through its influence on the speed of promotion, which in turn affects reenlistment. We studied promotion to paygrade E-5, the first noncommissioned officer rank. This model is a variant of the model introduced by Buddin et al. (1992) and allows the error terms in the promotion and reenlistment equations to be correlated. An error correlation indicates unobserved factors affecting both promotion speed and reenlistment.

We found different relationships for first- and second-term reenlistment, sketched here and described more fully in Chapters Four and Five. The results indicate that deployment was rarely associated with a decrease in reenlistment and often associated with an increase or no change in reenlistment. Among first-term personnel:

- For the Army, Air Force, and Marine Corps, reenlistment increased as nonhostile deployments increased.
- For the Navy, reenlistment was slightly higher for members with some nonhostile deployment compared with members with none, but reenlistment did not rise as nonhostile deployments increased beyond the first.
- For all services, reenlistment changed little as hostile deployments increased.

Among second-term personnel and for all services:

- Reenlistment increased as nonhostile or hostile deployments increased.
- The increase in reenlistment was larger for nonhostile deployments than it was for hostile deployments.

We present a theoretical framework in Chapter Two, where we discuss learning about deployment, expected utility, and the one- and two-equation models of reenlistment used in the empirical work. We discuss the data, the measures of reenlistment, and the measures of deployment and their accuracy in Chapter Three. In Chapter Four, we describe the results of the one-equation model for first- and

second-term reenlistment by branch of service. We also discuss the predicted effect on reenlistment of a 25-percent increase in deployments, all hostile. We present the results of the two-equation model of promotion and reenlistment model in Chapter Five and offer our closing thoughts in Chapter Six.