

REFLECTIONS ON THE FINDINGS

Our analysis was motivated by concern that today's heightened pace of peacetime deployments placed an unusually heavy burden on military personnel, one large enough to reduce reenlistment. However, the results of our empirical analysis provided little support for this view. To conduct our analysis, we focused on active-duty enlisted members and counted a member's nonhostile and hostile episodes of deployment over a three-year period ending three months prior to the date when the member made a decision to reenlist or to leave military service. The members in this count had initial terms of service of three and a half years or more. For first-term members, we found that reenlistment rose with the number of nonhostile deployments and typically was little affected by the number of hostile deployments. For second-term members, we found that reenlistment rose with nonhostile and hostile deployments. The rise was more rapid for nonhostile episodes than for hostile episodes. Rather than decreasing reenlistment, deployment generally served to increase it or leave it unchanged.

Our analysis was also motivated by the question of why past deployment might affect a member's reenlistment decision. In what way did the past shape current decisionmaking? We explored two hypotheses: the learning hypothesis and the promotion hypothesis. The learning hypothesis assumes that a member learns about the satisfaction (or dissatisfaction) of deployment through actual deployment. Although a member enters service with expectations

about whether deployment will be satisfying, these are naive expectations. There are few, if any, civilian-life counterparts to military deployment. We presented a model of Bayesian updating as a mechanism of learning about deployment. We also described how a deployment can alter a member's expected utility of continuing in the military, where expected utility depends on the member's possible changing preferences for deployment and on deployment pays and costs. If deployment leads to an increased value of expected future utility, the member is more likely to reenlist.¹

The promotion hypothesis assumes that past deployment can affect reenlistment by changing the time to promotion. Faster promotion means higher pay and a more rapid career advancement, and, hence, higher expected utility. We focused on promotion to the first non-commissioned officer rank, paygrade E-5, which some members reach in their first term, but most reach in their second term. We assumed that the promotion system was stable and that members understood it well, so a member could gauge how fast he or she would be promoted.

Our findings were consistent with the learning hypothesis and the promotion hypothesis. However, the promotion effects were small and of little practical significance. Thus, the promotion hypothesis did not appear to be a major explanation of why past deployment affects reenlistment decision. The learning hypothesis permits past deployment to have a negative, positive, or zero effect on reenlistment; it is a means of incorporating experience into decisionmaking. Our finding that reenlistment rose with the number of nonhostile deployments is consistent with the notion that each nonhostile episode was a positive experience that induced an upward revision in the expected utility of remaining in the military. The finding among first-term members that reenlistment was largely unaffected by hostile deployment is consistent with the view that such episodes

¹Members may have any variety of utility functions. For example, a member may enter the military on a "vision quest" seeking to test his or her mettle in a hostile deployment, or he or she may want to make some positive if finite patriotic contribution and then leave. Wardynski (2000, p. 141) raised these possibilities in his discussion of how deployment might affect reenlistment.

involve more-extreme risks, hardships, and rewards that lead to little net change in expected utility.^{2,3}

The learning model allows preferences for deployment to differ across members. As members learn about the utility they derive from the military and from deployment, they may make significant decisions in their life. We found that members who were married (i.e., had dependents) by the time of the reenlistment decision were more likely to reenlist and had a larger, positive effect of deployment on reenlistment than did members who were not married. This was true at both first- and second-term reenlistment. It did not mean that deployment “caused” marriage, but rather that the type of member who derived satisfaction from the military and from deployment was also the type more likely to marry in service. In other words, dependency status revealed type: The type of member to marry also tended to like the military, deployment, and would likely reenlist. Some members of this type were not married at the end of the first term, and therefore their type had not yet been revealed. These members were presumably likely to marry in the second term; in fact, many members (about three-fourths) were married by the end of the second term. If this type was more likely to reenlist, it is not surprising to find a strong similarity between the effect of deployment on reenlistment for first-term members with dependents and on second-term reenlistment in general.

Finally, we found a large negative error correlation between promotion and reenlistment. The unobserved factors implied by this correlation strongly influence the probability of reenlistment. We estimated that being one standard deviation faster or slower than expected to E-5 promotion led to an increase or decrease in the reenlistment probability of plus or minus 0.10. The unobserved factors may represent the interplay of taste for the military, effort, and

²As mentioned earlier, our findings reflect the effect of the deployments per se as well as deployment pay and costs. In particular, the findings are conditional on deployment pay as it existed in our study period. (It is much the same today.)

³The findings do not seem consistent with a vision-quest hypothesis because it suggests that a member who experienced hostile deployments would be less likely to reenlist. The findings also do not seem consistent with the onetime patriotic-contribution hypothesis, because members with more deployments were usually more likely, not less likely, to reenlist.

ability. Members with a high taste for the military may exert more effort to gain promotion, and high ability enables higher performance for a given amount of effort. By looking at a member's rate of accumulation of promotion points relative to that of his or her peers, after controlling for observed characteristics, a service can identify the members likely to reach E-5 faster and those more likely to reenlist.

DIRECTIONS FOR FUTURE RESEARCH

We found that nonhostile deployments had a positive effect on reenlistment. These deployments consist of absences of 30 days or more for such purposes as humanitarian aid, disaster relief, nation-building, lengthy exercises or training events, and unaccompanied tours. But apart from this simple listing, we do not know why these deployments were more satisfying than members expected, that is, why they apparently led to an upward revision of the expected utility of continuing in the military. What were the member's initial expectations, how were they formed, and what aspects of nonhostile deployment led to an upward revision? Why did the effect of deployment differ between members with dependents and those without? To what extent were deployments not exogenous to the member but determined by self-selection or commander selection, and did that interact with dependency status?

Similarly, we found that hostile deployments, such as peacemaking and peacekeeping operations, had little effect on reenlistment, but we do not know what elements of these experiences were typically positive or negative or what, if anything, might be done to improve the satisfaction from these experiences. The data did not contain information about the purpose, location, conditions, risks, challenges, rewards, and costs of the deployment, as seen from the member's perspective. Furthermore, we have little idea of how deployment, whether hostile or nonhostile, affected friends and family—particularly the spouse of a deployed member. Although there is some information on this, we do not know how family and friends mediate the member's response to deployment. For

instance, does lengthy deployment result in greater financial stress and indebtedness for the young military family?⁴

Our deployment database did not contain information on short (less than 30 days) nonhostile deployments. The hostile deployment indicator denoted any hostile deployment in a month, but it did not specify the length or number of hostile deployments in the month. The count of months of deployment could be made more accurate by using data on the amount of deployment pay received, not just whether it was received. We think that “merging” the PERSTEMPO data and new “days away” data could improve the scope and accuracy of deployment data; each data set has something to contribute. Also, adding information about the geographic origin and destination of deployment would enable analysts to test whether deployments from certain areas were adverse.⁵ Likewise, it would be useful to identify the type of deployment. A starting point for the typology of deployment would be: peacemaking, peacekeeping, humanitarian assistance, disaster relief, nation-building, border patrol, major exercise, education or training, unaccompanied tour of duty, or other. It would also be valuable to have a name or identifier for the specific operation, if applicable, and a related database that described the operation in some detail, including quality-of-life aspects.⁶

Finally, we suggest broadening the analysis of deployment to include first-term attrition. Studies of the effect of deployment on reenlistment, including this one, focus on members at the time of reenlist-

⁴Tiemeyer, Wardynski, and Buddin (1999, p. 15). Data from a 1997 RAND survey of enlisted career intentions found overall that members who had recently been deployed did *not* have a greater incidence of financial difficulties than their peers who had not been deployed. But this study recommended further analysis to see if deployment-related financial difficulties were present in particular groups, e.g., junior enlisted members with wives and children.

⁵In recent unpublished work, Wardynski reported a lower reenlistment among Army members deployed from Asia, compared with members who did not deploy. He also found a higher reenlistment if members were deployed from Europe or the United States, provided the deployment was not too long. His research focused specifically on the effect of hostile deployment on the first-term reenlistment of single Army members. (Personal communication with the authors.)

⁶According to a General Accounting Office (GAO) report, the Army has spent over \$2 billion to “build camps and implement services” in the Balkans since December 1995. The GAO found that “most soldiers were satisfied with the living conditions and recreational facilities” (GAO, 2000; quotes from report abstract).

ment, but approximately 30 percent of new recruits do not complete their first term of service. It remains to be seen whether deployment is a factor in their departure, and whether formally controlling for attrition affects the estimated effect of deployment on first-term reenlistment. A deployment analysis that follows a member from entry through the first term and possibly beyond requires longitudinal data as well as longitudinal theoretical and empirical models of retention.