Since the end of the Gulf War, the operational tempo of the military services has increased dramatically. By some accounts, deployments have increased anywhere from 60 percent (GAO, 1999) to 300 percent (Peters, 1997) between 1986 and 2000 for a force that has 700,000 fewer members and an officer corps that is 31-percent smaller. With recent retention shortfalls, it is often alleged that increased deployments are causing personnel losses. The most commonly cited evidence of this comes from surveys of servicemembers who are queried about their likes and dislikes of military service.\textsuperscript{1} While surveys of intentions, and other voiced dissatisfactions with military service, are important tools for identifying areas that require attention, it is just as important to evaluate actual behavior. The relevant question is whether such stated dissatisfaction translates into action so that increased deployments actually result in decreased retention.

Our approach for evaluating whether deployment is associated with changes in retention was to take data on the officer corps for the Army, Navy, Marine Corps, and Air Force; calculate the deployments each officer experienced; and link this information to whether and for how long each officer remained on active duty. We derive the measures of deployment from pay records (Imminent Danger Pay and Family Separation Allowance [FSA]) and each individual’s unit association. Given this information, and other such demographic information as occupation, rank, education, gender, and race, we modeled officers at two major phases of their careers: (1) junior offi-

\textsuperscript{1}See, for example, GAO (1999).
cers immediately after the expiration of the initial service obligation, O-2s and junior O-3s at roughly four to five years of service, and (2) midgrade officers (O-3s and O-4s) with between five and ten years of service.

We employed standard statistical modeling techniques to account for differences in retention patterns by occupation and demographics before looking for a relationship between deployment and retention. We evaluated the effects of two types of deployment, hostile and nonhostile, given that it is reasonable to expect that hostile deployment may affect personnel very differently than nonhostile deployment.

WHAT DID WE LEARN?

Our findings both confirm and contradict some of the common assumptions about the association between deployment and retention of officers. For example, we find a clear positive association between increasing amounts of nonhostile deployments and junior and midgrade officer retention: Officers who participate in more nonhostile deployments are retained at a higher rate in all services. Hostile deployment generally mitigates this positive effect but, in almost all cases examined, even those with some or all hostile deployment show higher retention rates than nondeployers.

Thus, in contradiction to the common consensus, deployment is not associated with higher attrition. However, in the late 1990s, junior officers with higher amounts of hostile deployment are generally associated with lower retention rates compared with junior officers who had the same amount of nonhostile deployment. This effect is most pronounced in the Air Force. For midgrade officers, however, three of the four services show a mitigation or mild reversal of the effect of hostile deployment—meaning that hostile deployment is associated with even higher retention rates—an effect likely attributed to self-selection.

In summary, for the time period we examined (1990–1999) and for the observed levels of deployment, the fundamental trend for junior and midgrade officers was that more deployment was associated with higher retention. For junior officers, hostile deployment tended to lessen, but not eliminate, the positive association with retention.
For midgrade officers, the effects of hostile deployment were even less and may even have had a slightly positive effect for Navy and Marine Corps officers.

HYPOTHESES UNLIKELY TO BE TRUE

While we cannot prove in this study that more deployment caused higher retention, our results cast doubt on other hypotheses.

“More Deployment Causes Lower Retention”

Our results clearly show that more deployment—at least long and/or hostile deployment as we have modeled—was associated with higher retention. If more long and/or hostile deployment caused lower retention, we would expect to observe this in our data. Because we observe the opposite, we can conclude that this hypothesis is not likely to be true, at least in the aggregate for populations similar to those we observed and for episodes of long and/or hostile deployment of the kind experienced in our study period.

This does not mean that, on an individual-by-individual basis, more deployment might cause particular officers to have lower probabilities of remaining in the military. Nor does it mean that increased amounts of deployment, greater than those observed in our data, would not cause a decrease in retention. However, within the constraints of our data we can safely conclude that increased amounts of long and/or hostile deployment did not result in lower retention.

“Hostile Deployment Causes Lower Retention”

For Army, Navy, and Marine Corps midgrade officers, using the same logic as in the previous case, we conclude that this hypothesis is probably false. If this hypothesis were true, we would see greater and more-consistent effects than the data show for midgrade officers. For junior officers, on the other hand, this hypothesis may be true in the sense that among those junior officers with the same amount of deployment, we generally observe lower retention among those with a larger fraction of hostile deployment. However, hostile deployment does not result in lower retention rates compared with those who do not deploy.
WHAT THESE DEPLOYMENT MEASURES REPRESENT

Our measures capture only particular types of deployment. Because they were constructed from pay records, our deployments are either long periods away from home and/or excursions into hostile regions of the world. Thus, in addition to capturing long actual deployments (more than 30 days), they also capture long unaccompanied tours of duty in which an individual received FSA. Hence, when we use the term “deployment,” we are referring to either periods away from home in which the servicemember (or a sizable fraction of the servicemember’s unit) drew FSA, or a period in which the servicemember drew Hostile Fire Pay.

Such a measure of deployment is relevant and important to study. For example, while unaccompanied tours are not “deployments” in the traditional sense, such long periods away from home and family can be hard on servicemembers. This measure represents those excursions away from home that are more likely to

• Individually impose a large burden on the servicemember and his or her family because of their length of time away from home and/or exposure to danger

• Concern operations that are militarily important and that are likely to involve the servicemember in his or her primary military job

• Be predictable, in the case of the nonhostile deployments, when compared with other deployments of shorter duration (less than 30 days).

These last two points may be important distinctions because nonhostile deployments of shorter duration are not captured in these data. We hypothesize that these deployments are typically less predictable and/or more oriented toward routine activities and training. If so, they are of a fundamentally different nature than the deployments we examine here and, given the necessary data, are worthy of a separate analysis as they may have an entirely different effect on servicemembers and their retention decisions.
There are a number of possible explanations for why these results are at such odds with the common wisdom that deployment is bad for retention:

• **Perception versus reality.** It may be that deployment is perceived as negative when, in fact, it has exactly the opposite effect. For example, it could be that servicemembers find deployment a convenient or socially acceptable scapegoat on surveys. However, the evidence, from this work and Hosek and Totten (1998), for long and/or hostile deployments certainly does not support the popular negative perception of deployment.

• **Alternate types of deployment are negative.** However, it also may be that the types of deployment captured with our measures have an aggregate positive effect because of their nature, while other types of deployment we could not capture with our pay-based measures are negative. For example, it may be that short, unplanned or unforeseen deployments—not included in our data—have a strongly negative effect.²

• **Self-selection mechanisms.** It also could be that those officers with the greatest dislike of deployment self-select into nondeploying positions prior to exiting the military.

• **Aggregation effects.** These results characterize how aggregates of officers responded to particular patterns of hostile and non-hostile deployment. As such, they shed little light on how a particular individual officer would respond if he or she experienced one or more additional deployments.

**DIRECTIONS FOR FUTURE RESEARCH**

There are a number of important directions in which to take this research:

• **Evaluating the effect of short and/or unplanned deployments.** Based on the results of this work, we hypothesize that short and/or

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²Some of the services have implemented efforts to make deployment more predictable, such as the Air Force reconfiguration into expeditionary forces. If the hypothesis is that unplanned and unforeseen deployment has the greatest negative effect, then efforts to improve deployment predictability should be very beneficial.
or unplanned deployments may have a negative impact on retention. The new data currently being collected by the services will contain information about short deployments and will permit evaluation of this hypothesis once sufficient data are collected.

- **Accounting for officer quality.** This work has found that increasing amounts of deployment are associated with higher retention rates, yet it is not known how deployment affects the overall quality of the officer corps. This is an important issue because the observed aggregate effects could be masking important differential effects. For example, lower-quality officers may have fewer civilian opportunities so that they may be more likely to endure a level of deployment that would cause higher-quality officers to leave.

- **Detailed modeling of specific communities.** Detailed modeling would allow us to account for differences within each community and to better investigate the causal question. For example, hostile deployment appears to have negative effects for Navy junior officers in legal occupations. This is different from all of the other Navy occupational categories.

- **Evaluating the extent of self-selection.** To put these results in a better context, it is necessary to improve our understanding of how much influence officers have on their future job assignments, particularly how that selection impacts their likelihood of deployment and their likelihood of remaining on active duty.