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Reshaping the Army's Active and Reserve Components

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Prepared for the Office of the Secretary of Defense

NATIONAL DEFENSE RESEARCH INSTITUTE

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Preface

This document reports the results of a research project entitled "Utilization of Reserve Components Under the Army Force Generation Model." The purpose of the project was to assess the utilization of U.S. Army active and reserve forces and to analyze policy options to improve utilization of reserve forces with respect to the U.S. Secretary of Defense's planning objectives.

To meet this objective, we reviewed U.S. Department of Defense (DoD) policy for managing the active and reserve components and identified different measures of utilization. We then examined the variation in utilization of capabilities across Army components and considered ways in which the Army could adjust the balance of capabilities to rebalance and equitably distribute the burden of deployment/mobilization on Army personnel.

The findings should be of interest to policymakers involved in managing the active and reserve components in DoD and in each of the services, particularly the Army; to defense planners interested in how the services may balance current demands in Iraq and Afghanistan with the need to prepare for emerging, unanticipated missions; and to researchers with a general interest in military manpower and personnel issues.

This research was sponsored by the Office of the Secretary of Defense, Cost Analysis and Program Evaluation, and conducted within the Forces and Resources Policy Center of the RAND National Defense Research Institute, a federally funded research and development center sponsored by the Office of the Secretary of Defense, the

Joint Staff, the Unified Combatant Commands, the Navy, the Marine Corps, the defense agencies, and the defense Intelligence Community.

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Background

During the Cold War, the reserve components (RC) were viewed primarily as a strategic reserve—an expansion force and a repository for capabilities that might be needed in support of major combat operations. In response to recent operational demands, the Army reorganized its forces based on a modular unit construct and implemented a cyclic activation and deployment model under the rubric of the Army Force Generation model. The Secretary of Defense's objective is for active component (AC) units to have a deploy-to-dwell ratio of 1:2. Both the Army Reserve and Army National Guard were reorganized to fill the role of an operational reserve, with an expected activation-to-dwell ratio of 1:5.

In recognition of these new demands, the Army made significant adjustments to its AC and RC forces, adjusting and rebalancing authorizations within and across components and converting many positions from military to civilian. Even with these adjustments, however, the current levels of deployment/mobilization of the active and reserve components are believed to exceed planning objectives. Furthermore, although future mission demands are uncertain, many believe that they will be higher than pre-9/11 levels.

Given these beliefs, DoD needs to determine whether further adjustments in force mix and utilization guidelines are needed. The goal of this study was to assess the utilization of Army active and reserve forces and to analyze policy options to adjust the balance and mix of capabilities and assist achievement of planning objectives for deploy-

ment and mobilization of Army forces. We examined three underlying questions:

- Are some personnel being deployed/mobilized more than others? Which occupational categories are most-heavily and least-heavily deployed/mobilized?
- Do these rates of utilization exceed the planning objectives set by the Secretary of Defense?
- How much could high rates of utilization be reduced if the Army rebalanced its forces from areas where utilization rates are low to areas where utilization rates are high?

To answer these questions, we reviewed DoD policy for managing the active and reserve components and identified different measures of utilization. We then examined the variation in utilization of capabilities across Army components and considered ways in which the Army could adjust the balance of capabilities to rebalance the burden of deployment/mobilization on Army personnel.

Measuring Service Member Deploy-to-Dwell and Activation-to-Dwell Ratios

The Secretary of Defense has outlined planning objectives that set individuals' expectations for the extent to which they will be deployed/activated. For AC personnel, the expectation is that, for every year that an individual is deployed, he or she will spend two years at home station. For RC personnel, the expectation is that, for every year that an individual is mobilized, he or she will spend five years demobilized. Current levels of use of both the active and reserve components are believed to exceed these goals. Given the importance of the planning objectives for the individual service member's use, it is important that DoD understand whether it is meeting its goals.

While conceptually straightforward, accurately measuring these statistics for individuals is not trivial. The central challenge is that, in order to identify whether individuals exceed the planning objective,

their experience must be measured over a period of time. However, at a specific point in time, there are many individuals for whom not enough time has yet elapsed to determine whether they will exceed the planning objective. In other words, some individuals have not yet exceeded planning objectives but will eventually do so. Similarly, some individuals have had lengthy deployments/activations but have not yet had sufficient dwell time to offset these deployments and activations. Developing component-wide measures of deploy-to-dwell and activation-to-dwell ratios requires assumptions about the extent to which individuals who have not exceeded the planning objectives will eventually do so and the extent to which individuals who have exceeded the planning objectives will eventually fall within these guidelines.

Therefore, while metrics and databases do exist to provide information on deployment, activation, and dwell histories, reliable metrics that describe the extent to which individual service members will meet or exceed the planning objectives do not yet exist. Furthermore, developing a predictive model of deployment and mobilization for individuals is beyond the scope of this current analysis. However, doing so remains a significant task for future research, since it is critical that DoD and the services understand how well they are (or are not) doing in managing the force.

Current Utilization of Army Capabilities

Our analysis focuses on current utilization of service members by component, occupational category, and career field. Our assumption is that current utilization of a skill reflects the demand for that skill. Since we cannot measure deploy-to-dwell and activation-to-dwell ratios by skill group, we focus on four different statistics that measure utilization. Each captures a slightly different aspect of deployment/mobilization.

Our analysis suggests that the Army Reserve is the most *unbalanced* of the components—that is, the extent to which service members in its high-utilization career fields are currently mobilized is disproportionately high relative to the component average. However, this imbalance is not limited to the Army Reserve. In fact, several career fields are

highly utilized in multiple components. Therefore, it could be difficult to successfully rebalance those career fields through cross-component trades—shifting personnel from a career field in one component to the same career field in another component.

Rebalancing Within Components

It is feasible to rebalance the Army components through increases in end strength, converting billets from low- to high-utilization career fields, or some combination of these two strategies. While both the active component and the Army National Guard have experienced recent growth, substantial numbers of additional personnel in all components would be required to bring utilization levels of high-utilization skills into alignment with Army averages. Our assessment is that the Army is not likely to be provided sufficient manpower authorizations and resources to completely reduce utilization in high-utilization career fields.

Converting billets from low- to high-utilization career fields could partially, but not completely, rebalance the reserve components. This is because the number of billets needed to bring all high-utilization career fields to the component average exceeds the number of available billets in low-utilization career fields. Furthermore, individuals in low-utilization career fields are still doing work, and the Army will probably not want to convert all those billets to high-utilization career fields.

Factors That Affect Rebalancing Across Components

It is also possible to rebalance *across* components, converting billets from a low-utilization career field in one component to a high-utilization career field in another component. Such rebalancing remains an option as the Army makes decisions about how to size and structure its components.

However, additional factors, not just the current operational environment, should help determine whether any rebalancing should occur.

Most important, components are sized and structured not only to meet current demands but also to meet anticipated future demands. Rebalancing a component by converting billets essentially depletes strategic depth in one functional area and places it in another. Many anticipated future scenarios seem to require capabilities and skills similar to those needed in current operations. If these projections are accurate, rebalancing might be appropriate. However, if existing strategic depth is important to meet emerging unanticipated demands, additional challenges will arise.

Our analysis reveals that some considerations are important in the assignment of specific missions but play less of a role in decisions about reshaping across components. One set of issues concerns the potential suitability of various missions for reserve forces. It is DoD policy that both the AC and the RC contribute to meeting defense requirements across the full spectrum of operations. This implies that both components maintain some depth in all functional areas. However, a mission's timing considerations will play a role in its assignment. If a mission requires an immediate, high state of readiness, or has a short lead time, it is best suited to the active component; missions that are more limited in duration and that allow for a longer dwell period are more suitable for the RC. Any rebalancing across components should be cognizant of preserving these characteristics of each component.

Another set of issues concerns the relative cost of AC and RC units. Contrary to conventional wisdom, the data suggest that, for brigade combat teams, there are unlikely to be significant cost savings from placing operational capabilities in the reserve components instead of the active component. Rather, the literature suggests that the costs are roughly identical, although this conclusion is sensitive to a number of assumptions. The implication is that any rebalancing of operational units should be done for reasons other than cost.

Conclusions

Taken together, our analysis suggests a four-step process for policymakers as they consider opportunities to reshape the Army's active and reserve components:

1. *Are high-utilization skills likely to be in high demand in the future?* If so, then these skills are candidates for rebalancing. If not, this implies that current demand is only temporary, and our analysis suggests that an all-volunteer force can sustain above-average utilization.
2. *Are there significant risks associated with too little strategic depth in high-utilization skills?* Even if high-utilization skills are not likely to be in high demand in the future, policymakers might determine that the risk of too little strategic depth is significant. If so, these skills are candidates for rebalancing.
3. *Will converting billets from low-utilization skills result in a substantive decrease in the ability to meet demand for those skills?* Assuming that high-utilization skills are identified as candidates for rebalancing in step 1 or step 2, policymakers need to identify the specific way in which to rebalance. If converting billets from low-utilization skills will result in a significant decrease in the Army's ability to meet demand, policymakers should try to identify other options. If the risk is low, these skills are candidates for rebalancing.
4. *Are there significant risks associated with less strategic depth in low-utilization skills?* Finally, policymakers should identify whether there are risks associated with less strategic depth in these low-utilization skills. If not, these skills are candidates for rebalancing. More generally, policymakers need to identify whether the risks associated with less strategic depth in these low-utilization skills are fewer or greater than the risks associated with too little strategic depth in high-utilization skills.

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Abbreviations

AC	active component
AOR	area of responsibility
ARFORGEN	Army Force Generation
ARNG	Army National Guard
CENTCOM	U.S. Central Command
CMF	career management field
CNGR	Commission on the National Guard and Reserves
CS	combat support
CSS	combat service support
DEERS	Defense Enrollment Eligibility Reporting System
DMDC	Defense Manpower Data Center
DoD	U.S. Department of Defense
DPS	Defense Planning Scenarios
FY	fiscal year
JUMPS	Joint Uniform Military Pay System
MP	military police
OSD	Office of the Secretary of Defense

PMOS	Primary Military Occupational Specialty
PsyOps	psychological operations
QDR	Quadrennial Defense Review
RA	Reserve Affairs
RC	reserve components
SecDef	U.S. Secretary of Defense
SelRes	Selected Reserve
USAR	U.S. Army Reserve
WEX	Work Experience File

CHAPTER ONE

Introduction

Background

During the Cold War, the reserve components (RC) were viewed primarily as a strategic reserve—an expansion force and a repository for capabilities that could be needed in support of major combat operations. This strategic reserve model provided operational planners with a pool of forces at established levels of personnel, training, equipment, and readiness, predicated on an assumption that there would be sufficient time to bring them up to deployable standards after they were mobilized. The by-product of the strategic reserve model was a seemingly larger force at a relatively low cost.

In response to recent operational demands, the Army began to reorganize forces based on a modular unit construct and implemented a cyclic activation and deployment model under the rubric of the Army Force Generation (ARFORGEN) model. This transition began in 2004 and is expected to be complete by 2011 (U.S. Army, 2008). In contrast to an approach in which certain units have higher priority than others, all Army units are rotated through a reset and train-ready phase and subsequently deployed. The U.S. Secretary of Defense's (SecDef's) objective is for active component (AC) units to have a deploy-to-dwell ratio of 1:2—that is, one year deployed to two years at home station. The U.S. Army Reserve (USAR) and Army National Guard (ARNG) were both reorganized to fill the role of an operational reserve, with an expected activation-to-dwell ratio of 1:5.

In recognition of these new demands, the Army made significant adjustments to its AC and RC forces, adjusting and rebalancing autho-

rizations within and across components and converting many positions from military to civilian (U.S. Army, 2008). Current end strengths provide the foundation for creating units that provide combat, combat support (CS), and combat service support (CSS) capabilities within each of the three components. Even with these adjustments, however, current levels of deployment/mobilization of the AC and RC are believed to exceed planning objectives (Casey, 2009). Furthermore, while future mission demands are uncertain, many believe that they will be higher than pre-9/11 levels.

Given these beliefs, the Department of Defense (DoD) needs to determine whether further adjustments in force mix and utilization guidelines are needed. This determination should account for the uncertainty surrounding future mission demands, the relative costs and benefits of involvement of active and reserve forces, and the appropriateness of missions for the active and reserve components.

Objective

Our goal was to assess the utilization of Army active and reserve forces and to analyze policy options for adjusting the balance and mix of capabilities to help achieve planning objectives for mobilization and deployment of Army forces. We examined three underlying questions:

- Are some personnel being deployed/mobilized more than others? Which occupational categories are most-heavily and least-heavily deployed/mobilized?
- Do these rates of utilization exceed the planning objectives set by the SecDef?
- How much could high rates of utilization be reduced if the Army rebalanced its forces from areas where utilization rates are low to areas where utilization rates are high?

To answer these questions, we reviewed DoD policy for managing the active and reserve components and identified different measures of utilization. We then examined the variation in utilization of

capabilities across Army components and considered ways in which the Army could adjust the balance of capabilities to rebalance the burden of deployment/mobilization on Army personnel.

Organization

In the next chapter, we describe the data we used in our analysis. In Chapter Three, we review recent DoD policy for managing the active and reserve components. In Chapter Four, we review current approaches to measuring deploy-to-dwell and activation-to-dwell ratios and discuss the challenges involved in measuring the extent to which service members meet or exceed planning objectives. In Chapter Five, we describe the current demand for Army capabilities and the extent to which different skills are currently being utilized to meet this demand.

The next two chapters assess ways in which the Army can rebalance the active and reserve components. In Chapter Six, we examine rebalancing within components; Chapter Seven examines factors that affect rebalancing across components. The final chapter provides some concluding thoughts.

CHAPTER TWO

Data

In our empirical analysis, we combined several databases provided by the Defense Manpower Data Center (DMDC) to develop a comprehensive, longitudinal view of individual service members' experiences on active duty and in the RC. These databases include the Work Experience File (WEX), Defense Mobilization and Deployment files, Joint Uniform Military Pay System (JUMPS) files, and Defense Enrollment Eligibility Reporting System (DEERS) files. RAND receives regular updates of these databases and combines them over time to build a longitudinal record for each service member.

We used these data to obtain specific information about individual service members. This included the component with which they are affiliated (active Army, USAR, ARNG), length of service, pay grade, and the Primary Military Occupational Specialty (PMOS) in which they work. In addition, we obtain detailed information about individuals' deployment/activation histories, including whether an individual is currently deployed/activated, whether he or she had ever been deployed/activated, and the cumulative number of months an individual has been deployed/activated since 9/11.

We use information from the most recent update of the data (as of the time we began our analysis) throughout this monograph. These data reflect the experiences of all individuals in the AC or RC as of December 15, 2008. For ease of exposition, we refer to all statistics calculated using these data as *current* statistics. For example, the "percentage currently deployed" is the "percentage deployed as of December 15, 2008."

The sample on which we focused includes all service members affiliated with the Army, whether on active duty or in the Selected Reserve (SelRes). In addition, we applied a few restrictions to this sample. First, we focused on enlisted personnel and commissioned officers, excluding warrant officers (the pay grade restriction) throughout this monograph. In addition, some of our analysis incorporated information on length of service and the amount of time an individual was deployed or activated after 9/11. When we used this additional information, we excluded individuals for whom length-of-service data were missing (the length of service restriction).[1]

Table 2.1 lists the number of individuals in our sample and the impact that these restrictions have on the size of our sample. As the table shows, focusing exclusively on enlisted personnel and commissioned officers results in a small reduction in sample size. Imposing the length of service restriction results in a more substantive reduction. However, even with this restriction, our analyses still focus on 89 to 94 percent of the entire population.

Table 2.1
Data and Sample Restrictions

		Selected Reserve	
Restrictions	**Active Army**	**USAR**	**ARNG**
All members	556,819	199,248	365,071
Pay grade restriction	542,014	196,389	357,917
Percentage of original	97%	99%	98%
Length-of-service restriction	523,852	178,361	325,535
Percentage of original	94%	90%	89%

SOURCE: Authors' tabulation of the DMDC data.

[1] We also exclude a very small number of individuals for whom the number of months deployed or activated exceeds the number of months of service.

CHAPTER THREE

DoD Policy for Managing the Active and Reserve Components

In this chapter, we review recent DoD policy for managing the active and reserve components. The policies on which we focus serve as a framework for our analysis and guide our assessment of the implications of our empirical findings.

Utilization of the Total Force

In January 2007, the SecDef issued a memorandum that made several changes to DoD policy (SecDef, 2007). While this memorandum outlined six specific guidelines, four of these are especially relevant to our analysis.[1] The first two applied specifically to the reserve component. First, involuntary mobilization for RC members is limited to a maximum of one year at a time. Second, mobilization of RC ground forces is managed on a unit basis, with the intent to provide "greater cohesion and predictability in how these Reserve units train and deploy" by reducing reliance on cross-leveling of service members from one unit to another.[2]

[1] In addition to the guidelines discussed below, the memorandum also directed the services to (a) minimize the use of Stop Loss and (b) review use of hardship waivers to accommodate "exceptional circumstances facing military families of deployed service members" (SecDef, 2007).

[2] All quotes in this section are from SecDef (2007).

The next two guidelines applied to both the AC and the RC. The SecDef's planning objectives for involuntary mobilization of RC units and the deployment of AC units were explicitly delineated. Specifically, the planning objective for the RC is a ratio of "one year mobilized to five years demobilized" (1:5); the planning objective for the AC is a ratio of "one year deployed to two years at home station" (1:2).

For both the AC and the RC, the SecDef recognized that some service members would be expected to deploy/mobilize more frequently than these planning objectives, although the goal is that exceptions are temporary and require review by the SecDef. Therefore, the SecDef directed the establishment of a program to "compensate or incentivize" individuals who are required to "mobilize or deploy early or often." Service members who deploy or who are mobilized beyond established rotation policy goals are awarded days of administrative absence while on active duty or, in selected instances, assignment incentive pay (USD P&R, 2007a; 2007b).

One implication of the SecDef memorandum is that the planning objectives apply to both units *and* individuals. The planning objectives *explicitly* apply to units. However, since "individuals in both the active and reserve components who are required to mobilize or deploy early or often, or extend beyond the established rotation policy goals" should be compensated, the planning objectives also apply to service members. Since individuals do not remain with the same unit throughout their military careers, this is not a trivial distinction.

SecDef (2007) uses the phrase "planning objectives," and we use the same terminology throughout this monograph. Since the SecDef recognizes that some service members would be expected to deploy/mobilize more frequently, we interpret the planning objectives as target maximums for deployment and mobilization.

It should be noted that, while the Army has stated different goals for the AC and RC, these are not inconsistent with the SecDef planning objectives. For example, in 2009, the Chief of Staff of the Army stated that "our goal is to achieve . . . one year deployed to four years at home for Reserve Component units" (1:4) as a near-term goal en route to the long-term goal of 1:5 (Casey, 2009). In other words, the Army recognizes that it has not been at the SecDef planning objec-

tive and has set interim goals to measure progress towards this objective. Similarly, the Chief of Staff of the Army has recently signaled a commitment to a long-term goal of 1:3 for the AC (Bacon, 2011a) and nine-month deployments are expected to begin in 2012 (Bacon, 2011b). Steady-state rotation goals are now 1:3 for the AC, with nine months in the available phase, and surge rotation goals are 1:2, with 12 months in the available phase. For the RC, these goals are 1:5 and 1:4, respectively (U.S. Army, 2011). This goal allows for more dwell time than the SecDef planning objective, consistent with the planning objectives being target maximums for deployment.

Managing the Reserve Components as an Operational Force

DoD Directive 1200.17 establishes the general policies and principles related to managing the reserve components as an operational force (DoD, 2008). A few of these are directly relevant to our analysis. First, the reserve components should provide both operational capabilities and strategic depth. They should plan to be used (operationally) and, when not engaged in operational activities, they should plan to be available in strategic reserve.

Second, the reserve components are expected to contribute "across the full spectrum of conflict," and both the AC and RC are to be "integrated as a total force." In other words, both the AC and the RC should be considered in planning for *any* type of mission that might be contemplated. DoD (2008) emphasizes this point further, explicitly noting that "Homeland Defense and Defense Support to Civil Authorities . . . are total force missions," implying that, even in missions occurring within the homeland, both the AC and the RC are to be involved.

Finally, DoD (2008, p. 6) instructs the secretaries of the military departments to "ensure force rebalancing is conducted on a continuing basis to adjust force structure and individual skill inventories to meet full spectrum operations while moderating excessive utilization of the total force." While "excessive utilization" is not explicitly defined, DoD (2008) refers to the SecDef planning objectives and notes that these

objectives "enhance . . . judicious and prudent use of the RC." A reasonable inference, then, is that rebalancing should be conducted to minimize the extent to which the components exceed the planning objectives.

CHAPTER FOUR

Measuring Service Member Deploy-to-Dwell and Activation-to-Dwell Ratios

As we have discussed, SecDef (2007) outlined planning objectives that set individuals' expectations for the extent to which they will be deployed or activated. Although the planning objectives explicitly apply to units, they implicitly apply to individual service members. For AC personnel, the expectation is that, for every year that individuals are deployed, they will spend two years at home station. For RC personnel, the expectation is that, for every year that individuals are mobilized, they will spend five years demobilized. These planning objectives are typically expressed as ratios: 1:2 for AC units and personnel, and 1:5 for RC units and personnel.

Given these planning objectives, it is reasonable to try to identify whether units and individuals actually meet or exceed these goals. In fact, since individuals who exceed these planning objectives are supposed to be compensated or incentivized, it is *necessary* to measure the extent to which individuals' actual experiences meet or exceed the goals. Furthermore, it is clear from SecDef (2007) that the applicability of the planning objectives to units is intended to improve "predictability" for *individuals*. Given the importance of the planning objectives for individual service members' utilization, it is important that DoD understands whether it is meeting its goals for these individuals.

Current levels of utilization of both the AC and RC are believed to exceed SecDef planning objectives. In fact, SecDef (2007) explicitly reflects this: "[M]ost active units are deploying for one year, returning home for one year, then redeploying . . . today's global demands will

require a number of selected Guard/Reserve units to be remobilized sooner than this standard."

While conceptually straightforward, accurately measuring these statistics for individuals is not trivial. The central challenge is that, in order to identify whether individuals exceed the SecDef planning objective, their experience must be measured over a period of time.[1] However, at a specific point in time, there are many individuals for whom not enough time has elapsed to determine whether they will exceed the planning objective. In other words, some individuals have *not yet* exceeded planning objectives but will eventually do so. Similarly, some individuals have had lengthy deployments or activations but have not had sufficient dwell time to offset these deployments/activations.

In this chapter, then, we review current approaches to measuring deploy-to-dwell and activation-to-dwell ratios and discuss the weaknesses of these approaches. To provide the reader with a sense of the extent to which some service members are exceeding the SecDef planning objectives, we also calculate these ratios for small cohorts of Army service members. The chapter points to the need for additional research to develop new methods for measuring deploy-to-dwell and activation-to-dwell ratios.

Fraction of Time That Individuals Spend Deployed/Activated

A common approach to assessing deploy- and activation-to-dwell ratios is to calculate the fraction of time since 9/11 that units (e.g., Sortor and Polich, 2001) and individuals (e.g., Quester et al., 2004; Guice, 2008) have spent deployed/mobilized. This approach stems from the observation that the SecDef planning objectives imply an acceptable fraction of time that units and individuals can spend deployed/activated. For example, if an AC unit spends two years at home station for every year

[1] This period depends on the length of a deployment/mobilization. For AC personnel, if a deployment lasts 12 months, the relevant period lasts 36 months. For RC personnel, if a mobilization lasts 12 months, the relevant period lasts 72 months.

that it is deployed, the unit will spend one-third of the time deployed. If the fraction of time that a unit has been deployed exceeds one-third, it implies that the unit has exceeded the planning objective. Similarly, if RC personnel spend five years demobilized for every year mobilized, the individual will be mobilized one-sixth of the time. If the fraction of time that the individual has been mobilized exceeds one-sixth, this implies that the individual has exceeded the SecDef planning objective.

This metric can be highly misleading when measuring deploy-to-dwell and activation-to-dwell ratios for individuals. In fact, unless an individual is at the end of a deploy- or activation-to-dwell cycle, this measure is not a useful barometer of whether an individual has exceeded the SecDef planning objective. Furthermore, the measure is not a useful barometer of whether an individual will exceed the planning objective.

To see this, consider the following illustrative example. In this scenario, *the individual will meet the SecDef planning objective*. Suppose an individual

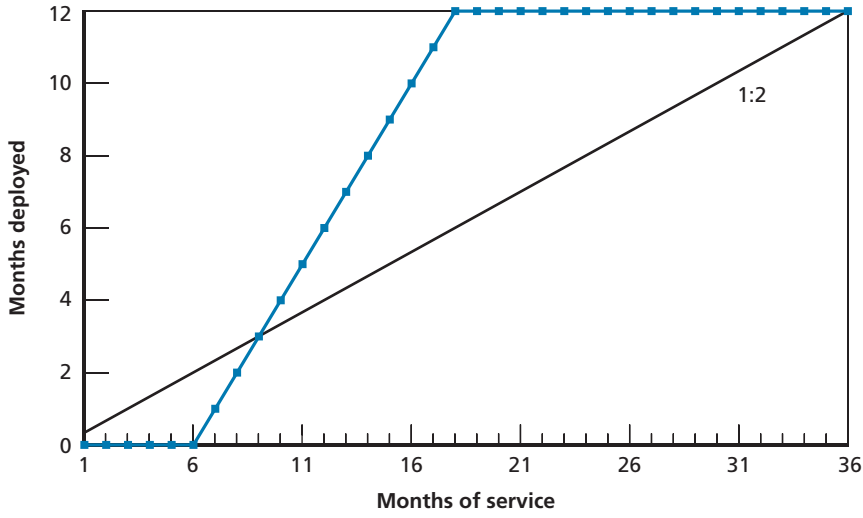
- joins the AC[2] and spends six months in training
- once training is complete, spends 12 months deployed
- once deployment is complete, spends 24 months at home station.

Clearly, this experience is consistent with the SecDef planning objective for active-duty personnel.

Figure 4.1 displays this individual's experience graphically. The dotted line measures the individual's cumulative months of deployment (the vertical axis) against his cumulative months of service (the horizontal axis). The solid line indicates the fraction of time spent deployed that is implied by the SecDef planning objective. Note that the solid line passes through 12 months deployed at 36 months of service (1:2). Wherever the dotted line is higher than the solid line, the individual's fraction of time spent deployed exceeds the fraction implied by the SecDef planning objective. Wherever the dotted line is lower than the solid

[2] For individuals in the RC, the issues are qualitatively similar.

Figure 4.1
Illustrative Example of an Individual Who Meets the AC Planning Objective



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line, the individual's fraction of time spent deployed is within the fraction implied by the planning objective.

Figure 4.1 makes it clear that, when measured at a specific point in time, an individual's fraction of time spent deployed can be greater than, equal to, or less than, the percentage implied by the planning objective, even though this individual *meets, and never exceeds, the planning objective*. In this specific example, the individual appears to exceed the planning objective from ten months of service until 36 months of service. In other words, this measure provides no information about whether this individual will actually meet or exceed the SecDef planning objective.

Percentage of Individuals Who Exceed the Planning Objective

This illustrative example is trivial, since we know the length of the individual's deployment and are able to observe the entire period on

which we need to focus. The reality is more complicated. For individuals currently deployed/activated, the data do not allow us to identify how long the deployment/activation will eventually last. Furthermore, for individuals currently between deployments/activations, we do not have information about when (or whether) they will deploy or mobilize in the future.

Both of these factors complicate the analysis and preclude precise estimates of the extent to which service members will meet or exceed SecDef planning objectives. For example, if an individual has been deployed for 11 months, we do not know whether he will eventually exceed 12 months deployed out of 36 months. The current deployment could last for one more month, after which the individual could spend 24 months at home station (meeting the planning objective) or could last more than one more month (exceeding the planning objective). Furthermore, the current deployment could last for one more month, but the individual could spend only 12 months at home station (exceeding the planning objective). Similarly, if an individual was deployed for 15 months and has currently spent 24 months at home station, we do not know whether he will eventually spend 30 months at home station (meeting the planning objective) or whether he will deploy beforehand (exceeding the planning objective).

However, it is possible to identify individuals *who have already exceeded* the SecDef planning objectives. For example, if an individual has been deployed for 17 months in the past two years, we know that he has exceeded 1:2. This observation leads to an alternative measure of the extent to which the Army is meeting or exceeding its goals: the percentage of individuals who have exceeded the SecDef planning objective.

For example, for individuals with less than or equal to 36 months of service, we can calculate the percentage with more than 12 months deployed. Similarly, for individuals with more than 36, but less than or equal to 72, months of service, we can calculate the percentage with more than 24 months deployed. This gives us the percentage of AC personnel who have already exceeded 1:2. We can also calculate the percentage of service members who have already exceeded higher frequencies of deployment (e.g., 1:1). For RC personnel, we can calculate similar statistics relative to the SecDef planning objective of 1:5.

Returning to our illustrative example in Figure 4.1, this individual would correctly *not* be labeled as "exceeding the SecDef planning objective." This individual never exceeds 12 months deployed in his first 36 months of service. In this respect, this measure is an improvement over measures of the fraction of time that individuals spend deployed/activated, since it eliminates some false positives.

However, incomplete deployment/activation and dwell "spells" still present a challenge. Individuals with less than or equal to 36 months of service and with more than 12 months deployed might eventually have sufficient dwell time to bring them within the SecDef planning objective. In addition, however, some individuals who have not exceeded the planning objective could eventually exceed it.

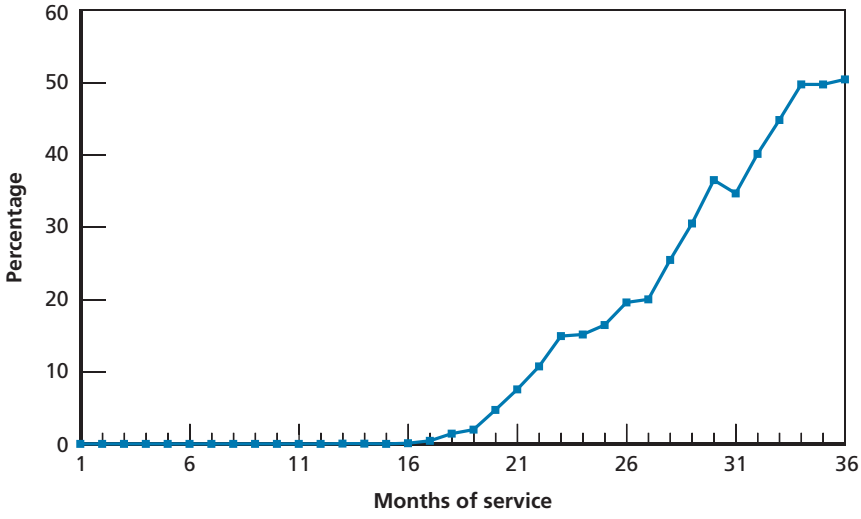
Results for AC Personnel

Based on this metric, we estimate that about 9 percent of active-duty personnel have exceeded 1:2. Less than 1 percent of AC personnel have exceeded 1:1. There is, however, notable variation by length of service. About 12.5 percent of individuals with less than or equal to 36 months of service have had more than 12 months deployed; about 11.5 percent of individuals with more than 36, but less than or equal to 72, months of service have been deployed for more than 24 months. In contrast, only about 5 percent of individuals with more than 72 months of service have been deployed for more than 36 months since 9/11.

Note that these percentages are for all active-duty personnel, not just those who have deployed. While about 9 percent of active-duty personnel have exceeded 1:2 using this metric, this is a weighted average of 0 percent of personnel who have never deployed (33 percent of active-duty personnel have never deployed) and 13 percent of personnel who have deployed at least once (67 percent of active-duty personnel).

As we have discussed, there are some individuals who have not yet exceeded the planning objective but who will eventually do so. Figure 4.2, which displays the percentage of AC personnel with more than 12 months deployed, by length of service, illustrates this point. As the figure shows, no individuals with less than 12 months of service have exceeded the SecDef planning objective. Of course, none of them has had the *opportunity* to exceed the planning objective, since individuals

Figure 4.2
Percentage of AC Personnel with More Than 12 Months Deployed, by Length of Service



RAND *MG961-4.2*

with less than 12 months of service cannot have more than 12 months of deployment.

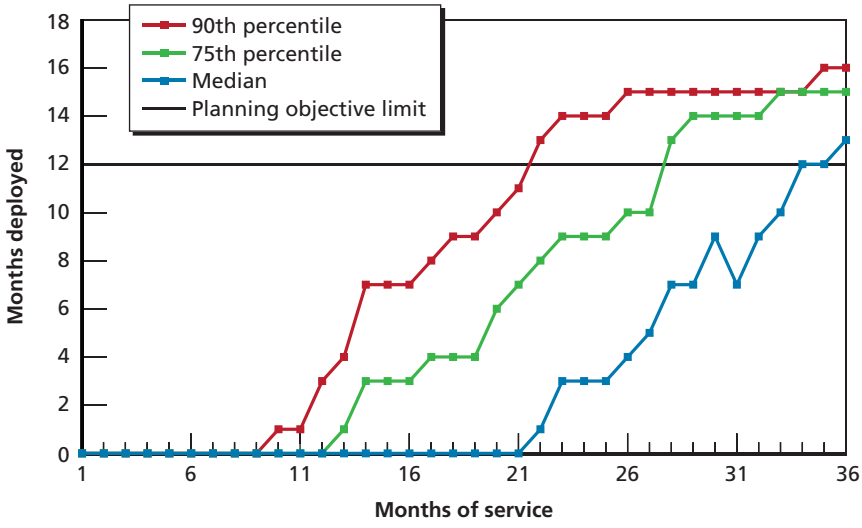
As length of service increases, however, Figure 4.2 demonstrates that the percentage exceeding the SecDef planning objective also rises. At 24 months of service, about 15 percent of AC personnel have more than 12 months deployed (exceeding 1:1). At 36 months of service, about 50 percent of AC personnel have more than 12 months deployed (exceeding 1:2). While these percentages might appear high to some readers, we note that the SecDef memorandum outlining his planning objectives was issued in January 2007. Therefore, individuals with 24 and 36 months of service began their active-duty service *before* the SecDef memorandum was issued.

Since these estimates are cross-sectional (i.e., they are measured at a single point in time), one cannot automatically assume that individuals who currently have fewer months of service will have the same experiences as individuals with more months of service. However, if the Army continues to use the AC in a similar fashion, it is reasonable

to expect current cohorts to eventually have outcomes similar to those with more time in service. If this is the case, the percentage that has exceeded the SecDef planning objective could be an unreliable estimate of the percentage that will eventually exceed the planning objective.

Disaggregating the data within months of service reveals even more heterogeneity in deployment experiences. Figure 4.3, which displays months deployed by length of service, shows some of this variation. The solid black line represents the SecDef planning objective limit for individuals with 36 months of service: 12 months of deployment (i.e., 1:2). The dotted lines measure the number of months deployed at different percentiles of the distribution. For example, at the median number of months deployed, 50 percent of AC personnel have more months deployed, and 50 percent have fewer months deployed. Similarly, at the 75th percentile, 25 percent have more months deployed; at the 90th percentile, 10 percent have more months deployed. As Figure 4.3 shows, the median active-duty service member does not exceed the planning objective until 36 months

Figure 4.3
Number of Months Deployed for AC Personnel, by Length of Service



RAND *MG961-4.3*

of service, at which point he has 13 months of deployment, slightly more than 1:2. However, consistent with the data in Figure 4.2, this also means that 50 percent of service members with 36 months of service have more months deployed. At the 75th percentile, months deployed begin to exceed the planning objective at 28 months of service; at 36 months of service, 25 percent of AC personnel have more than 15 months deployed. Similarly, at the 90th percentile, months deployed begins to exceed the planning objective at 22 months of service, and, at 36 months of service, 10 percent of AC personnel have more than 16 months deployed.

Figure 4.3 also suggests that the earlier individuals are initially deployed, the more likely they are to eventually exceed the SecDef planning objective. Ten percent of AC personnel start their first deployment after 10 months of service, and 25 percent of AC personnel start their first deployment after 13 months of service. These individuals eventually exceed the planning objective. In contrast, the median service member does not start his first deployment until after 22 months of service.

Results for RC Personnel

We can calculate similar metrics for RC personnel, focusing on activation rather than deployment. Table 4.1 presents estimates for the Army Reserve and Army National Guard. In addition to the percentages of personnel who have exceeded the SecDef planning objective, we also present data on the percentages who have exceeded different activation-to-dwell ratios. These categories are not mutually exclusive—for example, all service members who exceed 1:2 also exceed 1:3, 1:4, and 1:5. As Table 4.1 shows, about 18 percent of Army Reserve and Army National Guard members have exceeded 1:5. For the USAR, about 16 percent have exceeded 1:4 and about 15 percent have exceeded 1:3; for the ARNG, the percentages are slightly smaller. For both the USAR and ARNG, approximately 6 percent have exceeded 1:2, the active-duty planning objective.

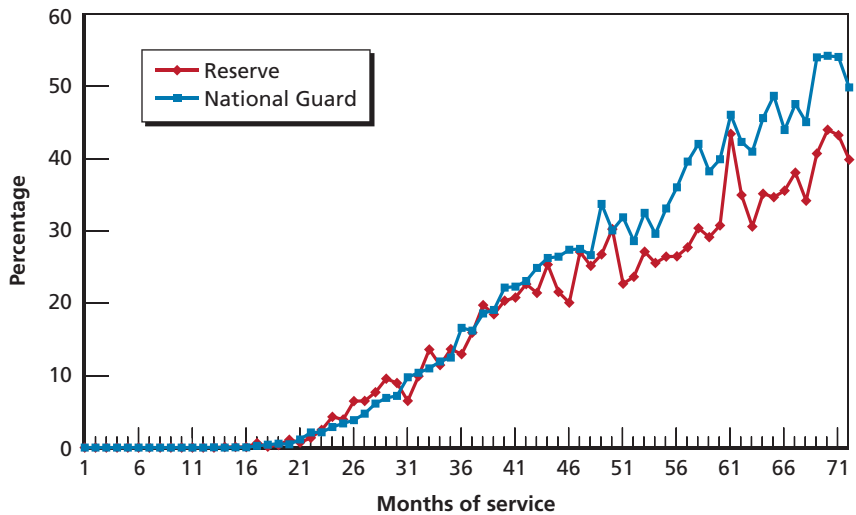
As was the case for AC personnel, there are some RC personnel who have not yet exceeded the SecDef planning objective but who will eventually do so. Figure 4.4, which displays the percentage of RC

Table 4.1
Percentage of RC Personnel Who Have Exceeded Activation-to-Dwell Ratios

	Percentage Exceeding			
Component	**1:5**	**1:4**	**1:3**	**1:2**
Army Reserve	18.4	16.4	15.1	6.0
Army National Guard	17.7	15.4	13.9	5.9

personnel with more than 12 months activated by length of service, illustrates this point. As the figure shows, for both the Reserve and National Guard, the percentage exceeding the SecDef planning objective generally rises with length of service. At 36 months of service, about 13 percent of reserve personnel and 17 percent of National Guard personnel have more than 12 months activated (i.e., exceed 1:2). At 72 months of service, 40 percent of USAR personnel and 50 percent

Figure 4.4
Percentage of RC Personnel with More Than 12 Months Activated, by Length of Service



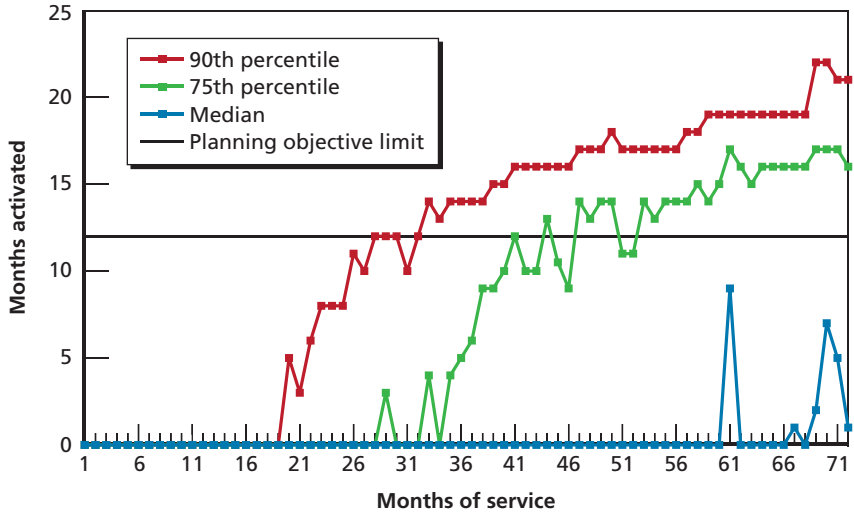
RAND *MG961-4.4*

of ARNG personnel have more than 12 months activated (i.e., exceed 1:5). While these percentages might appear high to some readers, we note that the SecDef memorandum outlining his planning objectives was issued in January 2007.

Therefore, individuals with 36 and 72 months of service began their active-duty service well *before* the SecDef memorandum was issued. Nevertheless, Figure 4.4 suggests that the data in Table 4.1 could be an unreliable estimate of the percentage of RC personnel who will eventually exceed the SecDef planning objective.

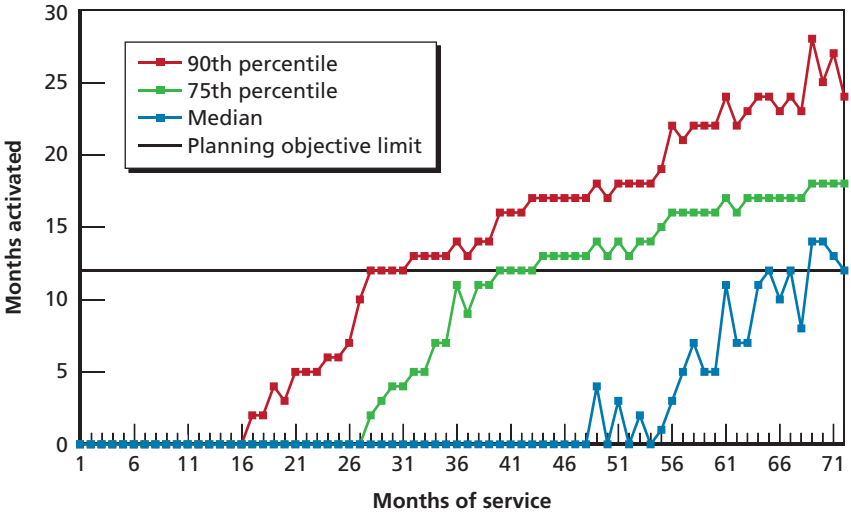
Disaggregating the data within months of service reveals even more heterogeneity in activation experiences. Figures 4.5 and 4.6, which display months activated by length of service for the USAR and ARNG, respectively, show some of this variation. In both figures, the solid black line represents the planning objective limit for individuals with 72 months of service: 12 months of activation (i.e., 1:5). The dotted lines show the number of months activated at different percentiles of the USAR and ARNG distributions.

Figure 4.5
Number of Months Activated for Army Reserve Personnel, by Length of Service



RAND *MG961-4.5*

Figure 4.6
Number of Months Activated for Army National Guard Personnel, by Length of Service



RAND *MG961-4.6*

As Figure 4.5 shows, the median reservist never exceeds the SecDef planning objective. At the 75th percentile, however, months activated first exceed the planning objective at 44 months of service; at 72 months of service, 25 percent of reservists have more than 16 months activated (approximately 1:3.5). Similarly, at the 90th percentile, months activated first exceed the planning objective at 33 months of service, and 10 percent of reservists have more than 21 months activated (about 1:2.4) at 72 months of service. Figure 4.5 also suggests that the earlier individuals are initially activated, the more likely they are to eventually exceed the SecDef planning objective.

As Figure 4.6 shows, the median National Guardsman does not exceed the SecDef planning objective until 69 months of service and, at 72 months of service, has 12 months of activation (i.e., 1:5). However, consistent with the data in Figure 4.4, this also means that 50 percent of National Guardsmen with 72 months of service have more months activated. At the 75th percentile, months activated begin to exceed the planning objective at 44 months of service; at 72 months of

service, 25 percent of National Guardsmen have more than 18 months activated (approximately 1:3). Similarly, at the 90th percentile, months activated begin to exceed the planning objective at 32 months of service, and, at 72 months of service, 10 percent of National Guardsmen have more than 24 months activated (about 1:2). Figure 4.6 also suggests that the earlier individuals are initially activated, the more likely they are to eventually exceed the SecDef planning objective.

Implications

As the data in this chapter demonstrate, identifying whether individuals meet or exceed the SecDef planning objectives is not trivial. Although it is straightforward to identify individuals who have exceeded the planning objectives, it is more difficult to identify other service members who have not yet exceeded those goals but eventually will. Similarly, some individuals have had lengthy deployments/activations but have not yet had sufficient dwell time to offset these deployments/activations. Developing component-wide measures of deploy-to-dwell or activation-to-dwell ratios requires assumptions about the extent to which individuals who have not exceeded the planning objectives will eventually do so and about the extent to which individuals who have exceeded the planning objectives will eventually fall within these guidelines.

One possibility is to use data for service members who have just completed deploy- or activation-to-dwell cycles as proxies for each component. For example, as Figure 4.4 shows, 40 percent of USAR personnel and 50 percent of ARNG personnel exceed 1:5 at 72 months of service. The advantage of using these data is that they represent actual experiences of actual service members; they are not estimates. The inference, however, is that all other service members will have deployment/activation experiences that resemble the experiences of the service members at the end of a cycle.

Figure 4.4 suggests that this inference can be inaccurate. For both the USAR and the ARNG, a higher percentage of service members with 69 to 71 months of service than with 72 months of service have

had more than 12 months of activation. This implies that the percentage exceeding the SecDef planning objective will be higher for these cohorts than for the cohort currently at the end of the activation-to-dwell cycle.

Furthermore, if there are substantial changes in the way that the Army uses its forces, it can take quite a bit of time for this measure to reflect these changes. For example, suppose that the Army immediately stops all deployments and mobilizations. There will still be a significant percentage of service members at 72 months of service who have exceeded the planning objective. However, the inference that their experiences reflect what new cohorts will experience is clearly inappropriate.

A more general alternative is to use information about some service members' deployment/mobilization experiences to predict what others' experiences will be like. Focusing on service members at the end of a cycle is an extreme case of this approach; it uses service members at this point to predict that all other service members will have the same experiences.

Figures 4.3, 4.5, and 4.6 suggest that the deployment/mobilization experiences of more-senior personnel could provide information about the extent to which more-junior personnel could eventually exceed the planning objectives. As each of these figures shows, there is a negative correlation between the point at which service members are first deployed/activated and the amount of deployment/activation at the end of a cycle. In other words, individuals who are deployed or activated earlier in their careers have more months of deployment/activation at the end of a cycle. This suggests that length of service at time of first deployment/activation should be be considered as one of multiple predictors in assessing if an individual is likely to exceed the planning objectives.[3]

[3] There is a large amount of literature that addresses the challenge of predicting the length of different types of events, based on an individual's history in a particular state. Examples include measuring the length of time an individual will eventually spend unemployed and the length of time an individual will eventually spend on welfare. For an excellent introduction to this literature, commonly referred to as *survival* or *event history analysis*, see Allison (1984).

Since this methodology relies on historical data to predict experiences of younger cohorts, it has the same inherent weakness as other approaches. In other words, if previous experiences are not good predictors of what will happen in the future, this approach will generate predictions that do not accurately reflect the extent to which other cohorts will meet or exceed the planning objectives.

Developing a predictive model of deployment/activation for individuals is beyond the scope of the current analysis. Without a reliable model to estimate deployment and activation, we do not have reliable metrics to describe the extent to which the components are meeting or exceeding the SecDef's planning objectives despite the rich databases that provide information on deployment, activation, and dwell histories. This remains a significant task for future research, since it is critical that DoD and the services understand how well they are (or are not) doing in managing the force.

However, comparisons of the amount of time spent deployed/activated for *groups* of individuals (e.g., service members within the same career field) with other groups (e.g., service members within another career field) are less sensitive to these weaknesses. Intuitively, this is because these groups contain individuals at all phases of the deploy- or activation-to-dwell cycles. Higher average time spent deployed/activated for a group, then, implies more-frequent use of that group. In the next chapter, we use these more aggregate measures in our analysis.

CHAPTER FIVE

Current Utilization of Army Capabilities

In this chapter, we describe the current demand for Army capabilities and the extent to which different skills are currently being utilized to meet this demand. (Our detailed empirical results can be found in Appendix B.)

Current Demand for Army Capabilities

The Army is heavily engaged in the current global strategic environment. There are currently more than 250,000 AC and RC personnel deployed or forward-stationed in about 80 countries (U.S. Army, 2008). More than half of these service members are in Iraq and Afghanistan. The Army supports counterterrorism operations in other parts of the world, including the Horn of Africa and the Philippines, while maintaining forward-presence commitments in Europe, Korea, the Balkans, and the Sinai Peninsula. Additional forces are on standing orders to perform homeland defense activities, as needed, and a significant fraction of today's Army performs activities to generate these operational activities.

In summary, the current demand for Army capabilities is considerable, with needs for combat, combat support, and combat service support across the full spectrum of operations in a variety of geographic locations and operational settings. The Army is widely viewed as under strain to meet its ongoing obligations with repeated deployments now considered the norm.

The Demand for Capabilities and the Utilization of Current Inventories

Given these demands, the Army utilizes service members in each component to meet these demands. Our empirical analysis focuses on current utilization of service members by component and career field. The implicit assumption is that current utilization of a skill reflects the demand for that skill. While this is usually a reasonable assumption, there are a few reasons why it is not completely accurate.

First, we cannot identify occupations that are not in the existing inventory, and some high-demand skills do not easily track back to the occupational classifications that are used. For example, there is no "Military Trainer" career field in the Army. Therefore, while a real demand for this skill exists, individuals are not classified by this skill in the data, and, therefore, we have no data on their utilization.

Furthermore, when deployed, soldiers do not always work in their primary occupation. If the Army has shortages of a particular skill, it will often use soldiers in other skill groups to alleviate these shortages. This will overstate the extent to which some skills are actually in demand. It also implies that high-utilization skills may be in even higher demand than the data suggest.

As we show in this chapter, each metric describing *utilization* focuses on mobilization/deployment in support of the current efforts in Iraq and Afghanistan. This should not imply that service members performing other tasks are not being used. In fact, as our assessment of the current demand for Army capabilities suggests, the Army has worldwide commitments, not just to U.S. Central Command's (CENTCOM's) area of responsibility (AOR). This is an important caveat and one that will be relevant in rebalancing discussions (see, in particular, Chapter Six of this monograph). Rather, our choice of these metrics reflects the current focus of the SecDef on mobilizations and deployments in support of the current efforts in Iraq and Afghanistan.[1]

[1] Note that SecDef (2007) refers to deployment and mobilization as "utilization"; we use this word in order to maintain consistency with the terminology used by the SecDef.

Despite these caveats, data on current utilization provide the best available information on current demand for Army capabilities. Furthermore, while measures of utilization might not provide precise estimates of the *level* of demand, it is likely that they provide reasonable estimates of *relative* demand. In other words, while we cannot estimate how high the operational demand for high-utilization skills is, we can be certain that high-utilization skills are in greater operational demand than low-utilization skills.

Metrics

Measuring Utilization

The ideal measure of *utilization* would center on the SecDef planning objectives discussed in Chapter Three. Skills that exceed the planning objectives would be considered "high-utilization skills," and those within the planning objectives would be considered "low-utilization skills." As Chapter Four demonstrated, however, reliable metrics for service member deploy-to-dwell and activation-to-dwell ratios do not currently exist. Skill-wide measures (e.g., the average activation-to-dwell ratio of service members in a skill group) suffer from the same shortcomings that plague estimates of the extent to which individuals in a skill group meet or exceed the planning objectives.

Since we cannot measure deploy-to-dwell and activation-to-dwell ratios by skill group, we focus on four different statistics that measure utilization. Each captures a slightly different aspect of utilization. For the RC, we use

- percentage of service members who are currently activated
- percentage of service members who have ever been activated
- percentage of time since 9/11 that service members have been activated
- percentage of service members with a large fraction of time activated.[2]

[2] For the RC, we focus on service members who have been activated more than one-sixth of the time since 9/11. For the AC, we focus on service members who have been deployed

For the AC, we use similar metrics, focusing on deployment rather than on activation.

The first metric, percentage of service members who are currently activated/deployed, is the measure most associated with current utilization. It measures the extent to which different skills are currently being utilized in the operational environment. Furthermore, if the Army were operating in a steady-state environment (e.g., mission demands remain constant, the components are neither increasing nor decreasing in size, retention rates remain constant), this measure would allow us to calculate the average activation-to-dwell and deploy-to-dwell ratios for skill groups. For example, in a steady state, if one-third of service members are currently deployed (i.e., for every service member who is deployed, two are not deployed), the deploy-to-dwell ratio would be 1:2.

The other three metrics focus on a broader time frame. For example, the percentage of service members who have ever been activated, the second metric, includes both service members who are currently activated and service members who have previously been activated. In principle, a skill can have both a high percentage of service members who have ever been activated and a low percentage of service members who are currently activated.

The final two metrics focus on utilization from the perspective of the individual service member. Chapter Four discussed the percentage of time since 9/11 that service members had been activated. While this is not a reliable measure of whether an individual will meet or exceed the planning objective, it does provide a measure of how often individual service members have been utilized in their career. Skills with a higher average amount of time spent activated are more heavily utilized.

Finally, the fourth metric provides a measure of the extent to which activation/deployment is an across-the-board experience or is limited to a relatively small number of individuals with a particular skill. Two skill groups could have the same average percentage of time

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more than one-third of the time since 9/11. These fractions correspond to those implied by the SecDef planning objectives.

spent activated, but one skill group could have a greater percentage of service members with large amounts of time spent activated.

Since each metric is based on the percentage of service members with a particular skill who exhibit a specific characteristic (e.g., they are currently activated), our measures of utilization reflect both demand *and* supply. For example, if personnel inventory (i.e., the supply) within a particular skill is relatively high, utilization might appear low, even if demand is also high.

We calculate each metric using data from December 15, 2008. These data provide a snapshot of AC and RC utilization, although three of these metrics incorporate cumulative information about service members' deployment and activation experiences over time. Since the number of Army personnel and the mix of AC and RC personnel deployed have varied greatly over time (Bonds, Baiocchi, and McDonald, 2010), calculating these metrics at a different point would result in different measured levels of utilization. These data, therefore, are intended to serve as illustrative examples of the extent to which utilization varies by skill.

Measuring High Utilization and Low Utilization

Since we cannot measure whether skills meet or exceed the SecDef planning objectives, we instead focus on a *relative* measure of high and low utilization. Specifically, we consider a skill to be *high utilization* if it is above the average within a component. Similarly, a skill is *low utilization* if it is below average. This relative measure implies that there will be both high-utilization (i.e., above-average utilization) and low-utilization (i.e., below-average utilization) skills within each component. In contrast, with an *absolute* measure of high and low utilization, it is possible that *all* skills could be classified as high utilization (e.g., all skills exceed the planning objective) or as low utilization (e.g., all skills are within the planning objective).

These metrics usually generate similar conclusions about relative utilization within each component. In other words, if a skill has a high (relative to other skills within the component) percentage currently activated, it usually has a relatively high percentage ever activated. However, there are exceptions, and some career fields that appear to

be high-utilization using one metric appear to be low-utilization when using another metric.

Note that considering all skills as either "high" or "low" utilization ignores the fact that some of these skills might be "close to" the average degree of utilization within a component. We adopt these two categories in order to avoid a subjective determination of how "close" to the average a skill would need to be to avoid being classified as "high" or "low." However, our analysis in Chapter Six incorporates the extent to which these skills are close to, or substantially different than, the average.

Given the relatively large number of career management fields (CMFs), combined with our use of four different metrics, we impose two restrictions on the data when identifying high- and low-utilization career fields. First, we restrict our attention to career fields for which we can draw the same conclusion for each metric. *High-utilization career fields* are those for which each metric is higher than the component average. Similarly, *low-utilization career fields* are those for which each metric is below the component average. This restriction minimizes the risk of relying on a single metric to draw anomalous conclusions about a career field.

Second, we restrict our attention to relatively large career fields. With a small career field, minor changes in its number of service members can result in large changes in its classification as high or low utilization. Therefore, we focus on career fields that have at least 0.5 percent of the service members in a component working in that career field. This restriction does not mean that we believe these career fields are unimportant. Rather, it means that measures of utilization in these fields are unstable.

Current Utilization

Tables 5.1, 5.2, and 5.3 summarize our analysis of differences in utilization by career field in the Army Reserve, Army National Guard, and the active component, respectively. These tables identify both high- and low-utilization career fields in each component, but they do not consider

the *magnitude* of these differences. The variation in utilization from one career field to the next gives us a sense of the extent to which each component is "unbalanced," and we will focus on this variation in Chapter Six. Detailed empirical results can be found in Appendix B, which contains specific data on the variation by career field within component.

Table 5.1
High-Utilization and Low-Utilization Career Fields in the Army Reserve

High-Utilization	Low-Utilization
Civil Affairs	Special Equipment
Transportation	Mechanical Maintenance
Chaplain	Chemical Operations
Psychological Operations (PsyOps)	Medical and Health Care
Explosives and Ammunition	Aviation Maintenance
Infantry	
Law Enforcement	
Finance	

Table 5.2
High-Utilization and Low-Utilization Career Fields in the Army National Guard

High-Utilization	Low-Utilization
Infantry	Recruiting/Retention
Air Defense	Logistics
Field Artillery	Chemical Operations
Law Enforcement	Administration
Armor	Electronic Maintenance
	Signal
	Special Equipment
	Medical and Health Care

Table 5.3
High-Utilization and Low-Utilization Career Fields in the Active Component

High-Utilization	Low-Utilization
Infantry	Recruiting/Retention
Field Artillery	Legal Services
Armor	Chemical Operations
Mechanical Maintenance	Air Defense
Transportation	Administration
Engineering	Electronic Maintenance
	Medical and Health Care
	Intelligence
	Signal

A comparison of Tables 5.1–5.3 reveals that some high-utilization career fields are common across components. In the AC and ARNG, Combat Arms career fields are among the most utilized, with the Infantry, Armor, and Field Artillery career fields characterized as high utilization. In the AC and USAR, Transportation is among the utilized. In the USAR and ARNG, the Law Enforcement career field is heavily utilized.

While some high-utilization skills are common across components, there are also some that are unique to each component. For example, in the USAR, Civil Affairs and PsyOps are the most utilized career fields; the AC and ARNG have very few service members working in these specialties. In the AC, Engineering is among the most utilized career fields, but this is not true in the USAR or the ARNG.

Many low-utilization career fields are also common across components. The Medical and Health Care, Chemical Operations, and Signal career fields are among the least utilized in all components. In the AC and ARNG, Recruiting/Retention, Administration, and Electronic Maintenance are also among the least utilized. In the USAR and ARNG, Special Equipment is among the low-utilization career fields.

There is only one case in which a high-utilization career field in one component is a low-utilization career field in another. Specifically,

Mechanical Maintenance is among the most utilized in the AC but is among the low-utilization career fields in the USAR.

In summary, our analysis suggests that several career fields are in high utilization in multiple components. Therefore, it could be difficult to successfully rebalance the career field through cross-component trades (i.e., shifting personnel from a career field in one component to the same career field in another component). However, the existence of low-utilization career fields suggests that it would be possible to shift personnel from one career field to another career field. In the next chapter, we explore the feasibility of rebalancing *within* components using this approach. Following this discussion, we identify factors that affect rebalancing *across* components in this way.

CHAPTER SIX

Rebalancing Within Components

As we showed in Chapter Five, there is variation in utilization within each component. Our measures of use focus on the extent to which personnel in a given career field are, or have been, deployed or mobilized. Therefore, this variation in utilization implies that each Army component is "out of balance." Army components are sized and structured based on assumptions about the extent to which they will need to be utilized. Since some career fields are highly utilized, relative to their size, and others are utilized less often, the implication is that the Army is being utilized differently than expected.

In principle, the Army can reduce utilization in high-utilization career fields through increasing end strength, converting billets from low-utilization to high-utilization career fields, or some combination of the two strategies. In this chapter, we present illustrative examples of rebalancing *within* components—i.e., reducing utilization in high-utilization career fields in one component without relying on adjustments to another component.

Note that adding end strength or moving service members from low-utilization to high-utilization career fields would likely require the creation of new units. Furthermore, creating more units to lower utilization of one career field would likely require additions to other career fields, since units are typically not made up of a single career field. Our analysis focuses explicitly on service members and their career fields, not on the units for which they are the foundation. Specific steps to rebalance within a component, however, would need to account for these interrelationships between career fields.

We do not offer these examples as recommendations for the way the Army *should* rebalance. We focus on a single metric measured at a single point in time for illustrative simplicity; using another metric or measuring utilization at a different point in time would result in quantitatively, if not qualitatively, different conclusions. Furthermore, individuals in low-utilization career fields are still doing work, and the Army will probably not want to convert all those billets to high-utilization career fields. In addition, rebalancing a component by converting billets from low-utilization to high-utilization career fields essentially removes strategic depth in one functional area and places it in another. If that depth is important to meet emerging, unanticipated demands, rebalancing in this manner creates additional challenges. Rather, these examples provide a sense of the extent to which rebalancing *could* be achieved using these methods.

Increases in End Strength

One of the ways in which the Army could reduce utilization in high-utilizaion career fields is through targeted increases in end strength. If additional personnel were available for mobilization and deployment in high-utilization career fields, the Army could, in principle, more evenly distribute the burden of mobilization and deployment among service members in that skill. This will be reflected in each of the metrics on which we focus—for example, lowering the percentage of service members currently deployed and the percentage of service members ever deployed.

To illustrate this, we used our data on current utilization to simulate the increases in end strength necessary to lower utilization in these high-utilization career fields. Specifically, for each high-utilization career field, we estimated the increase in personnel that would reduce the proportion of service members currently deployed/activated to the component average. This simulation incorporated two assumptions. First, we assumed that any increases are narrowly targeted to increases in high-utilization career fields. This is a fairly strong assumption, since there are other factors that affect decisions about

how to distribute personnel increases. Second, we assumed that any increases in end strength would not result in an increase in the number of deployments/mobilizations of service members in high-utilization career fields. This could also be a strong assumption since, as we discussed in Chapter Five, high-utilization skills may be in even higher demand than the data suggest. Because of these assumptions, our simulation gives an estimate of the *minimum* increase in end strength that would be needed to rebalance each component.

Table 6.1 presents our estimates of the increases in end strength that would reduce utilization in high-utilization career fields. For each component, the table lists fiscal year 2009 (FY09) authorized end strength; we also factor in the increase in active-duty end strength of 22,000 announced by the SecDef in 2009 (Bumiller, 2009).[1] The third row presents our estimates of the additional increase needed to reduce the proportion of service members currently deployed/activated in these career fields to the component average. The final row converts these estimates into percentages to give a sense of the extent to which the magnitude of these increases varies by component.

Table 6.1
Rebalancing High-Utilization Career Fields Through Increases in End Strength

	Army Reserve	Army National Guard	Active Component
FY09 authorized end strength	206,000	358,200	547,400
SecDef increase	n/a	n/a	22,000
Additional increase needed	22,790	24,319	16,650
Percentage increase needed	11.1%	6.8%	7.1%[a]

[a] Measures the impact of both the SecDef increase and the additional increase relative to FY09 authorized end strength.

[1] Consistent with our other assumptions, we assumed that this increase is narrowly targeted to high-utilization career fields. This assumption is probably not realistic, but it is intended to illustrate the extent to which rebalancing *could* occur.

As Table 6.1 shows, rebalancing high-utilization career fields in the Army Reserve would require the largest percentage increase in end strength, an increase of slightly more than 11 percent. Rebalancing high-utilization career fields in the Army National Guard and the active component would each require a smaller, but still substantial, increase of about 7 percent. These estimates imply that the Army Reserve is the most unbalanced of the components; the extent to which service members in its high-utilization career fields are currently mobilized is significantly higher than the component average.

Again, this example is illustrative; we are not suggesting that the Army *should* rebalance its components through increases in end strength. Furthermore, as we have noted, these are likely the minimum increases necessary to rebalance these high-utilization career fields. Rather, the simulation summarized in Table 6.1 suggests that the Army *could* rebalance through increases in end strength, and it provides an estimate of how large those increases would need to be.

Converting Billets from Low-Utilization to High-Utilization Career Fields

As an alternative—or in addition—to increases in end strength, the Army could reduce utilization in high-utilization career fields by converting some billets in low-utilization career fields to billets in high-utilization career fields. To illustrate this, we used our data on current utilization to simulate the extent to which we could rebalance components using this strategy. This simulation involved two separate steps. First, we removed billets from low-utilization career fields until their utilization equaled the component average. Second, we redistributed these billets to high-utilization career fields until (a) their utilization equaled the component average or (b) we used all the available billets in low-utilization career fields. Note that this exercise did not change overall utilization within the component, but it did reduce utilization in high-utilization career fields and increase it in low-utilization career fields. For comparability with our

end strength simulation, we focus on the proportion of service members currently deployed/activated in each career field.

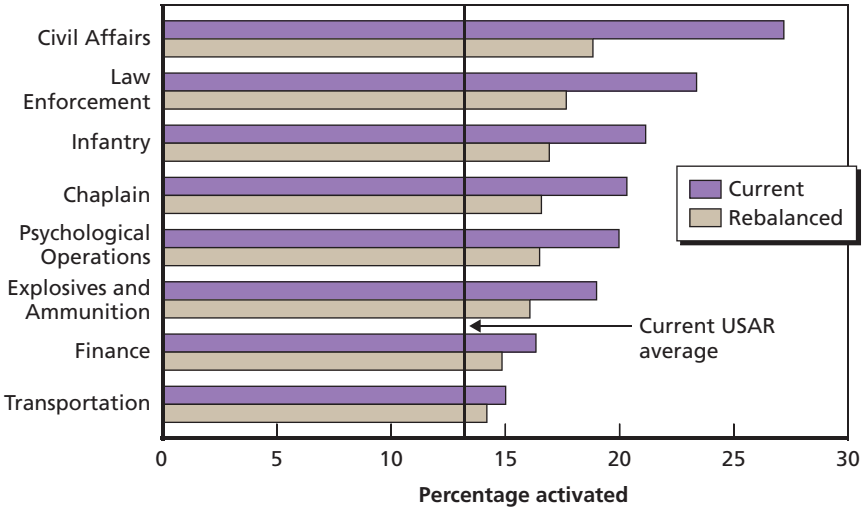
This simulation likely provides an upper bound on the extent to which rebalancing could occur using this method. Individuals in low-utilization career fields are still doing work, and the Army will probably not want to convert all these billets. To demonstrate this, consider the low-utilization career fields in the active component (Table 5.3). One of these is the Recruiting/Retention career field, which has the lowest percentage of service members currently deployed.[2] Our simulation essentially removed recruiters and created additional Combat Arms billets. It is unlikely that the Army would be willing to slash its recruiter force by almost 80 percent, the extent to which our simulation reduced Recruiting/Retention billets, just to rebalance the active component. Nevertheless, our simulation provides an estimate of the extent to which rebalancing *could* occur using this method.

Figure 6.1 displays the results of this simulation for high-utilization career fields in the Army Reserve. High-utilization career fields are presented in descending order by the percentage of service members currently activated. For each career field, the figure displays both the percentage of service members currently activated and the percentage activated after rebalancing. For perspective on the extent to which this simulation achieved rebalancing within the USAR, Figure 6.1 also displays the percentage currently activated for the entire component (the solid vertical line).

As Figure 6.1 shows, converting billets from low- to high-utilization career fields could *partially*, but *not completely*, rebalance the USAR. For example, about 27 percent of service members in the Civil Affairs career field are currently activated; after rebalancing, about 19 percent would be activated, more than the Army Reserve average of 13 percent. This is because the number of billets needed to bring all high-utilization career fields to the component average exceeds the number of available billets in low-utilization career fields.

[2] As Appendix B shows, while the proportion is small, there are some individuals in this career field who are currently deployed. Our hypothesis is that individuals with this PMOS are working in another career field while deployed to Iraq/Afghanistan.

Figure 6.1
Converting Billets to High-Utilization Career Fields in the Army Reserve



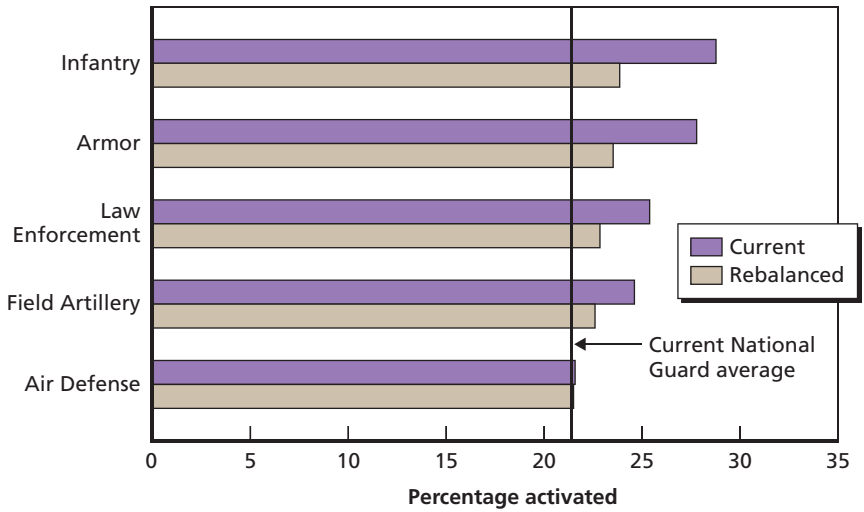
RAND *MG961-6.1*

Note that, in this simulation, *none* of the high-utilization career fields is brought down to the USAR average. This is because of the way in which we redistributed billets to high-utilization career fields. Our simulation redistributed billets from low-utilization career fields proportionately. For example, Civil Affairs would require 20 percent of all the necessary billets, so we redistributed 20 percent of the available billets to Civil Affairs. While there are other possible strategies for redistributing billets from low-utilization career fields,[3] it is not possible to completely rebalance the USAR this way without causing some low-utilization career fields to rise above the component average.

Figure 6.2 displays the results of this simulation for high-utilization career fields in the Army National Guard. The results of this simulation are qualitatively similar to those for the Army Reserve: Converting billets from low-utilization to high-utilization career fields can *partially*, but *not completely*, rebalance the Army National Guard.

[3] Alternative strategies include, for example, trying to rebalance as many career fields as possible or trying to completely rebalance the highest-utilization career fields.

Figure 6.2
Converting Billets to High-Utilization Career Fields in the Army National Guard



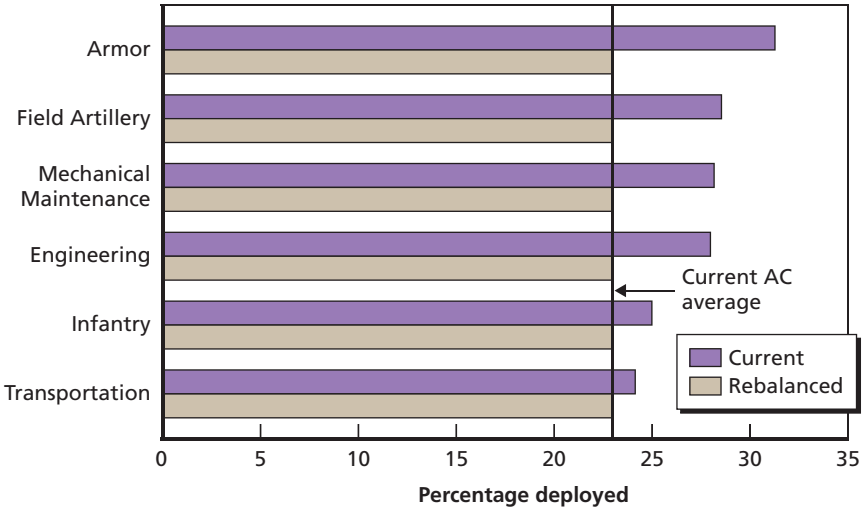
RAND *MG961-6.2*

Once again, this is because the number of billets needed to bring all high-utilization career fields to the component average exceeds the number of available billets in low-utilization career fields.

While these results are qualitatively similar to those for the Army Reserve, a comparison of Figures 6.1 and 6.2 reveals that, in the Army National Guard, high-utilization career fields are brought closer to the component average than in the Army Reserve. This is consistent with our conclusion from Table 6.1: that the Army Reserve is the most unbalanced of the components.

Finally, Figure 6.3 displays the results of this simulation for high-utilization career fields in the active component. Unlike our results for the reserve component, our simulation for the active component suggests that converting billets from low- to high-utilization career fields can *completely* rebalance the active component. However, this is true only because of the increases in active-duty end strength recently announced by the SecDef. As in the RC, the number of billets needed to bring all high-utilization career fields to the AC average exceeds

Figure 6.3
Converting Billets to High-Utilization Career Fields in the Active Component



RAND *MG961-6.3*

the number of available billets in low-utilization career fields. Our simulation is able to completely rebalance the active component by distributing some of the SecDef's increase in active-duty end strength to its high-utilization career fields.

Is It Necessary to Completely Rebalance?

As we have demonstrated, it is not possible to completely rebalance the USAR and the ARNG by converting billets from low-utilization to high-utilization career fields within the same component. Given this finding, it is reasonable to consider the consequences of leaving the reserve component out of balance.

Expectations and Preferences of RC Personnel

DoD recognizes that "expectation management is critical to the success of the management of the RCs as an operational force" (DoD, 2008). The consequences of leaving the RC out of balance, then, are essen-

tially the consequences of using RC personnel in a way that is not consistent with service member expectations and preferences. As a result of clearly articulated DoD policy, RC personnel have an *expectation* of activation/mobilization and expect to be part of an operational reserve. Furthermore, the SecDef planning objective of 1:5 is also well known, and it is reasonable to presume that RC personnel expect the frequency and duration of mobilization to fall within the planning objectives. If leaving the RC out of balance causes some service members to exceed the SecDef planning objectives, it is reasonable to assume that this might have adverse consequences.[4] However, as we discussed in Chapter Three, recent SecDef guidance also sets the expectation that some service members will be mobilized more frequently than 1:5 and that RC personnel should be compensated/incentivized when mobilized early or often (SecDef, 2007). As Doyle (2008) shows, accession and continuation rates are sensitive to the frequency and duration of activations, and additional compensation can offset any negative impact on continuation rates.

Furthermore, Lien et al. (2006) demonstrated that RC personnel have heterogeneous preferences for activation, *even without changes in compensation*. Lien et al. (2006) estimated the preferences of RC personnel regarding the extent to which they are activated.[5] These data are from a survey of service members from all reserve components (not just the Army), in which respondents were asked to reveal their preferences for various participation and compensation options. The results showed these preferences for activation, assuming everything else about service remained the same—including compensation.

As Lien et al. (2006) showed, more than 20 percent of RC personnel *would prefer to exceed the SecDef planning objective of 1:5*. Specifically, 12 percent prefer 24 months of activation within a six-year

[4] Our implicit assumption is that high-utilization career fields exceed the SecDef planning objective of 1:5. This might not be true, since, as we have discussed, we do not have a metric representing the extent to which a career field meets or exceeds the planning objective. However, it is reasonable to assume that high-utilization career fields are those most likely to exceed the planning objective and have a higher proportion of service members who do exceed the planning objective.

[5] See Figure 16 of Lien et al. (2006).

window (i.e., 1:2), and 9 percent prefer 36 months of activation every six years (i.e., 1:1). Furthermore, Lien et al. (2006) demonstrated that additional compensation can increase voluntary acceptance of more-frequent activations. That is, if compensation is targeted to individuals who accept an activation-to-dwell ratio that exceeds the planning objective, more RC personnel would voluntarily choose the higher ratio.

These findings suggest that it might not be necessary to completely reduce current gaps between high-utilization and low-utilization career fields. Some RC personnel prefer to exceed the SecDef planning objective, and more would be willing to do so if compensated for a higher frequency of activation. Of course, we cannot be certain that the service members who prefer to exceed the planning objective are the same service members who are doing so.

The Need for Strategic Depth

Much of the discussion surrounding utilization of the reserve component presumes that some capabilities are, or should be, operational and that others are strategic. As our analysis of current utilization shows, however, most capabilities are currently being utilized to some extent. While we characterized career fields as high utilization and low utilization, this is very different from labeling capabilities as either operational or strategic. The ARFORGEN model presumes that all units will rotate through a series of phases in a cyclical fashion, including a phase in which they are available to deploy. During this phase, *all* units are operational, while in the other phases they are *all* strategic and capable of being made available to deploy. Units in the train/ready phase can be surged for unforeseen contingencies; units in the reset phase constitute a deeper reserve, as it will take additional time and resources to move them into the train/ready phase (U.S. Army, 2008).

This insight gives a different perspective on the variation in utilization rates that we observe. Units are both operational *and* strategic, depending on the phase they currently occupy in the ARFORGEN cycle. Differences in utilization rates between career fields indicate that individuals and units with certain skills are operational to a greater

extent than others. In contrast, low-utilization capabilities provide relatively more strategic depth within their functional areas.

This has two major implications. First, activation-to-dwell ratios *should* vary by capability if policymakers desire greater strategic depth in some functional areas than in others. Second, rebalancing a component by converting billets from low-utilization to high-utilization career fields essentially removes strategic depth in one functional area and places it in another. While rebalancing in this manner can reduce utilization in high-utilization career fields, it also depletes strategic depth in other areas. If that depth is important to meet emerging, unanticipated demands, rebalancing in this manner creates additional challenges. These challenges suggest that the Army might not wish to completely rebalance its components.

CHAPTER SEVEN

Factors That Affect Rebalancing Across Components

As we demonstrated in Chapter Six, the Army could reduce utilization in high-utilization career fields through increasing end strength, converting billets from low-utilization to high-utilization career fields, or some combination of these two strategies. We presented illustrative examples of rebalancing *within* components—converting billets from low- to high-utilization career fields within the same component. It is also possible to rebalance *across* components, converting billets from a low-utilization career field in one component to a high-utilization career field in another component. Such rebalancing remains an option for the Army as it makes decisions about how to size and structure its components.

However, additional factors, not just the current operational environment, should help determine whether any rebalancing should occur. Most importantly, components are sized and structured not only to meet current demands but also to meet anticipated future demands. Furthermore, there are some practical principles that can guide assignment of future missions to the AC or the RC. Finally, the relative cost of the AC and the RC should also play a role. In this chapter, we examine each of these factors and discuss the extent to which they affect decisions about rebalancing within or across components.

Potential Future Demands

Future demands for the number and type of U.S. forces are unknown. However, since it takes time to recruit, train, and develop soldiers, DoD must make assumptions about likely future demands and plan for these future contingencies (Junor and Dyches, 2008). Any predictions about future demands are inherently speculative and necessarily entail risk (Davis et al., 2005). There are different risks associated with underestimating and overestimating these future needs. If DoD underestimates future needs, it will have too few personnel to meet the demand, or it will not have the right skill mix to meet specific needs. In contrast, if DoD overestimates future demands, it will incur additional financial costs of recruiting, training, developing, and equipping a larger force than it actually needs.

Defense Planning Scenarios

DoD does have an existing process for identifying and characterizing the *potential* conflicts and campaigns that U.S. forces could be called upon to conduct. These Defense Planning Scenarios (DPS) are developed through a wide-ranging, consultative process with a variety of defense and regional experts. Collectively, the DPS form the basis of DoD's assumptions about the future of warfare and characterize the *types* and, to some degree, the *scale* of conflicts that it estimates its forces are likely to be called upon to conduct.

The DPS are part of a broader process in DoD, developed to ensure that the entire department is working off the same set of threat scenarios when addressing requirements and capabilities. The DPS are drafted by the Office of the Secretary of Defense (OSD), and the Joint Staff develops specific concepts of operations for these scenarios.

The DPS outline potential, credible scenarios; the threats, actors, geographic locations, and missions for U.S. military forces; and a strategic-level concept of operations to accomplish U.S. objectives. These scenarios are not rank-ordered, and DoD does not assign probabilities to their likelihood. The actual number of scenarios varies but typically ranges between 10 and 15.

The Force-Planning Construct

In addition to assumptions about the types of potential future conflicts and their geographic locations, DoD must also establish how many such conflicts can and should be conducted simultaneously. This is established through the *force-planning construct*. For most of the 1990s, the force-planning construct required that U.S. forces be sized and structured to conduct two roughly simultaneous major theater wars or major regional contingencies (Metz, 2001). This construct provided the basis for developing sufficient U.S. forces to combat threats in two different theaters, reflecting American interests in Asia, the Greater Middle East, and Europe.

After 9/11, the force-planning construct was adjusted to reflect the need to be able to provide for defense of the homeland and consequence management in the event of another large-scale attack on the United States. It also expanded the number of theaters in which the United States would need to deter and defeat aggression. That framework, established in the Quadrennial Defense Review (QDR) of 2001, was known as "1-4-2-1" (DoD, 2001). It provided that U.S. forces should be sized and structured to

- defend the homeland (1)
- deter aggression in four theaters of operation (4)
- defeat aggression in two theaters (2)
- achieve a decisive victory in one theater (1).

In 2006, the QDR adjusted the force-planning construct further (DoD, 2006). It prescribed that U.S. forces must be prepared in three major areas:

- homeland defense
- the global war on terror/irregular warfare
- conventional campaigns.

In all of these areas, the 2006 QDR concluded that the United States should maintain a steady-state level of capability but should also be

able to surge forces in the event of a large-scale campaign in one major area.

Subsequent revisions to the force-planning construct will undoubtedly result in changes to the number and nature of conflicts for which the Army will need to plan. Changes to the force-planning construct, then, will directly lead to changes in estimates of the number and type of forces needed for these future conflicts.

The DPS and Potential Future Demands

Although the force-planning construct is necessary to determine what *capacity* is needed at any one time, the conflict types give us some indication of what *capabilities* (i.e., what types of forces) are projected to be needed. A comparison of these potential future demands with current demands, then, provides DoD with a sense of the extent to which current force structure might need to change.

We examined the DPS, with a particular focus on the scenarios with a significant ground force component. Our analysis reveals an emphasis on several key campaign types:[1]

- steady-state engagement with partner nations
- irregular warfare
- post-conflict stability operations, potentially on a large scale
- peacekeeping and humanitarian activities
- multiple, smaller scale, stability-type operations
- homeland defense.

Available doctrine on stability operations (U.S. Army, 2003) and on counterinsurgency operations (U.S. Army, 2006) offers insights into the types of forces needed to prevail in such conflicts. These include

- Special Operations Forces
- Civil Affairs
- military police (MPs)

[1] The DPS are classified material. However, the general characterization of campaign types presented here is not classified.

- PsyOps
- Engineers
- Military Trainers
- Combat Arms
- a variety of CS and CSS functions.

A comparison of this list with Tables 5.1, 5.2, and 5.3 suggests that these capabilities are similar to those currently in high utilization. In particular, Infantry, Armor, and Field Artillery (Combat Arms career fields) are currently highly utilized in both the active component and the ARNG. The Law Enforcement career field, which is predominantly made up of MPs, is currently highly utilized in both the USAR and the ARNG. Similarly, the Civil Affairs and PsyOps career fields are currently highly utilized in the USAR, as is the Engineer career field in the active component. Special Operations Forces also have above-average utilization in both the USAR and the ARNG,[2] although this career field was too small for inclusion in Tables 5.1 and 5.2.

The apparent congruence between current needs and the nature of projected future conflicts suggests that adjustments made now to alleviate current imbalances would be consistent with projected future requirements. Rebalancing within components would both reduce utilization in high-utilization career fields *and* provide greater strategic depth in areas projected to be in demand in the future. Furthermore, these results suggest that it might not be prudent to rebalance *across* components because the AC, USAR, and ARNG all have high-utilization career fields that are likely to factor into future conflicts. Rebalancing across components would reduce the ability of policymakers to rebalance within components.

We emphasize that any conclusions drawn from the DPS are inherently speculative, given the uncertain nature of future conflicts. Furthermore, it is possible that future campaigns will be conducted using different concepts of operations. If this is the case, it might not be accurate to presume that the nature of projected future conflicts will lead to similar levels of demand in the same functional areas.

[2] See Appendix B.

What Considerations Can Guide Assignment of Future Missions?

Finally, we consider additional policy considerations that further inform the ability of reserve forces to meet current and future demands. These considerations may also help guide decisions governing future investments in capabilities for active and reserve forces.

A Priori Criteria

One set of issues concerns the potential suitability of various missions for reserve forces, a topic of continuing interest in DoD. As part of the 2001 QDR, DoD proposed ways to improve force capability by assigning both traditional and emerging missions to the reserve component, based on both demonstrated experiences and assumptions about the core competencies of the RC force. For example, noting that reservists provide a blend of both military- and civilian-acquired skills, DoD noted that the reserve components could effectively provide "reach-back" support to such high-technology mission areas as intelligence, information operations, and space and unmanned vehicle operations (DoD, 2002).

Drawing on these examples, OSD Reserve Affairs (RA) identified criteria that align potential military missions with RC capabilities (DoD, 2009). These criteria were developed using the expertise of RC military and civilian leaders and subject-matter experts, who considered the history of reserve utilization, recent experiences in mission assignment and performance across components, and emerging requirements.

Based on this review, OSD(RA) identified four criteria to be considered when assigning missions:

- predictability
- availability
- tempo
- timing.

Predictability refers to the ability of military personnel and their civilian employers to anticipate the onset of a military mission. Missions that are more predictable allow employers to prepare for an employee's absence and identify alternatives. An example of a predictable military mission is an ongoing, overseas presence (e.g., stabilization missions in Bosnia, Kosovo, the Sinai Peninsula). In general, OSD(RA) concluded that "the more predictable a mission, the more suited it is" to the RC (DoD, 2009).

Availability refers to how quickly an individual or unit needs to be ready to deploy for a mission. Missions that are static are believed to require shorter periods of preparation and training and are, therefore, well suited for the reserve components. In contrast, complex and dynamic missions that require long periods of preparation and training can be performed by the reserve components but require greater time, resources, and mitigation strategies (e.g., force stabilization measures) to enhance the ability of the reserve components to contribute to these missions. In general, OSD(RA) concluded that, if a mission requires an immediate, high state of readiness, it is best suited to the active component (DoD, 2009).

Tempo, how frequently a mission occurs and how long it lasts, can also affect its suitability for the RC. Given the part-time nature of RC personnel, they are less able than AC personnel to deploy for long periods and then turn around and quickly deploy again. Therefore, missions that are more limited in duration and that allow a longer dwell period are more suitable for the RC.

Finally, *timing* refers to how quickly forces are needed in an area of operation. Missions that require quick preparation and deployment are less well suited for the reserve components than are missions with longer lead times. Taken together, the *timing* and *tempo* criteria imply that activation-to-dwell ratios should differ for the AC and RC.

In addition to the criteria identified by OSD(RA), DoD's total force management policy also affects the assignment of missions to the AC and RC (DoD, 2008). As we discussed in Chapter Three, it is DoD policy that both components be integrated and that both contribute to meeting defense requirements across the full spectrum of operations. In other words, there are no missions that are established a priori as

exclusive to either the AC or the RC. The *nature* of their contributions can vary, however, based on the specific attributes of each component.

These criteria have several implications for the assignment of missions to the AC and the RC. The RC may be a suitable selection for a given mission if RC units can be in place when a capability that they bring is needed. These time parameters also serve as a regulator of RC accessibility, in that they limit the duration of any period of involuntary activation and create a buffer between periods of involuntary activation. If RC personnel can be usefully employed within the available windows for involuntary activation, they may be suitable for the mission.

A second, overarching principle implied by these criteria is *readiness*. The readiness criteria imply that the RC can provide suitable capabilities, equal to the AC, if it can be made "ready" (i.e., provided the manpower, equipment, and training needed to perform the mission). The issue is the speed with which the RC can be made ready, and the level of resources necessary to achieve an acceptable level of readiness.

Third, the suitability of the active and reserve components for future missions is governed directly by the SecDef planning objectives. These planning objectives establish acceptable periods of activation and deployment and periods of dwell between activations and deployments. If assigning a mission to a component will violate the SecDef planning objectives, then it should be assigned to another component.[3]

Finally, the predictability/readiness principles suggest that, for emerging, unanticipated missions, the AC will likely be the first to participate. The RC can eventually be used in these missions, but in later stages of operations. Again, suitability is further governed by resource and readiness considerations. Experience shows that RC units and personnel that are maintained at high levels of readiness in peacetime can be activated and deployed very quickly. If RC units are preparing for a specific type of mission, the reserve components could conceivably be ready for an unanticipated event that resembles the type of mission for which they were preparing. In contrast, units maintained at very low

[3] Of course, this presumes that not all components already exceed the SecDef planning objectives.

levels of readiness in peacetime may require resource and time investments that exceed the length of the operation.

Cost Considerations

Another factor that could potentially guide the assignment of missions and capabilities to the AC or the RC is the cost. If AC and RC units would be equally effective in performing a mission, then it is prudent to assign missions and capabilities to the most cost-effective component. Of course, if there are differences in capabilities and task proficiency, these should also be considered.

The literature contains several different ways in which analysts measure the relative cost of the reserve components. Furthermore, different approaches can lead to different conclusions, and estimates of relative cost are sensitive to the assumptions made by the analyst. In this section, we review some of the primary approaches used in the literature.[4] None of these approaches is necessarily "right" or "wrong"; the different approaches to measuring cost measure different things.

The first approach is relatively simple and compares appropriations to, and end strengths of, each component. Buck (2008) characterizes this as the "traditional" approach used in much of the literature. The method compares the percentage of the budget allocated to the RC to the percentage of total end strength that can be found in the RC. For example, in FY05, 9.4 percent of appropriations went to the RC, supporting 38.4 percent of the force (Buck, 2008). This implies that the cost of the RC was about 16.6 percent of the cost of the AC. Using FY08 data, the Commission on the National Guard and Reserves (CNGR) reached a similar conclusion about the relative cost-effectiveness of the RC (CNGR, 2008). The intuition behind these results is straightforward: Since RC units constitute a predominantly part-time force, and part-time personnel cost less than full-time personnel, the reserve components are relatively cost-effective.

The second method focuses on the cost of individual service members and compares the relative cost of service members in the active and reserve components per day of duty. Using this approach, conclusions

[4] This section draws heavily from Buck (2008).

about the relative cost-effectiveness of RC personnel depend on the extent to which service members are utilized. For example, in FY05, the cost of a "statutory" reservist (i.e., 39 days per year for annual drill and training requirements) per day of duty was 9 percent *higher* than for an AC member. In contrast, the cost of a "busy" reservist (i.e., 122 days per year) per day of duty was 9 percent *lower* than for an AC member (Buck, 2008). The intuition behind these results is straightforward: "Busy" reservists are cheaper than "statutory" reservists because the fixed costs are spread over more days of duty.

Finally, the third approach compares the relative cost of AC and RC units for one year of "boots on the ground." Klerman (2008) estimated the relative cost of AC and RC units using a variety of assumptions and scenarios. He concluded that, for brigade combat teams, the cost is about 33 percent *lower* for RC units in peacetime but about 1 percent *higher* for RC units in wartime. Intuitively, more RC units than AC units are needed to support one year of boots on the ground, given the SecDef planning objectives (1:2 for AC units, 1:5 for RC units). However, the underlying cost per unit is lower for the reserve components. The baseline estimates in Klerman (2008) suggest that these two factors roughly offset one another in wartime. However, conclusions about the relative cost-effectiveness of RC units are very sensitive to assumptions made about several factors, including activation-to-dwell ratios, train-up time, and the underlying cost per unit.

Taken together, these different approaches provide several conclusions about the extent to which cost can guide the assignment of missions and capabilities to the AC or the RC. First, the results from the "traditional" method suggest that the cost advantages of the reserve components are most prominent for "strategic depth." Since RC personnel are part-time workers, placing capabilities in strategic reserve is cheaper in the RC than in the AC. Intuitively, these capabilities serve as an "insurance policy" for emerging, unanticipated missions; the cost of this insurance is lower if capabilities are in the RC instead of the AC.

Second, the results from Klerman (2008) suggest that, for brigade combat teams, there are unlikely to be significant cost savings from placing operational capabilities in the RC instead of the AC. Rather, the baseline estimates suggest that the costs are roughly identical. This

does *not* mean that an operational reserve is a bad idea. Instead, the implication is that any rebalancing of operational units should be done for reasons other than cost.

Finally, the data suggest that cost-effectiveness is maximized by using capabilities. This is true for both the AC and the RC. In the AC, full-time service members are paid for full-time work, and benefits are maximized by making full-time use of these personnel. In the RC, the fixed costs of part-time personnel are spread out over more days if RC personnel are "busy."

When considering cost, it is also important to recognize that the RC provides additional value that is not captured in traditional cost data. For example, the existence of an RC provides an opportunity to serve for those who do not want to serve full time. Many RC personnel were previously in the AC, and their decision to voluntarily separate from the AC and affiliate with the RC reflects their preference to serve in a part-time capacity. Similarly, individuals who join the RC instead of the AC have revealed a preference for part-time service. In addition, RC members have civilian expertise and perspectives that AC personnel do not bring to service. Finally, the Abrams Doctrine, intended to provide a link between the operational use of the Army and public support for these operations, is strengthened by having RC personnel voluntarily engaged in operational missions.[5] Therefore, even if the costs of the active and reserve components are comparable, there are some additional advantages to maintaining a robust RC force.

[5] The Abrams Doctrine is named for Army Chief of Staff General Creighton Abrams, who sought to embed lessons learned from Vietnam in Army doctrine. Henceforth, U.S. military commitments with the potential for large-scale and prolonged deployments were to be "total force" propositions in which the RC would be full partners with the AC. General Abrams believed that the liberal use of reserve forces in future conflicts would cause the American people to more quickly validate long-term and large-scale use of military forces.

CHAPTER EIGHT

Conclusions

Two factors preclude us from making specific recommendations about the extent to which the Army should reshape its active and reserve components. First, as we demonstrated in Chapter Four, despite databases that provide information on deployment, activation, and dwell histories, reliable metrics that describe the extent to which individual service members will meet or exceed the SecDef's planning objectives do not yet exist. Developing a predictive model of deployment/mobilization for individuals is beyond the scope of the current analysis. This remains a significant task for future research, however, since it is critical that DoD and the services understand how well they are (or are not) doing in managing the force.

Second, as we concluded in Chapter Seven, any decisions about reshaping the Army should be based, in part, on future demands. Any predictions about future demands are inherently speculative and therefore entail risk. Furthermore, it is beyond the scope of our role as researchers to recommend to policymakers the level of risk they should accept. Rather, we note that there are different risks associated with underestimating and overestimating these future demands. If DoD underestimates future needs, either it will have too few personnel to meet the demand or it will not have the right structure and skill mix to meet specific needs. In contrast, if DoD overestimates future demands, it will incur additional financial costs of recruiting, training, developing, and equipping a larger force than it actually needs.

Despite these constraints, our analysis yields findings that should factor into decisions about reshaping the Army's active and reserve

components. Our analysis suggests that the USAR is the most unbalanced of the components: The extent to which service members in its high-utilization career fields are currently mobilized is disproportionately high relative to the component average. However, this imbalance is not limited to the Army Reserve. In fact, several career fields are highly utilized in multiple components. Therefore, it could be difficult to successfully rebalance these career fields through cross-component trades, shifting personnel from a career field in one component to the same career field in another component.

It is feasible to rebalance the Army components through increasing end strength, converting billets from low- to high-utilization career fields, or some combination of these two strategies. While both the active component and the Army National Guard have experienced recent growth, substantial numbers of additional personnel in all components would be required to bring utilization levels of high-utilization skills in alignment with Army averages. Our assessment is that the Army is not likely to be provided sufficient manpower authorizations and resources to completely reduce utilization in high-utilization career fields.

However, converting billets from low-utilization to high-utilization career fields can partially, but not completely, rebalance the reserve components. This is because the number of billets needed to bring all high-utilization career fields to the component average exceeds the number of available billets in low-utilization career fields.

While it is feasible to rebalance the Army in this way (at least partially), there are additional factors that should be considered. Service members in low-utilization career fields are still doing work, and the Army will probably not want to convert all these billets. Furthermore, rebalancing a component by converting billets essentially depletes strategic depth in one functional area and places it in another. Many anticipated, future scenarios appear to require capabilities and skills similar to those needed in current operations. If these projections are accurate, rebalancing in this manner might be appropriate. However, if existing strategic depth is important to meet emerging, unanticipated demands, additional challenges will arise.

Policymakers, then, need to consider these trade-offs before making decisions about rebalancing the Army. Taken together, our analysis suggests a four-step process for policymakers as they consider opportunities to reshape the Army's active and reserve components:

1. *Are high-utilization skills likely to be in high demand in the future?* If so, then these skills are candidates for rebalancing. If not, this implies that current demand is only temporary, and our analysis suggests that the all-volunteer force can sustain above-average utilization.
2. *Are there significant risks associated with too little strategic depth in high-utilization skills?* Even if high-utilization skills are not likely to be in high demand in the future, policymakers might determine that the risk of too little strategic depth is significant. If so, these skills are candidates for rebalancing.
3. *Will converting billets from low-utilization skills result in a substantive decrease in the ability to meet demand for those skills?* Assuming that high-utilization skills are identified as candidates for rebalancing in step 1 or step 2, policymakers need to identify the specific way in which to rebalance. If converting billets from low-utilization skills will result in a significant decrease in the Army's ability to meet demand, policymakers should try to identify other options. If the risk is low, these skills are candidates for rebalancing.
4. *Are there significant risks associated with less strategic depth in low-utilization skills?* Finally, policymakers should identify whether there are risks associated with less strategic depth in these low-utilization skills. If not, then these skills are candidates for rebalancing. More generally, policymakers need to identify whether the risks associated with less strategic depth in these low-utilization skills are fewer or greater than the risks associated with too little strategic depth in high-utilization skills.

Finally, our analysis also reveals some considerations should play less of a role in decisions about reshaping across components. One set of issues concerns the potential suitability of various missions for reserve

forces. If reserve component units can be in place when a capability that they bring is needed, there is no a priori reason to prefer the use of the active over the reserve components.

Another set of issues concerns the relative cost of active and reserve component units. Contrary to conventional wisdom, the data suggest that, for brigade combat teams, there are unlikely to be significant cost savings from placing operational capabilities in the RC instead of the AC. Rather, the literature suggests that the costs are roughly identical, although this conclusion is sensitive to a number of assumptions. The implication is that any rebalancing of operational units should be done for reasons other than cost.

APPENDIX A

Trends in Force Management

The services' rotational readiness models represent a significant departure from previous practice. In the old, strategic reserve model, the purpose of RC personnel was to train in peacetime in order to provide reinforcing capability in time of war. Planning assumptions held that, if a big war were imminent, there would be adequate time to prepare reserve forces to provide reinforcements.

The likelihood of such conflict was considered to be small; expectations established that such events might occur once, at most, in a lifetime of military service. The purpose of the inactive-duty training period (one weekend a month) and the annual training period (two weeks a year) was to provide sufficient foundation to conduct unit training subsequent to mobilization.

Units were resourced accordingly, using an approach described as "mobilize, train, deploy." RC units placed higher in a predetermined order of battle received greater resources to accomplish readiness objectives. These units, and the units placed behind them in the order of battle, were expected to achieve necessary levels of readiness during post-mobilization. The practical consequence of this model was that reserve capability was "tiered" and required considerable time before it was available. RC units were perceived as generally inaccessible and inferior to AC units in capability.

Revisions to this model were established after 9/11 to support the operational use of the RC, characterized now as "train, mobilize, deploy." In this new model, manpower, equipment, and training resources are applied to all units, both active and reserve, in accor-

dance with their phase in the rotational readiness model. For reserve units, individual training is supposed to be accomplished prior to mobilization, along with sufficient unit training in the train-up phase prior to mobilization, to allow for the shortest possible period of post-mobilization training.

Recent DoD planning guidelines governing use of the RC forces were established in a series of policy memoranda and a DoD Directive. In a 2003 memo, the SecDef directed the services to "structure forces in order to limit involuntary mobilization to not more than one year every 6 years" (SecDef, 2003). In an attachment to the memo, he also directed "actions for force rebalancing" that govern utilization of the RC, to include the following steps:

- Correct "imbalances" that result in lengthy, repeated, or frequent mobilization of RC individuals and units by changing force structure and/or mix.
- Establish programs that expand the use of RC volunteerism at both the individual and unit levels.
- Implement "innovative management techniques," such as those described in DoD (2002).
- Use the RC for rotational overseas presence.
- Enhance RC use in support of operations based in the continental United States that are intended to provide reachback capabilities.

As discussed in Chapter Three, the SecDef further clarified utilization guidelines in a 2007 memo (SecDef, 2007) and articulated nine policy principles essential to managing the RC as an operational force (DoD, 2008).

These prescriptions apply to all services and components and recognize the transition of the RC from a purely strategic to an operational and strategic reserve force—a change in roles, missions, and capabilities for which the CNGR concluded "there is no reasonable alternative" (CNGR, 2008). Consequently, all services now employ their RC in operational capacities and plan for continued reliance on RC individuals and units. Moreover, all adhere to principles that seek

to integrate active and reserve capabilities as much as possible within a "total force" framework.

At the same time, there are some differences in the way the services manage the RC. The Army and the Marine Corps rely on involuntary mobilization as a means to access RC capabilities. In contrast, the Air Force and the Navy endorse voluntary activation as an alternative approach (U.S. Air Force, 2008; U.S. Navy, 2009). Moreover, the services differ in how they implement rotational readiness models. The Army has typically deployed forces for 12 months and is moving to nine-month deployments, while the Marine Corps deploys forces for seven months. Air Force and Navy deployments vary in duration, with shorter deployments being common (Hosek and Martorell, 2009; Garamone, 2006). Periods of dwell also vary accordingly, in order to meet the SecDef planning objectives.

These changes are also being observed internationally. Many Western countries, particularly those that have moved from conscription-based to volunteer forces, are developing concepts for their reserve forces as an element of regular force structure, capable of integration with regular forces, while providing a link between professional forces and civilian society (Donnelly, 2006). Other countries have followed suit—shifting from a strategic to an operational reserve, providing more-predictable mobilization of reservists, using a total force perspective, and rebalancing the distribution of skills in the AC and RC (Weitz, 2007).

APPENDIX B

Empirical Results

Tables B.1, B.2, and B.3 present our estimates of each measure utilized for each career field in the Army Reserve, Army National Guard, and active component, respectively. Chapter Five provides details as to how these measures were constructed.

Table B.1
Measures of Utilization, Army Reserve Career Fields

		Proportion			
Career Field	Number of Service Members	Currently Activated	Ever Activated	Time Since 9/11 Spent Activated	With "High" Time Spent Activated[a]
Logistics	30,666	0.116	0.508	0.126	0.375
Medical and Health Care	28,122	0.129	0.490	0.105	0.308
Administration	18,059	0.123	0.489	0.131	0.369
Engineering	16,823	0.085	0.496	0.118	0.392
Transportation	15,743	0.150	0.590	0.155	0.477
Mechanical Maintenance	12,155	0.091	0.455	0.105	0.330
Law Enforcement	11,372	0.234	0.585	0.157	0.433
Signal	9,241	0.124	0.483	0.118	0.346
Infantry	6,895	0.211	0.554	0.146	0.392
Intelligence	6,420	0.132	0.546	0.134	0.667
Chemical Operations	5,514	0.080	0.385	0.086	0.254
Civil Affairs	4,398	0.272	0.781	0.224	0.628

Table B.1—Continued

Career Field	Number of Service Members	Proportion			
		Currently Activated	Ever Activated	Time Since 9/11 Spent Activated	With "High" Time Spent Activated[a]
Immaterial and Special Reporting Codes	4,158	0.060	0.390	0.091	0.269
Recruiting/ Retention	3,486	0.016	0.423	0.126	0.387
Legal Services	2,794	0.168	0.541	0.124	0.321
Field Artillery	2,361	0.162	0.469	0.117	0.304
Special Equipment	2,338	0.046	0.318	0.070	0.238
Explosives and Ammunition	2,224	0.190	0.559	0.141	0.434
Armor	2,215	0.154	0.504	0.136	0.357
Finance	2,175	0.163	0.506	0.148	0.432
Psychological Operations	2,118	0.200	0.692	0.203	0.545
Aviation Maintenance	2,024	0.071	0.464	0.110	0.324
Chaplain	1,344	0.203	0.563	0.161	0.406
Air Defense	655	0.116	0.367	0.092	0.245
Electronic/Missile Maintenance	631	0.045	0.359	0.082	0.287
Metal Working	584	0.029	0.302	0.069	0.246
Unknown	574	0.068	0.313	0.054	0.145
Public Affairs	483	0.207	0.726	0.184	0.551
Armament Maintenance	422	0.031	0.298	0.066	0.210
Special Forces	210	0.182	0.794	0.233	0.539
Interpreter/ Translator	144	0.326	0.442	0.267	0.433
Total	196,389[b]				
Average		0.132	0.512	0.128	0.374

[a] Refers to those members who have been activated more than one-sixth of the time since 9/11.
[b] Career fields with fewer than 100 service members are excluded from the total.

Table B.2
Measures of Utilization, Army National Guard Career Fields

		Proportion			
Career Field	Number of Service Members	Currently Activated	Ever Activated	Time Since 9/11 Spent Activated	With "High" Time Spent Activated[a]
Immaterial and Special Reporting Codes	66,296	0.013	0.088	0.017	0.049
Infantry	43,497	0.288	0.699	0.196	0.545
Logistics	38,679	0.185	0.555	0.125	0.378
Engineering	26,884	0.169	0.607	0.146	0.462
Mechanical Maintenance	24,092	0.198	0.622	0.152	0.470
Field Artillery	19,863	0.246	0.715	0.191	0.570
Transportation	19,646	0.193	0.636	0.164	0.510
Medical and Health Care	16,382	0.208	0.549	0.132	0.378
Administration	16,040	0.144	0.432	0.096	0.276
Law Enforcement	16,013	0.254	0.668	0.173	0.496
Signal	13,482	0.209	0.592	0.135	0.418
Aviation Maintenance	12,824	0.194	0.621	0.140	0.443
Armor	11,803	0.278	0.685	0.181	0.527
Intelligence	5,585	0.268	0.646	0.148	0.433
Chemical Operations	5,356	0.200	0.546	0.134	0.399
Special Equipment	3,447	0.187	0.535	0.124	0.377
Recruiting/ Retention	2,710	0.039	0.326	0.099	0.268
Air Defense	2,187	0.216	0.676	0.178	0.543
Explosives and Ammunition	2,089	0.222	0.628	0.143	0.409
Electronic/Missile Maintenance	1,836	0.184	0.568	0.128	0.393
Finance	1,746	0.152	0.553	0.139	0.412
Legal Services	1,359	0.195	0.583	0.128	0.378
Special Forces	1,320	0.311	0.877	0.249	0.636
Chaplain	1,200	0.219	0.603	0.154	0.440

Table B.2—Continued

Career Field	Number of Service Members	Proportion			
		Currently Activated	Ever Activated	Time Since 9/11 Spent Activated	With "High" Time Spent Activated[a]
Armament Maintenance	1,177	0.201	0.578	0.131	0.394
Metal Working	1,138	0.185	0.551	0.135	0.407
Public Affairs	620	0.260	0.677	0.151	0.437
Unknown	186	0.114	0.332	0.085	0.222
Total	357,917[b]				
Average		0.215	0.615	0.155	0.460

[a] Refers to those members who have been activated more than one-sixth of the time since 9/11.

[b] Career fields with fewer than 100 service members are excluded from the total.

Table B.3
Measures of Utilization, Active Component Career Fields

Career Field	Number of Service Members	Proportion			
		Currently Activated	Ever Activated	Time Since 9/11 Spent Activated	With "High" Time Spent Activated[a]
Infantry	75,672	0.250	0.732	0.236	0.339
Logistics	64,028	0.228	0.675	0.182	0.206
Medical and Health Care	50,883	0.150	0.544	0.118	0.108
Signal	37,713	0.219	0.643	0.170	0.190
Field Artillery	33,144	0.286	0.721	0.224	0.302
Mechanical Maintenance	32,780	0.282	0.711	0.216	0.289
Engineering	27,349	0.280	0.687	0.207	0.280
Transportation	27,181	0.242	0.724	0.228	0.323
Armor	25,735	0.313	0.766	0.234	0.317
Aviation Maintenance	25,592	0.252	0.742	0.193	0.203
Intelligence	25,257	0.225	0.650	0.154	0.153
Law Enforcement	21,632	0.206	0.653	0.180	0.217
Administration	19,183	0.175	0.594	0.131	0.108

Table B.3—Continued

Career Field	Number of Service Members	Proportion			
		Currently Activated	Ever Activated	Time Since 9/11 Spent Activated	With "High" Time Spent Activated[a]
Air Defense	10,073	0.141	0.475	0.092	0.072
Chemical Operations	9,691	0.198	0.648	0.163	0.170
Special Forces	8,402	0.185	0.822	0.172	0.084
Explosives and Ammunition	6,949	0.235	0.675	0.175	0.183
Electronic/Missile Maintenance	6,482	0.220	0.602	0.159	0.188
Special Equipment	5,285	0.259	0.650	0.195	0.258
Recruiting/ Retention	4,042	0.048	0.468	0.070	0.022
Chaplain	3,178	0.176	0.700	0.146	0.096
Legal Services	3,124	0.162	0.643	0.124	0.084
Finance	3,085	0.247	0.706	0.158	0.128
Immaterial and Special Reporting Codes	3,073	0.120	0.590	0.134	0.102
Armament Maintenance	2,150	0.283	0.659	0.199	0.288
Psychological Operations	1,545	0.155	0.795	0.165	0.081
Metal Working	1,530	0.292	0.710	0.222	0.302
Unknown	1,121	0.028	0.200	0.104	0.061
Acquisitions	1,098	0.128	0.812	0.119	0.055
Civil Affairs	950	0.206	0.952	0.216	0.155
Public Affairs	938	0.241	0.767	0.180	0.165
Foreign Area Officers	758	0.090	0.801	0.166	0.169
Operations Research	325	0.111	0.671	0.078	0.012
Information Systems Management	273	0.205	0.846	0.153	0.048
Strategic Plans and Policy	259	0.116	0.865	0.149	0.054

Table B.3—Continued

Career Field	Number of Service Members	Currently Activated	Ever Activated	Time Since 9/11 Spent Activated	With "High" Time Spent Activated[a]
Infantry	75,672	0.250	0.732	0.236	0.339
Maintenance	210	0.005	0.019	0.006	0.000
Interpreter/ Translator	183	0.191	0.541	0.167	0.264
Space Operations	180	0.150	0.806	0.129	0.033
Information Operations	168	0.321	0.958	0.211	0.149
Force Development	166	0.127	0.867	0.120	0.048
Nuclear	149	0.060	0.577	0.064	0.007
Simulations Operations	141	0.149	0.801	0.136	0.036
Strategic Intelligence	115	0.104	0.809	0.110	0.026
Telecommunications	109	0.110	0.826	0.126	0.028
Total	542,014[b]				
Average		0.230	0.675	0.186	0.224

[a] Refers to those members who have been activated more than one-sixth of the time since 9/11.

[b] Career fields with fewer than 100 service members are excluded from the total.

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